

STATEMENT OF WORK  
FOR  
ARCHITECT-ENGINEERING (A-E) SERVICES  
TO SUPPORT  
SUSTAINMENT, RESTORATION AND MODERNIZATION (SRM) PROGRAMS CONUS

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## CONTRACT SECTION C -- STATEMENT OF WORK

For Architect-Engineering (A-E) Services to Support Traditional Design and Construction Programs.

### **PART A – INTRODUCTION**

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This statement of work (SOW) defines requirements for A-E services in support of the Air Force Civil Engineer's Sustainment, Restoration and Modernization (SRM) program areas, and other areas of essential support. Place of performance shall be at various government installations in the Continental United States (including Alaska and Hawaii).

In carrying out each work assignment issued as a Task Order (TO) under the basic contract, the Contractor shall furnish the personnel, services, equipment, materials, facilities, and other requirements necessary for, and incidental to, the performance of work set forth herein.

Primary technical services shall be performed by individuals who are credentialed members of architectural, planning, science, and engineering professions. Disciplines include, but are not limited to, architects, landscape architects, interior designers, engineering disciplines typically associated with design and construction, cost estimators, specification writers, Computer Assisted Design and Drafting (CADD) technicians, publication writers/editors, technical writers, graphic artists, Geographic Information System (GIS) analysts, planners, urban designers, economists, financial analysts, and housing market analysts. Generally, a credentialed professional (a) is licensed (e.g., registered professional engineer) to practice in the state where a facility is located and (b) commands the necessary expertise, in terms of knowledge and experience, to undertake the specified task to be identified at the task order level. A minimum of one Leadership in Energy and Environmental Design (LEED<sup>TM</sup>) Accredited Professional (AP) is required.

## **1 GENERAL SCOPE**

### **1.1 Architectural-Engineering Services**

#### 1.1.1 Title I Services

Services related to a specific construction project and consist of conducting field surveys and investigations to obtain design data and preparing contract plans, specifications, cost estimates, and estimated construction periods of performance. Title I services may include all aspects of design such as preparation and/or review of contract plans, specifications, scheduling, cost estimates, building commissioning services and preparation of operating and design manuals. Title I efforts also encompass those efforts required to support and develop design work, including planning and programming, program management, project scoping, studies, investigations, evaluations, consultations, conceptual design, value engineering, topographic survey services, fuel facilities and infrastructure systems.

#### 1.1.2 Title II services

Services related to a specific construction project and consist of supervision and inspection of construction. Title II services may include all aspects of construction quality assurance and oversight of facility and infrastructure construction/ renovation projects, and may include oversight of incidental environmental projects associated with primary requirements.

#### 1.1.3 Other A-E Services

Services are design and construction-related, but are not connected with a specific construction project. The services may consist of developing design criteria, fact finding studies, surveys, and investigations, Document Development Services such as design guide, standards and policy documents; prototype designs; technical studies/review, analysis; cost studies; design manuals; Planning, Programming, Studies, etc. and comprehensive/master planning, Installation Development Plans, and Area Development Plans; that may include web page design and graphics development. Excluded are services that need not be performed by a registered engineer or architect such as providing design and construction equipment or computer programs.

These efforts include advanced planning, programming, studies, investigations, sustainability and LEED™ analysis and documentation, sustainable infrastructure assessments, resource conservation, interior design services, Anti-Terrorism/Force Protection (AT/FP) vulnerability assessments, leak detection surveys and assessments, energy studies, and other services not associated with a specific construction project.

Services may include, but are not limited to, support necessary for the implementation of the the Dormitory Master Plan Program, Air Force, Major Command (MAJCOM) and Installation Asset Management Plans, and Base Comprehensive Plans. Efforts may require the gathering, analysis, processing, and manipulation of various types of geospatial data and the integration of that data to provide decision support tools such as maps, drawings, and population of existing databases. These efforts include the development of Dormitory Master Plans (DMPs).

## **1.2 Program Requirements for A-E Services**

A-E Services will be performed in support of program and/or project areas for the Air Force Civil Engineer.

### **1.2.1 SRM**

#### **1.2.1.1 Design and Construction**

Assist in various activities related to the design, construction, and renovation of real property and real property transactions. Real property is defined as lands, buildings, structures, utilities systems, improvements, and appurtenances thereto. Includes equipment attached to and made part of buildings and structures (such as heating systems), but not movable equipment (such as plant equipment). Major activities supported include design, construction management and inspection, building commissioning, building performance, Customer Concept Documents, federal sustainability and LEED™ analysis and documentation, life cycle cost analysis (LCCA) (this includes Green and Sustainable Remediation (GSR) evaluation where appropriate), interior design, and landscape architecture. Additional activities may support the development, testing, and documentation of new project management acquisition and design and construction methodologies.

#### **1.2.1.2 Sustainment, Restoration and Modernization**

Sustainment is defined as the maintenance and repair activities necessary to keep an inventory of facilities in good working order. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically throughout the life cycle of facilities. This work includes regular roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. It does not include environmental compliance costs, facility leases, or other tasks associated with facilities operations (such as custodial services, grounds services, waste disposal, and the provision of central utilities).

Restoration is defined as the restoration of real property to such a condition that it may be used for its designated purpose. Restoration includes repair or replacement work to restore facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accident, or other causes.

Modernization is defined as the alteration or replacement of facilities solely to implement new or higher standards, to accommodate new functions, or to replace building components that typically last more than 50 years (such as the framework or foundation).

#### **1.2.1.3 Planning and Programming**

Support all aspects of planning and programming activities in support of MHPI, SRM projects/programs. Activities must support and be directly related to or associated with real property activities. Single actions not associated with real property activities will not be accomplished as standalone contract actions under this scope. Non-environmental planning and programming services may include, but not be limited to, infrastructure planning and

programming, installation master plans, base comprehensive planning, activity management plan reviews, assessments and updates, pavement evaluations and development of Pavement Condition Index (PCI) surveys and report, defining housing market areas, detailed market research and analysis, development of housing requirements, pre-planning studies, detailed inspections and assessments and studies of existing family housing, dormitories, facilities and installation infrastructures, development of programming for project scoping. SRM support includes development of multi-year facility and infrastructure maintenance and repair plans and associated asset management planning and programming documents. These efforts may require the gathering, processing, and manipulation of various types of geospatial data and the integration of that data to provide decision support tools such as maps, drawings, and population of existing databases.

### 1.2.2 Other Areas of Essential Support

Support the Air Force with other areas of support. This work includes design and construction support on Defense Logistics Agency Energy (DLA-E) fuel facilities, to include any incidental environmental efforts associated with the primary fuel facility requirements, unexploded ordnance (UXO), range management, force protection/anti-terrorism, sustainable design, contingency construction, and project delivery methods.

The Contractor shall be capable of addressing and interpreting all aspects of facility, including the preparation and presentation of expert testimony, if required. Some tasks may require access to or the review of classified material (requiring the Contractor to provide personnel with specified security clearances), as identified in the specific task order. Some tasks may require planning and logistical support, to include on-site translation and/or interpretation, at various meetings and conferences worldwide.

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## **PART B – ADMINISTRATIVE AND MANAGERIAL REQUIREMENTS**

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The Contractor shall provide management, planning, performance measurement and cost status reporting pertinent to the performance of the requirements identified.

### **2 APPLICABLE DOCUMENTS**

Comply with all applicable (1) federal, state, and local statutes, instructions, manuals, handbooks, regulations, guidance, policy letters, and rules (including all changes and amendments), and (2) Presidential Executive Orders, in effect on the date of issuance of this TO, including Unified Facilities Criteria (UFC) and Unified Facilities Guide Specifications (UFGS). For work at overseas locations, the Contractor shall also comply with all applicable host nation statutes and agreements. In addition, the Contractor shall refer to the AFCEE Technical Services Quality Assurance Program, Guidance for Contract Deliverables (GCD), current version, unless otherwise specified. This GCD is a reference document to be used in the generation of contract deliverables. Installation or location-specific documents shall be identified in individual task orders. The contractor shall be responsible for identifying and complying with all applicable requirements as they pertain to the individual project requirements of each task order.

### **3 TASK ORDER MANAGEMENT, PLANNING, AND REPORTING SERVICES**

Contractors shall plan project activities, including the development, implementation, and maintenance of project schedules, events, status of resources, report(s) on the activities, and progress toward accomplishing project objectives. Document for government review and approval the results of the project efforts.

#### **3.1 Project Web Site**

The Contractor shall establish a project web site with real-time worldwide access available to government personnel. The web site may include, but are not limited to, a submittal tracker or submittal register, a Request for Information (RFI) tracker, a change order tracker, a photo log, project schedule, and project status for this construction TO. The web site shall be tailored to this project. Information Assurance (IA) requirements for DoD information systems and/or data storage must meet the Technical security requirements of the DoD/AF environment and is the responsibility of the service provider and they agree to meet the mandates defined in Department of Defense Instructions (DoDI) 8510.01 dated 28 Nov 07. Responsibility for procedural and administrative security is shared between the service provider and the supported entity contracting for the service and must meet the Defense Information System Agency (DISA) Best Security Practices. **(Contract Data Requirements List [CDRL] A001)**

#### **3.2 WBS Requirements**

Prepare and submit for approval a Work Breakdown Structure (WBS) as posted in the A-E 13 Guidance and Resource List or as specified in each TO. The WBS shall be used to report the cost and schedule status for this project. All tasks required under this TO shall be included in the WBS. **(CDRL B001)**

#### **3.3 Schedule and Planning Requirements**

Provide schedules for tracking work progress as specified in each TO. The SOW for specific TOs will indicate which of the following schedules is required. Project Planning Charts (PPCs) are recommended for less complex projects and Integrated Master Schedules (IMSS) are recommended for more complex projects.

##### **3.3.1 Project Planning Chart (PPC)**

The Contractor shall prepare and submit a PPC for approval. The PPC shall detail the project schedule and status through the use of Gantt charts, which shall depict percent complete for each task. Schedule activities shall be reported by the approved WBS. **(CDRL B002A)**

##### **3.3.2 Integrated Master Schedule (IMS)**

Prepare and submit an IMS for approval. The IMS shall detail the project schedule and status through the use of Gantt charts and Critical Path Method (CPM) analyses. Schedule activities shall be reported by the approved WBS. **(CDRL B003)**

### **3.4 Cost and Status Reporting**

Provide progress and cost reports as specified in the TOs. Cost and status reports are listed below in order of increasing complexity. The individual TO will specify (1) if one or two of the following reports are required; and (2) if reports are required at the TO level or at the project level with a TO rollup. Contractor's Progress, Status, and Management Reports (CPSMRs) with cost information are recommended for TOs under \$500,000. TOs over \$500,000 typically require (1) a CPSMR and (2) either a Performance and Cost Report (PCR) or a Funds and Man-Hours Expenditure Report (FMER). Each TO will be evaluated independently to determine specific requirements.

#### **3.4.1 Contractor's Progress, Status, and Management Report**

Prepare and submit a CPSMR. The CPSMR shall be used to review and evaluate the overall progress of the project, along with any existing or potential problem areas. The CPSMR shall include a summary of the events that occurred during the reporting period, discussion of performance, identification of problems, proposed solutions, corrective actions taken, and outstanding issues. Cost information may be included or omitted in this report as required. **(CDRL B004)**

#### **3.4.2 Performance and Cost Report**

Prepare and submit a PCR. The PCR provides the current status and projected requirements for funds, man-hours, and work completion relative to the negotiated budget. **(CDRL C001)**

#### **3.4.3 Funds and Man-Hours Expenditure Report**

Implement and maintain a cost accounting system and prepare an FMER to correlate the status of expensed funds and man-hours against the progress of the work completed and the negotiated budget. The FMER and associated graphics shall detail the current project status and identify funds and man-hours required to complete the assigned tasks. **(CDRL C002)**

### **3.5 Photo Documentation**

Prepare digital photo documentation. Include photo documentation of site(s) and building(s) under investigation, field activities, and sample locations. Photography of any kind must be coordinated through the installation, customer, or facility Point of Contact (POC). **(CDRL B005)**

### **3.6 Task Order Scoping**

Perform TO scoping and plan development services. Specifically, complete site and easement surveys. Conduct site surveys to enable preliminary scoping of project issues. Visit the assigned site(s) and make all preliminary studies of the site/facility locations and accessibility; number of project locations; number and type of personnel required; number and type of site(s) and supporting data desired; special or modified project capabilities, issues, and procedures required; equipment required; and type of procedures to ensure that the project activities comply with applicable requirements. For easement surveys, utilize a registered land surveyor to identify all project easement locations. Prior to performing any off-base fieldwork or project activities,

conduct a survey to determine the closest property line. After project activities, locate easements from the closest property line. Establish permanent easement boundaries and provide a metes and bounds description and plot plan for each easement site. **(CDRLs A001, A002)**

### **3.7 Meeting and Conference Services**

#### **3.7.1 Meeting/Teleconference Support**

Attend and/or support meetings and teleconferences as required by the Contracting Officer's Representative (COR) with the customer and/or government representative(s). The purpose of the meetings include, but are not limited to, contract discussions, progress reviews, project scoping, planning, design reviews, planning/programming charrette activities, project definition charrette activities, design charrette activities, construction reviews, project status, and the general exchange of information concerning current and future activities. When specified in the TO, the Contractor shall participate in and/or facilitate on-site meetings. **(CDRLs B007, B008, B009)**

#### **3.7.2 Public Meetings and Hearings**

Present technical information and provide logistical support (e.g., facilities, audiovisual, handouts, report(s), recordings, verbatim transcripts, translations, slides, synopsis) for events and/or meetings in support of the government's position. **(CDRLs B007, B008, B009)**

#### **3.7.3 Conference and Event Support**

Develop conference programs, training sessions, and arrangements for government sponsored conferences and events in support of traditional construction programs. **(CDRLs B007, B008, B009)**

### **3.8 Regulatory/Professional Interface**

Assist with oral/written interaction with interested parties related to the project. Forums may include administrative proceedings, judicial proceedings, formal meetings, or informal meetings. Requirements include, but are not limited to, presentation materials, agendas, minutes, publications, news releases, public notices, and the maintenance of mailing list(s).

Assist in project technical review, analysis, and discussions to integrate comments from interested parties on programs and related data and studies. Develop options for responses and prepare report(s) to communicate government priorities to regulatory agencies and other interested parties.

Assist with the review and interpretation of new statutory and regulatory requirements and make recommendations for government facility planning and policy integration as it applies to the assigned project. **(CDRLs A001, B007, B008, B009)**

### **3.9 Notification Requirements**

The Contractor is required to notify the Contracting Officer (CO) and COR of critical issues that may affect the contract performance and/or human health and the environment. The types of

issues that require notification include, but are not limited to, health risks, spills, unexpected utility crossings, unusual weather conditions, unacceptable materials, changes in critical personnel, and Unexploded Ordnance (UXO). As an example, if unanticipated UXO was discovered during field activities, the Contractor would be required to immediately stop work, report the discovery to the base POC and COR, and implement the appropriate safety precautions. Commencement of field activities could not continue until clearance was received from the CO. On critical issues, oral notification should be made immediately, followed by written notification as soon as practical. **(CDRL A003)**

### 3.10 Work Site Coordination

Coordinate work site activities to ensure the protection of human health and the environment; the prevention of damage to property, utilities, materials, supplies, and equipment; and the avoidance of work interruptions. Provide physical security to the work area with security equipment and personnel as specified in the specific task order.

The Contractor must conduct work in compliance with the installation environmental policy, in accordance with installations EMS, and respective to the installation's significant aspects and environmental action plans (EAPs). The Contractor must comply with Occupational Safety and Health Administration (OSHA) safety and health regulations and local safety office requirements. The Contractor is required to provide the CO copies of any OSHA report(s) or host nation safety and health report(s) submitted during the duration of the TO. For work at overseas locations, the Contractor must comply with laws and regulations regarding safety and health including the U.S. Army Corps of Engineers (USACE) Safety and Health Requirements Manual, EM 385-1-1. **(CDRL A004)**

Specifically, coordinate work site activities with applicable existing base or area operations. Examples of the offices/departments that the Contractor shall coordinate activities with include, but are not limited to

Transportation	Planning
Police/Security	Utilities
Hazardous Materials Operations	Permitting
Fire Department	Pass and Identification
Safety	Facility Management
Base Civil Engineer	Local Reuse Authority
Public Works	Field Operations
Local and State Regulators	Federal Regulators

Off Site Emergency Facilities Bioenvironmental	Communications
Federal Aviation Administration	Installation EMS Coordinator

### 3.11 Spatial Data (Map) Requirements

All products associated with this contract that provide a map representation of the location of installation features (historical, existing, or planned) including installation maps, site plans, area development plans, walls-out as-built depictions, or other related overhead (plan) views of an installation (partial or entire) must adhere to the following requirements. (NOTE: This requirement does not currently involve walls-in facility floor plans or interior renderings.)

All maps and associated data must comply with the latest version of Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) available from the SDSFIE web site. The SDSFIE web site address will be provided under separate cover at the task order level. These data will be organized using the current version of the standard approved by the Headquarters Air Force Geo Integration Office (HAF GIO) as the functional lead for installation mapping and visualization. The SDSFIE will determine file and feature class identification and definition, attribution and valid domain values. When any geospatial information collected as a result of the contract includes information identified in the Common Installation Picture (CIP) or recognized Mission Data Set (MDS) the contractor will deliver data consistent with the established requirements for the data and will ensure functionality with the receiving system. Information must be collected at no less than 1:1200 scale for base cantonment areas and 1:4800 scale for larger undeveloped base areas. Spatial data will meet or exceed National Map Accuracy Standards at those scales. Metadata will be provided and will use Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata (CSDGM) for organization.

Geospatial data must be delivered in a geo-referenced Geographic Information (GIS) format (feature-based file structures with one-to-one cardinality between spatial records and attribute records) which would include Environmental Systems Research Institute's (ESRI) shapefile and geodatabase formats. All attribute data as specifically outlined in the task order contract must be included either in the GIS data file or as a separate table with a SDSFIE key variable that may be used to relationally join the separate table with the GIS data file. All geospatial data must be delivered in the North American Datum 1983 (NAD83) projection, State Plane Coordinate System, using feet or metric coordinate units. Further guidance on mapping units, coordinate systems and projections is available from the Installation GIO.

Mapping- or Survey-Grade Global Positioning Systems (GPS) or comparable traditional survey methods will be used to collect geospatial data. The use of mapping- or survey-grade GPS will depend on the precision requirements of the product data. These requirements will be specified later in this SOW for all contract activities where geospatial data are involved. In the case of contracts involving utility construction, location and attribute data will be obtained at the time of

excavation. Further information about precision requirements should be obtained from the installation GIO.

Source data and product data remain the property of the US Government. The contractor may be required to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this SOW. The contractor may be required to sign a non-disclosure agreement attesting to the same before source data are released. Further information about security and nondisclosure requirements should be obtained from the installation GIO. Some installation map data, source and/or product, may be considered by the government to be "sensitive, but unclassified." The intent of this clause is to prevent intentional or unintentional dissemination of "sensitive, but unclassified" information to include unauthorized access to the source and product data by any entity wishing to do harm to the USAF or U.S. Government while the data resides on the contractor's computer network. The contractor is not authorized to release this information to any third party without the explicit consent of the Headquarters Air Force Office of the Civil Engineer (AF/A7C) or its involved installation. All source information must be returned to the government POC or destroyed upon completion of this project. Special requirements for handling classified map data, if applicable, will be addressed elsewhere in this SOW.

#### **4 TASK ORDER PROJECT PLAN DEVELOPMENT SERVICES**

Project and/or site-specific planning documents and development requirements may be required. Plans must comply with the specifications, procedures, and methodologies (such as approved Federal Facilities Agreements [FFAs]) in the site/project specific plan(s). Project plans may include any of the following as appropriate. The COR shall approve (in writing) any proposed modification to, or deviation from, any activity described in these documents, following approval by the CO.

##### **4.1 Quality Program Plan (QPP)**

###### **4.1.1 General**

The QPP shall include the Work Plan (WP) and the Health and Safety Plan (HSP) (as required by 29 Code of Federal Regulations [CFR] 1910.120), and the Construction Quality Plan (CQP). This section shall be tailored to meet current customer and regulatory requirements in this TO.

###### **4.1.2 Work Plans (WPs)**

Prepare WPs to comply with Department of Defense, Air Force, state, host nation, and local regulations regarding the proposed work effort. Prepare test plan(s), including cost estimates. Specific WPs to conduct site activities and analysis as part of future projects may also be specified. **(CDRLs A005, A006, A007, A008, A009, A010)**

###### **4.1.3 Health and Safety Plan (HSP)**

Prepare an HSP to comply with Air Force, OSHA, USEPA, state, host nation, and local health and safety regulations regarding the proposed work effort. Utilize to the fullest extent possible any existing related HSP, tailored specifically to the current effort. For work at overseas

locations, the HSP shall be prepared to apply the USACE EM 385-1-1 following host nation laws and regulations. Applicable components of 29 CFR 1910.120 shall be addressed using host nation laws and regulations. Use USEPA or host nation guidelines, whichever is more stringent, for designating the appropriate levels of protection needed at the study site(s) as applicable. Maintain written certification that the approved HSP has been reviewed with all personnel that work at the project site prior to their mobilization. **(CDRL A007)**

#### 4.1.4 Construction Quality Plan (CQP)

Prepare a CQP as specified in the TO. **(CDRL A008)**

### 4.2 Design Work Plan

Develop a design WP. The design WP shall document the overall management and implementation strategy for design activities. Site-specific aspects of the proposed design WP shall be detailed, and any deviations from the existing or previous work plans shall be highlighted. The design WP must be approved by the CO before proceeding to design. **(CDRL A009)**

## **PART C – PLANNING SERVICES**

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The Contractor shall provide A-E services in support of facility and installation planning and programming activities. Activities must support and be directly related to or associated with real property activities. Single actions not associated with real property activities will not be accomplished as standalone contract actions under this scope. Planning activities may include those activities necessary to assess and manage environmental implications and conditions of installation activities as well as planning associated with managing real property and real property activities.

### 5 SRM PLANNING AND PROGRAMMING

Develop, update, integrate, publish, and present planning and programming services as specified under the individual TO. Develop, update, integrate, publish, and present General Plans, Master Plans, comprehensive composite plans, asset management plans, area and base development plan(s) (ADP/BDP), facility use survey (FUS), space utilization plan(s) (SPACE-UP), and other plans as specified under the individual TO. Develop, update, and publish all required programming documentation as specified under the individual TO.

#### 5.1 Professional Planning and Programming

Services to be performed include support to establish or sustain infrastructure programs including documentation to support funding and execution. Review the installation or facility mission, environmental policy, EMS, environmental action plans (EAPs), and supporting facility development requirements to establish program or project requirements.

#### 5.1.1 Planning Actions

Develop a short-term and long-range plan of action to achieve compliance with the proposed mission, including regulatory requirements to satisfy initiatives necessary to acquire the authority and/or resources to accomplish the mission's planned work. Review available documentation and develop criteria to prioritize requirements, analyze projected projects, provide execution options (funding release dates, obligation schedules, and Notice to Proceed milestones), and accomplish other similar recommendations. **(CDRLs A001, A005)**

#### 5.1.2 Program Management Integration

Develop, present, and publish the installation and headquarters/command level planning, programming and budgeting submissions in support of the military's force structure, associated installation programs, and related projects. Assist with the development of a master schedule to execute AFCEE support programs. **(CDRLs A001, A005)**

#### 5.1.3 Programming Actions

Prepare and submit all documentation necessary to acquire the authority and resources to accomplish the work. **(CDRL A001)**

#### 5.1.4 Tracking of Performance Metrics and Quality Performance Indicators

Measure the performance of installations, facilities and MAJCOMs in their accomplishment of program goals. Assist in the development of performance metrics, tracking of data, development of report(s), and recommendation for improvements. **(CDRL A001)**

### 5.2 Base Capacity Analysis, Studies, and Reports

Prepare analysis of base carrying capacity to support facility use requirements, including airfield/parking-ramp capacity studies; facility utilization assessments and study report(s); utility infrastructure; and explosive safety quantity distance criteria. . **(CDRLs A001, A005)**

#### 5.2.1 Space Optimization (S-File) Plan

The Contractor shall provide services for completion of the HQ Air Force Space Optimization data gathering and population of the data into the Air Force (AF) S-File database in accordance with AF Asset Management Transformation, Space and Occupancy Management Program and S-File Implementation. In carrying out each work assignment issued as a task order (TO) under the basic contract, the Contractor shall furnish the personnel, services, equipment, materials, facilities, and other requirements necessary for, or incidental to, the performance of work set forth therein.

The objective of this work effort is to support Asset Management Implementation by providing installation specific Space Optimization programs, which will become the basis for informed decision making on space allocation and other facility occupancy issues for existing and proposed missions, at all Air Force installations.

The Space Optimization programs are intended to ensure bases are "right-sized" and properly configured for efficient operations, meet quality of life standards, and reduce the Air Force's Operations and Maintenance "footprint". A properly developed, comprehensive Space

Optimization program and data collection effort are essential for developing accurate recommendations for each installation's future space allocations and construction programs.

The Contractor shall prepare an analysis of base carrying capacity to support facility utilization assessments and study report(s). The Contractor shall complete the following:

#### 5.2.1.1 Space Optimization Management Action Plan

The Contractor shall develop and submit a draft Space Optimization Management Action Plan (SOMAP) that describes the space optimization (facility use) surveys, data collection methods, and data population to be conducted at each installation to MAJCOM/A7A for comment. The SOMAP shall also describe the types of data to be collected and populated in the S-File as well as discussing all reports and other deliverables to be developed for this project and submitted to the Government for review and approval. **(CDRL A005)**

#### 5.2.1.2 Site Visits/Data Gathering

The Contractor shall schedule and collect space data at each installation for the facilities and estimated square-footage identified in Section 1.0 of any TO issued under this basic contract. The Contractor shall utilize nationally accepted standards for office area measurements developed by the American National Standards Institute (ANSI) in conjunction with the Building Owners and Managers Association (BOMA) (referred to as ANSI/BOMA Z65.1-1996). The Contractor shall adhere to these standards for measuring floor area in the facilities. The Contractor shall incorporate data into the spatial S-File for the various AF installations. **(CDRLs A001, B010, B011)**

From information gathered during the space optimization facility use surveys, the Contractor shall develop and deliver to the government the following products:

##### 5.2.1.2.1 S-File Database

For each installation, a tabular S-File database with all data fields properly populated with required information delivered in ESRI 9.3 format. An unpopulated S-File data base structure will be provided to the Contractor by the Government.

##### 5.2.1.2.2 Auto CAD Floor Plan File

A separate, digital Auto CAD (AutoCAD Map3D 2009) floor plan file for each facility surveyed

##### 5.2.1.2.3 GIS Spatial Features

A separate set of GIS spatial features (closed polygons) depicting the space occupied or shared by each organization located in the surveyed facilities.

The Metadata files will comply with the AF IGI&S Spatial Data Standard Metadata template. The AF IGI&S Spatial Data Standard Metadata template will be provided to the Contractor.

#### 5.2.1.3 Coordinating and Populating Data Into ACES RP

The Contractor shall also compare field measurement findings with the AF Real Property Inventory Requirements (RIPR) data and work with local Real Property Offices to make corrections to the ACES RP data for large discrepancies (10% +).

### 5.3 Comprehensive Planning Program

Review documentation to establish a systematic framework of decision making with regard to the development of an investment strategy for the physical, real property assets of the government and related environmental programs. Prepare Installation Development Plans (IDPs) as specified. Data gathering in support of current or future BCP efforts will include a review of existing data including but not limited to previous studies, plans and orthorectified aerial photography and as necessary replace any outdated existing data and aerial photography with updated information and aerial photography in the format as specified in para 3.11 of this SOW. **(CDRLs A001, A005)**

### 5.4 Infrastructure Assessment Study

Utilize a multidisciplinary team of engineers and planners to assess base or facility level infrastructure capabilities to determine conditions to meet current or future needs. Prepare an Infrastructure report that describes, assesses, and analyzes the infrastructure systems. These include utility systems, communications systems, navigational aids, and fire protection measures as they apply to installation development. The report shall contain a narrative and graphic description of each infrastructure system and subsystem, to include locational data, capacities, peak demands, and condition. It shall also contain recommendations to correct existing or future deficiencies or shortfalls. The report should identify, prioritize, and cost infrastructure projects by fiscal year. Data gathering in support of present or future Infrastructure Assessment Studies will specifically include the mapping of each utility system at each of the bases, the locating and identifying of visible and also underground utility infrastructure and delivery of them in a GIS format as outlined in paragraph 3.11 of this SOW. Leak detection surveys of existing potable water systems and natural gas systems may be requested. Water leak surveys will be conducted using acoustic leak detection noise correlator equipment and software and ground microphone equipment proven capable of finding leaks in metal, plastic and concrete pipes from 1" to 36" in diameter. Gas system leak surveys shall locate gas mains and distribution lines and conduct a portable flame ionization inspection of all natural gas lines to accurately identify leak locations and severity. An integral part of any water or gas leak survey project will be providing cost estimates for repair of any leaks found. As applicable, the following systems and subsystems will be addressed and analyzed. Others can be added as appropriate. **(CDRLs A001, A005)**

<p>Utility Systems</p> <p>Water supply and distribution system, to include backflow preventers</p> <p>Sanitary sewerage systems</p> <p>Storm drainage system</p> <p>Electrical distribution system</p> <p>Central heating/cooling system</p> <p>Natural gas system</p> <p>Liquid fuel system</p> <p>Cathodic protection system</p> <p>Industrial waste system</p>	<p>Communication Systems</p> <p>Information transfer system</p> <p>Telephone switching system</p> <p>Data communications</p> <p>Long haul communications</p> <p>Radio systems</p> <p>Navigational aid (NAVAID) systems</p> <p>Fire Protection Systems</p> <p>Alarm system</p> <p>Fire suppression systems</p>
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**5.5 Land Use Planning and Analysis**

Analyze land use data to determine the effect of proposals on existing and proposed land use plan(s); analyze land use documents and plan(s) to determine current and future land use on/near installations and facilities; analyze plan(s) and studies of future land use proposals; determine the effect of proposals on installations, local, and regional land use requirements; identify and recommend planning measures necessary to overcome problems identified; revise/update land use plan(s) in support of the BCP for installations and ranges. All ROD documentation for current and anticipated land use shall be consistent with the Air Force policy and guidance. (CDRLs A001, A005)

**5.6 Sustainable Planning and Program Management**

Utilize a multidisciplinary team of planners, environmental specialists, designers and construction specialists to develop a Sustainable Area Development Plan (SADP) for existing and new missions on AF installations and other locations of interest to the government as required in the TO. (CDRLs A001, A005)

**5.7 Transportation Planning and Analysis**

Support the analysis and development of transportation systems that improve material supply efficiencies and that reduce the cost of base transportation requirements. Obtain data or utilize existing data to determine the effects of proposed projects, mission changes and/or reuse of installations and/or facilities on local and regional traffic systems. (CDRL A001)

## 5.8 Landscape Development

Provide landscape development planning, design, and sustainability concept plans, and design documents contract packages. Execute the site design process including 1) Analysis: develop site assessment and documentation, 2) Site design: establish use areas and locate building footprints, as well as addressing the remaining listed items in order to establish a physical plan for the entire site/study area, 3) Design of circulation systems: develop using interdisciplinary collaboration the planning and design of vehicular, bicycle, service vehicle, and pedestrian circulation systems, 4) Common area design: develop with user coordination the best and safest possible use of recreational land, ceremonial areas, and other open space systems such as greenways, corridors, and neighborhood linkages, 5) Planting design: provide conceptualized planting patterns, forms, types and heights within clear zones and throughout entire installations at various scales, 6) Forestry: develop, with the coordination of a forester plans for preservation areas and future tree planting requirements, 7) Site furnishings: design site furnishings that respond to users and appropriate to the architectural and natural surroundings, 8) Anti-terrorism/force protection: develop creative solutions to address security requirements within a site/landscape while meeting or exceeding user expectations, 9) Grounds maintenance cost-reduction opportunities: evaluate and provide executable site and landscape development plans aimed at improving sustainability and reducing maintenance cost. **(CDRLs A001, A002, A009, A011, B007)**

### 5.8.1 Development Plans

Provide landscape development plans to implement water-efficient landscaping (xeriscape), making use of native plants and grasses, inert groundcovers, and efficient sprinkler systems. Plans may include 1) Irrigation scheduling for landscape areas, 2) Inspection of existing irrigation system effectiveness, 3) Proposed retrofit for inefficient irrigation systems (e.g., in-ground versus hose-end sprinklers) and cost estimate, 4) Proposed landscape development plans and cost estimate, and 5) Guidelines for water-efficient design criteria for future systems. **(CDRLs A001, A009, A010, A011, B007)**

### 5.8.2 Sustainability Concept Studies and Plans

Provide all concept studies, design plans and contract documents required to develop and implement projects for improving sustainability and reducing maintenance cost. The study should include all opportunities within the study area and factors influenced by the surrounding area. Subjects for consideration may include: 1) site design including: visual analysis, natural landscape analysis, historical and cultural landscape elements, and site plan elements, 2) circulation systems including: streetscapes, parking areas, and bikeways and walkways, 3) common areas including: plazas and courtyards, parade grounds, and recreational areas, 4) planting design including: sustainability, compatibility, maintenance, grading and drainage, site security, functional use of plants, and visual effect, 5) forestry including: trees, and urban forestry management plan, 6) irrigation design including: water-efficient landscapes, efficient systems, plant material selection, watering budgeting, watering schedule, irrigation efficiency, and maintenance, 7) site furnishings including: exterior lighting, signs, seating, shelters, trash receptacles, fences and walls, bicycle racks, grates, bollards, and planters, 8) site security including: facility site design and site security details, 9) implementation, and 10) landscape

maintenance and management, and (11) installation significant aspects managed through EAPs. **(CDRLs A001, A009, A011)**

### 5.8.3 Force Protection Concept Studies and Design Plans

Provide all concept studies, design plans and contract documents required to implement projects for improving anti-terrorism/force protection within the exterior site/study area. The study may include 1) site selection, 2) area development planning, 3) vehicular site design, 4) standoff zones, 5) orientation of buildings on the site, 6) relationship of roads, 7) landforms and natural resources, 8) physical barriers, 9) landscape planting, 10) parking, 11) site furnishings, 12) barriers, 13) fencing, 14) walls, 15) gates, 16) planters, 17) natural features, 18) berms, and 19) ditches. **(CDRLs A001, A009, A011)**

## 5.9 Advance Planning

Perform advanced planning services such as Requirements and Management Plans; fact finding studies; visual analysis; facility condition/utilization assessment; site, asset management services, environmental, traffic and/or facility studies and analysis; project criteria development and analysis; comprehensive plan preparation; sub-area development plans; multi-year facility maintenance and repair plans, and other pre-design investigations. Complete related field investigations and research as required. **(CDRLs A001, A005)**

## 5.10 Asset Management Planning

Develop, update, integrate, publish and present, asset management plans, Base Activity Management Plans (BAMPS), MAJCOM Activity Management Plans (MAMPS), Base Comprehensive Activity Management Plans (BCAMPs), MAJCOM Comprehensive Activity Management Plans (MCAMPs), and Air Force Comprehensive Activity Management Plan (AFCAMP) as specified.

### 5.10.1 Asset Management

Services to be performed include support to implement, establish, or sustain Air Force Asset Management Guidance and Strategic Objectives including documentation to support funding and execution. Review the installation or facility mission and supporting facility development requirements to establish asset management program or project requirements. Utilize a cross-functional team of planners, real property, resource analysts and engineers to develop activity management plans (AMPs) that support mid-range investment planning (POM) for installations, MAJCOMs and enterprise AF. This process includes the analysis of current capabilities (assets and supporting services) along with required mission needs to determine gaps between what is available and what is needed. Using a mission risk based approach determine requirements to be programmed across the planning timeline that satisfy required outcomes. The analysis and gap determination is performed along activity lines which currently include facilities, utilities, transportation & airfield pavements, waste management and natural infrastructure. There are multiple sub-activities that make up each primary activity area (e.g., included in utilities is potable water, waste water, storm water, electrical, gas, fuels). As part of this longer range planning different approaches to delivering the required capabilities are evaluated including:

managing the supporting assets, assessing funding opportunities, deferred maintenance, demand management, regulatory implications and identified issues. **(CDRLs A001, A005)**

#### 5.10.2 Comprehensive Asset Management Plans (CAMPs)

Utilize a cross-functional team of planners, real property, resource analysts and engineers to develop comprehensive asset management plans (CAMPs) that support near year budget investment planning (current year +2) for installations, MAJCOMs and enterprise AF. Building on AMPs developed to support the POM (para 5.10.1) apply asset management processes and tools to support development of prioritized lists for investment planning and execution. Develop base, MAJCOM, HAF Integrated Priority Lists (IPLs) that comprise asset management considerations to include facility condition index (FCI), natural infrastructure assessment (NIA), mission dependency index (MDI), cost efficiencies (cost savings/avoidance) along with mission impacts, health/safety and compliance and service quality. **(CDRLs A001, A005)**

#### 5.10.3 Planning and Analysis

Services to be performed include AMP optimization, data analysis, and recommendations. AMP/CAMP reports and analysis shall be produced using the AF A-File. Update the A-File to ensure data from legacy systems is properly aligned to produce AMP/CAMP reports and analysis. Conduct asset performance data collection in support of asset management processes and investment planning. Data types include facility/asset condition to include RPIE, space utilization, energy, and other items that affect operating costs and sustainability. Data is analyzed to determine types of investment actions (e.g., sustain, restore, demo) to be taken. Provide recommendations for improving the data input, analysis and data sustainment of the A-File. **(CDRLs A001, A005)**

#### 5.10.4 Performance Metrics

Measure the performance of facilities, installations, major commands and HAF in their accomplishment of program goals. Assist in the development of performance metrics, tracking of data, development of report(s), and recommendation for improvements. Develop levels of service and associated Key Performance Indicators (KPIs) that can be used to assess activity risk in support of mission and assets. Apply LoS/KPIs to guide investment planning/execution and expose potential mission risk. Use dashboards and optimization techniques to provide analysis and full visibility of results for enhanced tracking and action. **(CDRL A001)**

#### 5.10.5 Program Integration and Education

Integrate activity management planning and asset management planning with installation development planning (IDP) process to ensure consistent approach for portfolio investment planning and execution. Develop, present, and conduct installation and headquarters/command level orientation sessions for asset management and activity management planning data input and data analysis to ensure personnel are familiar with AF AMP guidance and requirements. **(CDRLs A001, A005, B007)**

#### 5.10.6 Encroachment Management Planning.

Perform encroachment assessment analysis, ICEMAP, and develop encroachment action plans. **(CDRLs A001, A005)**

#### 5.11 Dormitory Master Plan (DMP)

Develop DMPs for CONUS installations worldwide. The objective of the DMP is to perform detailed analysis of unaccompanied enlisted personnel housing (UEPH) and to provide the Air Force with a comprehensive investment tool for future year programming. The Contractor shall perform complete building condition and functional assessments and develop recommendations, costs, and scoring. The recommendations for existing dormitories should include renovation versus replacement based on the condition and functional assessments, force protection requirements, and cost. Site Analysis and Dormitory Campus Area Development Plans for each installation should be developed as part of the overall DMP. The plans should include campus infrastructure requirements, renovation vs. replacement, future facility siting, and phasing recommendations. **(CDRLs A001, A005)**

#### 5.12 Community Planning and Sub-Area Development Plans

Perform required field, planning, and housing requirement studies. Provide long-term improvement/replacement plans with associated development scenarios with alternatives (preferred and non-selected) and economic/feasibility planning documents. The documents will be used as a tool to aid installations and facilities with their program planning and execution. **(CDRLs A001, A005)**

### **PART D – TRADITIONAL SERVICES (SRM)**

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It is anticipated that Title I, Title II, and Other A-E services will be required for projects related real property and real property transactions. Real property is defined as lands, buildings, structures, utilities systems, improvements, and appurtenances thereto. Includes equipment attached to and made part of buildings and structures (such as heating systems), but not movable equipment (such as plant equipment).

Design and Construction Services - Assist in various activities related to Design and Construction on facilities of interest to the government. These services include production and/or review of designs, plans, drawings, design analyses, cost estimates, and specifications required to execute a site-specific construction project. In addition contractor may be required to perform a site investigation, topographic and utility survey of the project site recording existing topography, terrain features, utilities, streets, runways, utilities, pavements, sidewalks, curbs and ditches, storm water drainage, as well as existing trees to remain and other landscaping and other obstructions such as catch basins, manholes, utility poles and fire hydrants. Deliverables will include at least a Charrette Report, Intermediate RFP, Final RFP ready for use in bidding under the selected government construction contract avenues (DBP03, WERC, HERC, Sustainment, Restoration, and Modernization Acquisition Task Order Contract [SATOC], or any other subsequent contract tool). The CO shall furnish a proposed Schedule with the SOW at the TO

level. The Schedule shall contain the approximate TO completion date along with intermediate milestones. Exact dates shall be determined during the TO negotiations.

## **6 TITLE I TRADITIONAL SERVICES**

This SOW includes pre-design planning support (including studies and surveys) and the preparation of designs including plans, drawings, design analyses, specifications and cost estimates required to execute a site-specific construction project. These services will also include design charrettes, evaluating existing building condition plans, structural interior design (SID), comprehensive interior design (CID), landscaping, value engineering and pre-wired work station design, as well as reviews of all of the above products and services.

### **6.1 Pre-Design Planning Support**

#### **6.1.1 Requirements and Management Plan (RAMP)/Requirements Document**

This report is an advanced planning or other services activity. Its purpose is generally to gather justification and assimilate criteria for an upcoming design project, or to begin the various efforts necessary to perform the other services task. Upon completion of the field and other preliminary investigations but not later than the date scheduled in this SOW, submit the RAMP to the CO. **(CDRLs A001, A010, B005)**

Such report shall consist of at least two parts:

##### **6.1.1.1 Findings**

For project designs, clearly and briefly state the findings and results of interviews, governing codes and regulations, cost estimates, and requirements. Include, as required, drawings, photos, or other pertinent data to support these findings. Confirm as part of the report that all areas scheduled for demolition have been visually inspected.

##### **6.1.1.2 Recommendations**

Clearly and briefly state all recommendations concerning the design or other services work. Specifically address the design scope and cost limitations within these recommendations. Include preliminary sketches of the proposed solution and information on manufacturer's products, major features and types of materials selected, and other information to support the recommendations. If, in the Contractor's opinion, any of the scope limitations of the project will be exceeded, recommend changes to conform to the limitation. Other considerations, such as changes to the design schedule or construction time must be addressed as part of the recommendations. Also address all appropriate components of building systems to include planning, landscape, civil, architecture, structural, sustainability, mechanical and electrical. This report shall be the combined efforts of the Contractor and all consultants.

##### **6.1.1.3 RAMP Report Contents**

As a minimum, provide a hard stock cover for the report. The first page behind the cover shall contain the appropriate project title, project number, project location, TO number, contractor name(s), COR name, preparer's name, and phone numbers. Include a coordination block for the following signatures as appropriate:

- a) Using Agency
- b) Ground Safety
- c) Building Manager(s)
- d) Community Planner
- e) Fire Department
- f) Security Police
- g) Communications Officer

#### 6.1.1.4 Individual Facilities Plan Checklist

The Requirements and Management Plans, Individual Facilities Plan Checklist includes the following:

##### 6.1.1.4.1 Project Description

Provide a narrative description of the project.

##### 6.1.1.4.2 User Information and Requirements

Develop a narrative describing the functions of personnel, equipment, and facility.

- a) Provide narrative of functions
- b) Provide narrative of requirements
- c) Identify other than normal conditions
- d) Identify specialized equipment and its use
- e) Provide description of procedures
- f) Indicate number of personnel and duties
- g) Provide the list of local applicable codes to include version
- h) Provide the list of local environmental regulations
- i) Provide copies of AF Instructions, policies, regulations, executive directives that are applicable to the installation
- j) Unique space requirements
- k) Storage requirements
- l) Specialized requirements (SCIF, TEMPEST, security, sanitation, etc.)
- m) People flow (staff and customers)
- n) Force Protection and Collective Protection for Chemical/Biological/Nuclear threat
- o) Weapons safety
- p) Airfield criteria
- q) Sustainable design performance requirements
- r) CID & SID

##### 6.1.1.4.3 Area Development Plan

Describe where the site is located, how it is to be developed, and what special considerations need to be given to the treatment of the site.

- a) Provide siting information
- b) Include synopsis of Base Comprehensive Plan

- c) Provide local/base restrictions
- d) For landscaping provide listing of trees, shrubs, grasses, etc.
- e) Requirements for sprinkler systems

#### 6.1.1.4.4 Infrastructure Requirements

Provide a listing with narrative describing known base systems and subsystems necessary to and/or providing support to the facility. The infrastructure requirements should describe existing conditions of each system and subsystem, their adequacy for expansion/renovation and recommendations for removal, replacement, or expansion.

##### 6.1.1.4.4.1 Civil/Structural

- a) Provide a site/topographic plan
- b) Provide all known utilities information
- c) Include all known soil conditions
- d) Note any site drainage problems
- e) Provide all paving requirements
- f) List all special structural requirements
- g) Provide communication requirements
- h) Provide applicable local codes

##### 6.1.1.4.4.2 Mechanical

- a) Note Base system
- b) Provide applicable local codes
- c) Describe the condition of existing systems
- d) Evaluate ability of existing system to serve proposed project
- e) Evaluate existing control system and its ability to serve proposed project
- f) Evaluate alternative energy sources and their feasibility to serve proposed project

##### 6.1.1.4.4.3 Plumbing

- a) Describe special conditions, such as, waste disposal plants, pumping stations, underground systems, etc.
- b) Provide applicable local codes for indoor and outdoor

##### 6.1.1.4.4.4 Electrical

- a) Summarize source, capacity, requirements, system, etc.
- b) Provide applicable local codes

##### 6.1.1.4.4.5 Fire Protection

- a) Provide fire protection requirements
- b) Provide applicable local codes

##### 6.1.1.4.4.6 Safety

- a) Identify/list safety concerns/issues

#### 6.1.1.4.4.7 Communications

- a) Address communications systems needed and available

#### 6.1.1.4.5 Environmental Concerns

Environmental problems affecting the construction or creating any type of hazard should be described in this section.

- a) Noise/Noise abatement
- b) Asbestos abatement/removal
- c) Lead based paint
- d) Endangered species
- e) Hazardous waste
- f) Construction and Environmental permits
- g) Flood plains/Wetlands

#### 6.1.1.4.6 Design Guidelines

The parameters for the design effort are to be addressed in this section with detailed requirements spelled out under the subheadings listed below. Adequate information should be provided to insure the designer has enough information to prepare valid submittals during design, bidding, and construction phases. The Base Comprehensive Plan, the Base Architectural Compatibility Plan, Architectural Guidelines, and the US Air Force Family Housing Guide are to be included as part of this information package. The Design guidelines section should note any reference to Air Force, DOD, State or local codes, standards, design guides, or other compatibility documents used to govern design. It should also contain considerations on sustainability/LEED, AT/FP, ADA accessibility and architectural compatibility.

##### 6.1.1.4.6.1 General Design Considerations

- a) Site
- b) Landscaping
- c) Architectural
- d) Structural
- e) Mechanical
- f) Plumbing
- g) Electrical
- h) Fire Protection
- i) Life Safety Code
- j) Federal sustainability and LEED certification requirements

#### 6.1.1.4.7 General Construction Considerations

This section provides the designer with Base restrictions, availability of services to the Contractor, and other items to help develop a viable design effort.

- a) Information regarding borrow, fill, and disposal of trash.
- b) Base services available/unavailable

- c) Procedures for power and other utility outages
- d) Special construction considerations
- e) Specific special issues/concerns of the base
- f) Scope and cost limitation
- g) Equipment (non-RPIE, space, utilities, access, etc.) requirements
- h) Security requirements, sensitive information (SCIF) and limited access

#### 6.1.1.4.8 Air Force Documents

Provide copies of these documents, as applicable.

- a) Approved DD Form 1391
- b) AF Form 1178A/B
- c) Housing Requirements and Marketing Analysis (HRMA)
- d) Housing Community Profiles (HCP)
- e) Installation Family Housing Master Plans (IFHMP)
- f) MAJCOM Family Housing Master Plan (if available)
- g) Base Comprehensive Plan
- h) Federal sustainability and LEED requirements scoresheet/checklist
- i) Project Management Plan: AF prepared which includes
  - i. Introduction and Purpose
  - ii. Strategy Decisions Checklist
  - iii. Design Budget Checklist
  - iv. Identification of the Project Management Team including roles and responsibilities of each member
  - v. Organizational roles and responsibilities,
  - vi. Design and construction management process and procedures,
  - vii. Key personnel, and
  - viii. Special coordination with various functional groups

#### 6.1.1.4.9 Appendices

Whatever else is needed to provide more description of the facility(ies) is put here.

- a) Maps/Plats
- b) Sketches
- c) Photos
- d) Literature
- e) Plans
- f) Command policy i.e. carpet
- g) Maintainability
- h) Glossary
- i) Cost estimates

#### 6.1.1.5 Other Required Documents

Prepare and submit any Work Requests (AF Forms 332), Programming Documents (DD Forms 1391), and LEED™ checklists that may be required to justify and program the project. Include these documents with the RAMP.

#### 6.1.1.6 Cost Estimates

Include with the RAMP cost estimates with breakout of materials, labor and equipment prepared in CSI format or other similar format identified in the TO. If the service is design work, present the cost estimate also on AF Forms 1178, 1178A, and 1178B, Project Cost Estimate Work Sheets.

### 6.2 Design

Specific design requirements will be identified at the TO level. The design will be tailored for design-build (conceptual) or design-bid-build (working construction documents) requirements. The A-E Contractor will utilize the Design-Build UFC 1-300-07A and Design UFC 1-300-09N for design requirements.

Additional and more detailed guidance for each discipline is found in other Unified Facilities Criteria. Follow these criteria for each stage of design.

#### 6.2.1 Design Stage Criteria

##### 6.2.1.1 Drawings

Produce drawings using Computer Aided Design and Drafting (CADD) software. Provide Adobe Acrobat Portable Document Format (PDF) files for design review and record drawing submittals as required by the government. Drawings will comply with the DoD CADD Standard latest version and customer specific guidance. The CADD standard is available at ([http://www.wbdg.org/ccb/browse\\_org.php?o=65](http://www.wbdg.org/ccb/browse_org.php?o=65)). **(CDRL B010)**

##### 6.2.1.2 Specifications

Provide specifications that are as brief as possible, definitive, and free of ambiguities and omissions that may result in controversy and contractor claims for additional compensation. Use of the guide specifications of the Unified Facilities Guide Specifications (UFGS) system is mandatory in preparing specifications for Design-Build projects and Design-Bid-Build projects. UFGS are available at the Whole Building Design Guide website (<http://dod.wbdg.org/>). Tailor the UFGS as necessary to suit the work required by the specific project, including editing for metric or inch-pound. In addition, modify and edit to reflect the latest proven technology, materials, and methods, if warranted. Use the project specification sections from the website that are current at the beginning of the Pre-Final design. **(CDRL A011)**

Sustainable Design and Development (SDD) and Leadership in Energy & Environmental Design (LEED) must be reported at specific design milestones per the latest Air Force guidance.

#### 6.2.2 Conceptual Design for Design-Build (D-B)

The Conceptual Design is intended to convey the extent of the work in a preliminary manner.

#### 6.2.2.1 Charrette for Conceptual Design

The A-E Contractor shall attend a Charrette. The Charrette will be a cooperative effort by the design team, user and client representatives, facility engineering command personnel, and other interested parties for the purpose of validating and clarifying the project requirements. The Charrette will include on-site development of a conceptual design in response to functional, aesthetic, environmental, base planning, site, budgetary, and other requirements. At the end of the Charrette, the A-E Contractor will provide an out-brief consisting of meeting minutes, decision documentation, and information that led up to elements that are, or will be, included in the conceptual design.

The Charrette out-brief will detail a narrative presentation of facts sufficiently complete to demonstrate that the project concept is fully understood and that subsequent design details and their ultimate presentation in the final submittal will be based on sound architectural and engineering decisions. The narrative will address Federal High Performance and Sustainable Buildings Guiding Principles status, and LEED status. The narrative shall be detailed enough to use as the Scope of Work for a D-B Request for Proposal (RFP). Provide a discussion and description of the design in each of the disciplines appropriate to the project. **(CDRLs A001, B007, B008, B009)**

#### 6.2.2.2 Conceptual Design

The conceptual design shall include the following elements defined by the Discipline-Specific UFCs and as applicable to the project. **(CDRLs A001, A009, A010, A011, A012, B002B)**

##### 6.2.2.2.1 Architectural

- a) Floor Plans: Provide all floor plans, new and demolition, indicating room names and basic dimensions.
- b) Building Elevation: Provide all building elevations indicating all exterior materials.
- c) Building Section: Indicate heights of critical building elements.

##### 6.2.2.2.2 Civil

###### 6.2.2.2.2.1 Conceptual Site Plan

Indicate above and below grade utility lines, vehicular and pedestrian circulation paths, buildings, parking, paved areas, preliminary landscape architectural concept, and existing site features to remain.

###### 6.2.2.2.2.2 Anti-Terrorism Force Protection (ATFP) Standoff Distances

##### 6.2.2.2.3 Electrical

Need not provide extensive details but must be complete enough to thoroughly express the Designer's intentions and include the following:

- a) Existing Site and Demolition Plan

- b) Site Plan
- c) Single Line Diagram
- d) Preliminary floor plans with dedicated space clearly identified for electrical and telecommunications rooms
- e) Preliminary Design Analysis including Preliminary load calculations for utility connections

#### 6.2.2.2.4 Fire Protection

- a) Code Compliance Summary Sheets
- b) Life Safety Floor Plan

#### 6.2.2.2.5 Geotechnical Report

Include the Geotechnical Report as an appendix.

#### 6.2.2.2.6 SDD/LEED Status

#### 6.2.2.2.7 Conceptual Design Cost Estimate

The Contractor shall provide a cost estimate using the standard Construction Specification Institute (CSI) format. The estimate shall show totals of each CSI division.

#### 6.2.2.2.8 Conceptual Design Schedule

Estimate of Conceptual Design Time, including an initial critical path project schedule describing the design phasing and primary design work elements organized by the cost estimate CSI structure and narrative WBS describing the construction activities for the purpose of pre-construction proposal evaluation.

### 6.2.3 “For Construction” Design for Design-Bid-Build (D-B-B)

The design submittal provides a complete and final working set of contract documents ready for bid solicitation and ready for construction.

#### 6.2.3.1 Charrette for “For Construction” Design

The A-E Contractor shall attend a Charrette. The Charrette will be a cooperative effort by the design team, user and client representatives, facility engineering command personnel, and other interested parties for the purpose of validating and clarifying the project requirements. The Charrette will include on-site development of a conceptual design in response to functional, aesthetic, environmental, base planning, site, budgetary, and other requirements. At the end of the Charrette, the A-E Contractor will provide an out-brief consisting of meeting minutes, decision documentation, and information that led up to elements that are, or will be, included in the conceptual design.

The Charrette out-brief will detail a narrative presentation of facts sufficiently complete to demonstrate that the project concept is fully understood and that subsequent design details and their ultimate presentation in the final submittal will be based on sound architectural and engineering decisions. The narrative shall be detailed enough to use as the Scope of Work for a

D-B Request for Proposal (RFP). Provide a discussion and description of the design in each of the disciplines appropriate to the project. **(CDRLs A001, B007, B008, B009)**

#### 6.2.3.2 Conceptual Design Documents for “For Construction” Design (10% - 15%)

Submit a preliminary version of the Basis of Design addressing items defined in the contract, this document, and the more detailed Discipline-Specific UFCs. Include the Geotechnical Report as an appendix. Include the following drawings/documents, with detail illustrated, defined by the Discipline-Specific UFCs and as applicable to the project: **(CDRLs A001, A009, A010, A011, A012, B002B)**

##### 6.2.3.2.1 Conceptual Drawings for “For Construction” Design

###### 6.2.3.2.1.1 Architectural

- a) Floor Plans – Provide all floor plans, new and demolition, indicating room names and basic dimensions
- b) Building Elevations – Provide all building elevations indicating all exterior materials
- c) Building Section – Indicate heights of critical building elements

###### 6.2.3.2.2 Civil

###### 6.2.3.2.2.1 Conceptual Site Plan

Indicate above and below grade utility lines, vehicular and pedestrian circulation paths, buildings, parking, paved areas, preliminary landscape architectural concept, and existing site features to remain.

###### 6.2.3.2.2.2 Anti-Terrorism Force Protection (ATFP) Standoff Distances

###### 6.2.3.2.3 Electrical

Need not provide extensive details but must be complete enough to thoroughly express the Designer’s intentions and include the following:

- a) Existing Site and Demolition Plan
- b) Site Plan
- c) Single Line Diagram
- d) Preliminary floor plans with dedicated space clearly identified for electrical and telecommunications rooms
- e) Preliminary Design Analysis including Preliminary load calculations for utility connections

###### 6.2.3.2.4 Fire Protection

- a) Code Compliance Summary Sheets
- b) Life Safety Floor Plan

#### 6.2.3.2.5 Conceptual Cost Estimate for “For Construction” Design

The Contractor shall provide a cost estimate using the standard Construction Specification Institute (CSI) format. The estimate shall show totals of each CSI division.

#### 6.2.3.2.6 Conceptual Cost Schedule for “For Construction” Design

Estimate of Construction Contract Time, including an initial critical path project schedule describing the construction phasing and primary construction work elements organized by the cost estimate CSI structure and narrative WBS describing the construction activities for the purpose of pre-construction proposal evaluation.

#### 6.2.3.3 Preliminary Design for “For Construction” Design (35% - 50%)

The Preliminary Design Development Submittal is intended to convey the complete extent of the work in a preliminary manner. The drawings are typically about 35% to 50% complete at this stage. This submittal must include requirements of the previous submittal plus additional detail to bring them to the required completion percentage. Include the following as a minimum: **(CDRLs A001, A009, A010, A011, A012, B002B)**

##### 6.2.3.3.1 Preliminary Basis of Design for “For Construction” Design

Submit a complete Basis of Design addressing items defined in this submittal and the Discipline-Specific UFCs.

##### 6.2.3.3.2 Preliminary Drawings for “For Construction” Design

Include the following drawings as defined in the Discipline-Specific UFCs and as applicable to the project:

###### 6.2.3.3.2.1 Architectural

- a) Floor Plans – Provide all floor plans, new and demolition, indicating room names and dimensions
- b) Building Elevations – Provide all building elevations indicating all exterior materials
- c) Roof Plan – Provide a plan of all roof areas, indicating direction of slope and method of drainage
- d) Building Section – Indicate heights
- e) Typical Wall Sections – Provide sufficient wall section(s) to indicate all materials and different conditions
- f) Finish Schedule – Indicate all proposed finishes
- g) Furniture Plan

###### 6.2.3.3.2.2 Landscape Architecture

- a) Planting Plan – show locations of all facilities (buildings, parking areas, roads, existing vegetation noted for preservation, etc.) and new plantings (trees, shrubs, ground cover, etc.).

- b) Plant Schedule and Details – provide a schedule for plant material showing as a minimum: common name, botanical name, quantity of plants, root condition (balled and burlapped, containerized, boxed, etc.), and a keyed reference to a planting detail. Provide separate details for plant types (trees, shrubs, ground covers, etc.).
- c) Miscellaneous Plans and Details – provide plan drawings and details for specialized construction including such items as plazas, courtyards, child play equipment, monuments, memorials, site furniture, fences, walls, signage, etc.
- d) Irrigation Plan – show all water lines, sprinkler heads, valves, backflow preventers, water source connections, wells, automatic controllers, schedules, etc. when a site irrigation system is required.
- e) Irrigation Details – when a site irrigation plan is required, provide details of sprinkler heads, backflow preventers, valves, accessories, etc.

#### 6.2.3.3.2.3 Civil

- a) Legend and Notes
- b) Existing Conditions
- c) Utility Plan
- d) Layout Plan for Roads and Parking
- e) Datum security tied between National Geodetic Vertical Datum (NGVD) and local datums
- f) Pavement sections, including joint layout plan and details

#### 6.2.3.3.2.4 Structural:

- a) Foundation Plans - Include for all structures, showing dimensions, arrangements, elevations, locations referred to a column line grid system, type of foundation and foundation obstructions. Include the layout of all slabs, footings, piers, grade beams, piles, etc., showing all foundation features of the design.
- b) Framing Plans – Include a framing plan for each structural level of the facility, showing dimensions, elevations, and column locations and numbering referenced to a column line grid system, and overall sizes of major members and components. Show the layout of beams, joists, stringers, etc.
- c) Structural Details – Show typical details of construction, indicating the connection and relationship between major components of the structural system.
- d) Structural Elevations – Show general sizes, location and arrangement of all significant features of the vertical framing system, including columns, walls, beams, etc.

#### 6.2.3.3.2.5 Mechanical

- a) Plumbing Floor Plan. Show plumbing fixtures, floor drains and equipment locations.
- b) Site Plan. Show connection to base steam distribution, location of propane and oil tanks, layout of ground coupled heat pump well fields, etc.

- c) HVAC Floor Plan. Show equipment locations, one or two-line duct layout and preliminary piping runs.
- d) Mechanical Room Plan. Show major equipment and maintenance access space. Provide section view(s) to clarify layout and supports.

#### 6.2.3.3.2.6 Electrical

- a) Legend and Abbreviations
- b) Existing Site and Demolition Plan
- c) Site Plan
- d) Lighting Plan(s)
- e) Power Plan(s)
- f) Lightning Protection Plan
- g) Cathodic Protection Plan
- h) Special Systems Plans
- i) Single Line Diagram
- j) Additional Plans/Risers

#### 6.2.3.3.2.7 Fire Protection

- a) Code Compliance Summary Sheets (Updated from Concept Design Submittal)
- b) Life Safety plan (Updated from Concept Design Submittal)
- c) Fire Suppression plans
- d) Fire Alarm and Mass Notification System Plans
- e) Detail Sheets

#### 6.2.3.3.2.8 Geotechnical:

Results of subsurface investigation – boring logs, test pit logs, etc.

#### 6.2.3.3.2.9 SDD/LEED Status

#### 6.2.3.3.3 Preliminary Outline Specifications for “For Construction” Design

Provide outline specifications, in the form of a list of specification sections the Designer of Record (DOR) intends to use in the project. Provide the document as described in the UFC for design. Provide a listing of the UFGS used in the job by Section Number, Title, and Section Date.

#### 6.2.3.3.4 Preliminary Color Boards for “For Construction” Design

Provide separate interior and exterior color boards indicating all proposed material and color selections.

#### 6.2.3.3.5 Preliminary Calculations for “For Construction” Design

Provide the following calculations, as a minimum, and as defined in detail by the Discipline-Specific UFCs.

#### 6.2.3.3.6 Structural and Geotechnical

Provide Structural and Geotechnical calculations in sufficient detail to support the items outlined in the Basis of Design and indicated on the drawings.

#### 6.2.3.3.7 Pavements

Provide Pavements calculations in sufficient detail to support the items outlined in the Basis of Design and indicated on the drawings.

#### 6.2.3.3.8 Sustainable Design and Mechanical

- a) Energy Analysis - Provide a bound copy of the computerized energy analysis that includes input and output data in their entirety.
- b) Life Cycle Cost Analysis - Submit the computerized LCC analysis utilizing the latest edition of the NIST Building Life-Cycle Cost Program.
- c) Building Heating and Cooling Load - Provide a bound copy of the computerized load calculations with input and output data in their entirety.
- d) ASHRAE 90.1 Compliance Calculations - Submit calculations and compliance forms indicated in the Basis of Design.

#### 6.2.3.3.9 Structural and Geotechnical

Provide Structural and Geotechnical calculations in sufficient detail to support the items outlined in the Basis of Design and indicated on the drawings.

#### 6.2.3.3.10 Electrical

Updated Design Analysis to substantiate design level shown. Provide calculations including

- a) Lighting: Interior and Exterior Foot-candles
- b) Load Analysis
- c) Service size
- d) Feeder size
- e) Larger special circuit sizes
- f) Lightning Risk Assessment

#### 6.2.3.3.11 Fire Protection

Submit all calculations supporting all fire suppression and fire alarm/detection systems for the project. Calculations for systems, features, or elements other than fire suppression or detection will be required as applicable. Fire suppression system calculations must be prepared using commercially available computer software.

#### 6.2.3.3.12 Preliminary Environmental Report for "For Construction" Design

Provide reports as required in UFC 3-800-10N.

#### 6.2.3.3.13 Preliminary Cost Estimate for “For Construction” Design

Detailed Construction Cost Estimate Breakdown in the most current standardized Construction Specification Institute (CSI) MasterFormat structure.

#### 6.2.3.3.14 Preliminary Construction Schedule for “For Construction” Design

Revised schedule that reflects resolution of all previous government review comments.

#### 6.2.3.4 Pre-Final Design Submittal for “For Construction” Design (100%)

The intent of the Pre-Final submittal is to provide a complete set of drawings and specifications. The following are the minimum requirements of a Pre-Final submittal: **(CDRLs A001, A009, A010, A011, A012, B002B)**

##### 6.2.3.4.1 Pre-Final Basis of Design for “For Construction” Design

Submit revised Basis of Design including updated information and incorporating responses to previous government review comments.

The Geotechnical Report, if modified during the previous review, shall be re-submitted as an appendix to the Basis of Design; otherwise, do not submit.

##### 6.2.3.4.2 Pre-Final Drawings for “For Construction” Design

Drawings must be 100% complete, minus final signatures, and modified to reflect the responses to previous review comments. The drawings must be complete to the extent that they may be released for bid or constructed as submitted. Provide complete set of construction drawings organized by discipline as described in the discipline specific UFCs.

In addition to requirements specified in the Discipline-Specific UFCs, provide the following:

###### 6.2.3.4.2.1 Electrical

- a) Legend and Abbreviations
- b) Existing Site and Demolition Plan
- c) Lighting Plans and Details
- d) Power Plans and Details
- e) Power - Single Line Diagram
- f) Telephone Riser Diagram
- g) Intercommunication Riser Diagram
- h) Lightning Risk Assessment

###### 6.2.3.4.2.2 Fire Alarm Riser Diagram

Include only when separate Fire Protection Drawings are not required to be included in the design.

- a) Other Riser Diagrams for Television, Security, and similar systems
- b) Panel Schedules
- c) Switchboards and Motor Control Center Schedules

d) Lighting Fixture Details

6.2.3.4.2.3 Fire Protection

Provide, as a minimum, all noted drawings in UFC 3-600-10N in addition to drawing requirements specified for Design Development.

6.2.3.4.3 Pre-Final Specifications for “For Construction” Design

Provide edited, red-lined specification sections, showing deletions from and additions to the master guide specification sections. Pre-Final submittal should be complete at this stage and require only minor corrections if any. Provide a submittal register with the specifications.

Provide additional requirements for Environmental specifications as required by UFC 3-800-10N.

For Fire Protection systems only, provide manufacturer’s data sheets instead of prescriptive specifications, for the suppression systems, the detection and alarm systems, firestopping, and spray-applied fireproofing.

6.2.3.4.4 Pre-Final Color Boards for “For Construction” Design

Provide separate updated interior and exterior color boards indicating all proposed material and color selections.

6.2.3.4.5 Pre-Final Calculations for “For Construction” Design

Revise calculations as required to reflect resolution of all previous government review comments. Provide design analysis that is 100% complete. Provide calculations for each discipline in addition to the following detailed requirements.

6.2.3.4.5.1 Mechanical

Submit calculations to support the plumbing and mechanical systems and the major equipment comprising those systems. Submittals shall include, but not be limited to cooling loads, heating loads, air balance, and outside air calculations. Update the energy analysis, provided at the Design Development phase, with the equipment efficiencies scheduled on the drawings.

6.2.3.4.5.2 Electrical

Provide updated Calculations from previous submittal to substantiate design level shown, including the following, as applicable.

- a) Short Circuit
- b) Voltage Drop
- c) Lighting
- d) Load Analysis.
- e) Motor Starting/Flicker Analysis
- f) Sag, Tension, and Guying Analysis
- g) Manhole Design Calculations

- h) Cable Pulling Tension Calculations
- i) Cathodic Protection Calculations
- j) CATV Network Loss Calculations

#### 6.2.3.4.6 Facility Recognition Plaque for “For Construction” Design

Provide a professionally designed and manufactured recognition plaque commemorating the opening of the facility and recognizing the leadership participants of the project. If multiple facilities are in the project, provide a plaque for each major facility. Locate the plaque in a public area on the inside of the facility such as a foyer or lobby. If an interior location does not exist, mount the plaque in a prominent location on an outside wall of the facility. The plaque must be a permanent installation, not requiring maintenance for the life of the facility. Bronze, brass, aluminum, glass, and stone are examples of acceptable plaque materials. Do not use plastic plaques. Do not use wood plaques at exterior locations. Wood may only be used if it matches interior wood building finishes at the mounting location and only when used in combination with other acceptable plaque materials. Only use non-corrosive metal or stone plaques at exterior mounting locations. Provide plaque materials that compliment the materials and finishes at the location where it will be mounted. Message figures must be permanently raised, cast, or cut into the face of the plaque. The plaque size must be in proportion to the space available at the mounting location, however ensure that the plaque is large enough for the names on the plaque to be readable at a distance of 5’-0”. The plaque design shall be accomplished at the end of the project duration to assure that current participants can be identified and recognized on the plaque. Confirm the name and organization of each person recognized with the Contracting Officer and include the following information items and leadership participants as a minimum:

- a) Facility Name
- b) Identify any recognition applied to the facility or person for which the facility has been dedicated
- c) Date of occupancy (month/year)
- d) US Green Building Council LEED Certification achieved
- e) Using Activity Commander/ Commanding Officer
- f) Base Commander/ Commanding Officer
- g) Prime Contractor
- h) Architect/ Engineer (The main facility designer)

#### 6.2.3.4.7 Pre-Final Cost Estimate for “For Construction” Design

Revised detailed Construction Cost Estimate Breakdown that reflects resolution of all previous government review comments.

#### 6.2.3.4.8 Pre-Final Construction Schedule for “For Construction” Design

Revised schedule that reflects resolution of all previous government review comments.

#### 6.2.3.5 Final Design Submittal for “For Construction” Design

The Final Submittal provides a complete and final set of contract documents ready for bid solicitation by the Government ready for construction by the Contractor. All previous

government review comments must have been addressed. (CDRLs A001, A009, A010, A011, A012, B002B)

Provide the following, as a minimum, for the Final Submittal:

6.2.3.5.1 Final Basis of Design for “For Construction” Design

Submit final, revised and updated, Basis of Design as required herein and by the Discipline-Specific UFCs.

6.2.3.5.2 Final Drawings for “For Construction” Design

Provide complete construction drawings (detailed in the Pre-Final Design Phase) organized by discipline in accordance with the UFC and Discipline-Specific UFCs. Each drawing shall only be signed, sealed, and dated by the Registered Architect or the Professional Engineer who is registered to practice in the particular field involved for work depicted on that drawing, serves as the Designer of Record for that work, and complies with requirements of FAR 52.236-26.

6.2.3.5.3 Final Specifications for “For Construction” Design

Provide complete, final specifications with redlines executed. Organize and compile the package as specified in the UFC.

Comply with additional requirements in UFC 3-800-10N, for Environmental specifications.

For Fire Protection systems only, provide manufacturer’s data sheets instead of prescriptive specifications, for the suppression systems, the detection and alarm systems, firestopping, and spray-applied fireproofing.

6.2.3.5.4 Final Color Documentation Binders for “For Construction” Design

Provide separate interior and exterior color documentation binders indicating all proposed material and color selections.

6.2.3.5.5 Final Color Documentation Binders for “For Construction” Design

Revise design analysis and calculations as required to reflect resolution of all previous government review comments and as required by this document and the discipline-specific UFCs.

6.2.3.5.7 Final Cost Estimate for “For Construction” Design

Revised detailed Construction Cost Estimate Breakdown that reflects resolution of all previous government review comments.

6.2.3.5.8 Final Construction Schedule for “For Construction” Design

Revised schedule that reflects resolution of all previous government review comments.

#### 6.2.4 Comprehensive Interior Design

The Contractor shall provide 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. For requirements, utilize Interior Design UFC 3-120-10.

The Structural Interior Design (SID) 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. **(CDRL A011)**

#### 6.2.5 Finishes and Finish Schedules

Drawings and specifications shall include the complete finishes and finish schedules. Wall, cabinet, counter tops, floor finishes, and other finish items must include complete color selections and materials in the specifications. The drawings and specifications shall be of sufficient detail to effectively illustrate requirements inclusive of levels of quality such that a contractor can both quantify and bid on common ground for items contained within a given schedule. **(CDRLs A009, A011, A012)**

#### 6.2.6 Color Renderings

Provide a professionally produced and framed color rendering of the proposed project design in the Final Document Submittal. Follow standards for rendering as specified in this TO. **(CDRL B007)**

#### 6.2.7 Submittal Review

All submittals will be reviewed by the Air Force and the procedures described below will apply. Not later than the dates specified in this TO, the COR will provide the Contractor with copies of the review comments or marked up drawings and documents. If necessary, and if requested by the Contractor, CO, or COR, a submittal review conference will be held at the earliest mutually acceptable time to resolve questions arising from the submittal or review comments. All comments and annotations shall be summarized within the design analysis.

##### 6.2.7.1 Comment Annotations

Annotate all Air Force-furnished comments, noting either the intent to incorporate the comment's direction, or the Contractor's exception to any comments. Provide for every exception a brief but specific explanation of the exception. If the comment requires action other than that recommended in the comment, note the intended alternative action. Provide a copy of the

annotated comments as specified in the TO after either receipt of comments or attendance at the review conference, whichever is later. **(CDRL A001)**

#### 6.2.7.2 Comment Actions

Make all noted corrections identified in the comments or on the marked up drawing/documents, provided Air Force comments and marks address work within the scope of the required services. If any comments or drawing marks add to, alter, or decrease the scope of services required, identify such to the CO for resolution. Upon resolution, any modifications to the design shall become an integral part of the project requirements identified in the TO. If a submittal contains numerous errors or deficiencies, or does not meet the specified requirements, the Contractor shall re-submit corrected copies of the submittal. Each submittal must receive concurrence from the COR before proceeding to the next submittal point. If a re-submittal is appropriate due to errors or omissions, no additional time or funds will be made available to the Contractor. **(CDRL A001)**

#### 6.2.7.3 Internal Review Comments

Submit with each submittal, but separate from other documents, copies of the Contractor's own internal quality control review. The person preparing these comments shall be at a level higher than the person preparing the product or design. All comments from the Contractor's internal review shall have been incorporated into the submittal. **(CDRL A001)**

#### 6.2.8 Distribution

Distribute each submittal in accordance with requirements of the TO.

### 6.3 Design Guidance and General Requirements

#### 6.3.1 Preparation of Drawings

Prepare all drawings for submittals in sizes as stipulated in the individual TO. The drawings shall be drawn to appropriate scales and dimensioned completely and accurately. The Contractor shall produce drawings using Computer Aided Design and Drafting (CADD) software. Provide Adobe Acrobat Portable Document Format (PDF) files for design and record drawing submittals. Drawings will comply with the DoD CADD Standard latest version. The CADD standard is available at ([http://www.wbdg.org/ccb/browse\\_org.php?o=65](http://www.wbdg.org/ccb/browse_org.php?o=65)). Satisfactory demonstration of disks shall be required prior to final payment of the TO. Provide a schedule of drawings for each design project and obtain drawing numbers for each project from the local Base Civil Engineer. Drawing numbers are required on every set of drawings produced. **(CDRLs A010, A011)**

##### 6.3.1.1 Half-Size Drawings

Ensure all drawings are of sufficient quality and readability to allow half-size reproduction of drawings, if required, for bidding or review purposes.

## 6.3.2 Preparation of Specifications and Reports

### 6.3.2.1 General

The Contractor shall provide specifications that are as brief as possible, definitive, and free of ambiguities and omissions that may result in controversy and contractor claims for additional compensation. Use of the guide specifications of the Unified Facilities Guide Specifications (UFGS) system is mandatory in preparing specifications for Design-Build projects and Design-Bid-Build projects. UFGS are available at the Whole Building Design Guide website (<http://dod.wbdg.org/>). Tailor the UFGS as necessary to suit the work required by the specific project, including editing for metric or inch-pound. In addition, modify and edit to reflect the latest proven technology, materials, and methods, if warranted. Use the project specification sections from the website that are current at the beginning of the Pre-Final design. Bound copies shall be provided as required in this TO. Specifications shall also be provided on approved electronic media as approved by the CO as Microsoft Word documents and/or pdf format. **(CDRL A011)**

### 6.3.2.2 Format for Specifications and Reports

#### 6.3.2.2.1 Cover

Use the standard covers for submittals, specifications and reports.

#### 6.3.2.2.2 General Format Concerns

Type documents (12 point, minimum) on 8-1/2" x 11" white, bond paper. The left and right margins shall be one inch.

#### 6.3.2.2.3 Specification Format

The text numbering system, page numbering system, index, general format and nomenclature shall conform to the latest format of the Construction Specification Institute, MasterSpec, or as otherwise required by this TO.

#### 6.3.2.2.4 Page Numbering

Consecutively number each page within each section beginning with page 1, at the bottom center. For example, the fifth page of Section 06100, would be "06100-5." Begin each section on a new page. Final reports shall also be consecutively numbered at the bottom center.

#### 6.3.2.2.5 Applicable Publications

Include in the specifications only those referenced publications that are absolutely necessary to establish a biddable standard. All referenced standards must be on file in the Contractor's office in case of questions.

#### 6.3.2.2.6 Nomenclature

References to the "Architect, Engineer, Owner, Client," etc., are not permissible. Use "Contracting Officer" wherever "Owner" or "Client" is referenced and use "Contractor" wherever "subcontractor" or "installer" is referenced in the specifications.

#### 6.3.2.2.7 Grammar

Use complete sentences with correct spelling. Do not include "contract" language in specifications. Address the technical aspects of projects only.

#### 6.3.2.2.8 Tolerances

Write specifications without words such as "match existing" or similar phrases that cannot be bid without further information and that cannot be enforced. If possible, the specifications shall state allowable tolerances.

#### 6.3.2.3 Preparation and Content of Design Analyses

The design analysis shall be provided bound on 8 1/2" x 11" paper and on approved electronic media as approved by the CO. It shall be arranged by discipline, meet all division specific UFC requirements, and support all design decisions made throughout the design. The analysis shall provide a narrative description of the key elements and features of the design. The design analysis shall include calculations, material cut sheets, and explanations of any options considered. The design analysis shall also contain, as separate sections within the analysis, the cost estimate and all previous review comments annotated with action taken and a listing of any outstanding issues requiring resolution. **(CDRL A001)**

##### 6.3.2.3.1 Supplemental Descriptions and Criteria

The information provided in the paragraphs that follow shall be used at every submittal point to produce the various elements of a complete Design Analysis.

##### 6.3.2.3.1.1 Purpose

The Design Analysis contents shall be used 1) to provide a narrative description of the key elements and features of the design; 2) to provide the information, justification, and calculations of the design; and 3) to provide the designer's thought process in the development of the design.

##### 6.3.2.3.1.2 Specific Content

The submittal topics to be discussed in the design analysis are shown below. The format and organization within the outline are at the discretion of the Contractor. Include catalog cuts of proposed products where applicable. Update the contents of the Design Analysis at each required submittal point to account for changes and corrections since the last submittal. Calculations need not be resubmitted at each point if the previously submitted calculations were complete and no corrections or changes were required. However, if calculations are not included with a subsequent submittal, the contents shall reference the submittal date, submittal title,

volume number, and pages where the calculations may be reviewed. All calculations shall be included in the Final Design Submittal.

#### 6.3.2.3.1.3 Design Instructions, Confirmation Notices, Conference Call Records, and Minutes of Past Conferences

This segment shall be cumulative from the beginning of active design efforts to each submittal point. Do not include unrelated correspondence and transmittal letters.

#### 6.3.2.3.1.4 Criteria

List all Air Force manuals, regulations, instructions, military handbooks, Unified Facility Criteria, codes, design guides, comprehensive plans (CPs), CP bulletins, and interior guidelines used by the Contractor for guidance in the project design.

#### 6.3.2.3.1.5 Analysis Summary

- a) Describe the Scope of Work.
- b) Identify any violations of criteria that would occur if the project is constructed as described in the SOW/TO.
- c) Recommend phasing of construction if required to meet user needs.
- d) State reasons for selection of materials, components and systems. Show actual design calculations with the appropriate discipline listed below.
- e) Address the maintainability of all selected equipment. Provide detailed analysis in the appropriate discipline to indicate that all clearances are sufficient to permit service, removal, and replacement.
- f) Address life cycle cost considerations. Where applicable, show balance of initial cost with operating and maintenance costs over the anticipated life of the facility or system.
- g) Address Federal sustainability and LEED™ analysis and ability to meet certification.
- h) Address energy analysis to include, but not limited to, whole building analysis, energy use by utility, energy use profile, unmet hours report, energy cost savings, and energy use savings.

#### 6.3.2.3.1.6 Architectural

Discuss the following:

- a) Link to the CP
- b) Architectural Compatibility
- c) Floor Plan, Elevations, Roofing, and Other Features
- d) Analysis of roof and wall materials used to achieve required thermal resistance
- e) Handicapped accessibility
- f) Structural Interior Design (SID)
- g) Comprehensive Interior Design (CID)
- h) Scope Calculation and Summary

#### 6.3.2.3.1.7 Civil

Discuss the following:

- a) Landscaping
- b) Pavements
- c) Soils
- d) Site Drainage
- e) Site Utilities

#### 6.3.2.3.1.8 Structural

Discuss the following:

- a) Codes used and controlling factors in design, e.g., wind, seismic.
- b) Discussion of at least two structural systems and cost/design justification for using the selected system
- c) Design calculations, either computer generated or manual, that support the selected design
- d) Foundations
- e) Superstructure

#### 6.3.2.3.1.9 Mechanical

Discuss the following:

- a) Plumbing
- b) Heating, Ventilation, and Air Conditioning (HVAC)
- c) Analysis of selected HVAC system based on cost/life cycle/design considerations
- d) Controls, Direct Digital Control (DDC), and Energy Management and Control Systems (EMCS)
- e) Energy Studies

#### 6.3.2.3.1.10 Electrical

Discuss the following:

- a) Exterior Electric
- b) Interior Electric
- c) Communications and CTV Systems
- d) Special Power

#### 6.3.2.3.1.11 Energy Conscious Design

Discuss how designs, design analysis, energy calculations and economic analyses meet the requirements of UFC 3-400-01, Energy Conservation and the Energy Policy Act of 2005 and EO 13423, EO 13514, and Energy Independence and Security Act of 2007.

#### 6.3.2.3.1.12 Sustainable Design

The Air Force is committed to planning, designing, constructing, operating and maintaining facilities based on sustainable principles. The Air Force is required through multiple federal and service requirements to achieve sustainable facilities both through design and operations. All projects shall refer to the Whole Building Design Guide website ([www.wbdg.org](http://www.wbdg.org)) for reference to applicable federal requirements and AF Policy or Implementing Guidance. References to the Federal mandates, including the High Performance and Sustainable Building Guiding Principles can be found under, 'Documents and References,' specific Air Force criteria can be found under, 'Construction Criteria Base.'

Discuss objectives of sustainable design and how projects' site design, building design and construction incorporate sustainable design features. Provide the owner's and project's goals and requirements related to sustainability (available on the AFCEE Sustainable Development Website and AFCEE Sustainable Development Toolbox AFCEE website.)

#### 6.3.2.3.1.13 Antiterrorism/Force Protection (AT/FP)

DoD has established mandatory minimum AT/FP standards for new and existing inhabited buildings to minimize the possibility of mass casualties in buildings or portions of buildings owned, leased, privatized, or otherwise occupied, managed, or controlled by or for DoD. These standards provide appropriate, implementable, and enforceable measures to establish a level of protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist activity currently exists and may be supplemented where specific terrorist threats are identified, where more stringent local standards apply, or where local commanders dictate additional measures.

Design analysis must include a thorough review of designated potential aggressor threats and tactics, actions necessary to mitigate aggressor threats and tactics within the acceptable operational risk as determined by the local and/or Major Command Commander. Analysis must include estimated costs associated with mitigating aggressor threats and tactics. Design for buildings that must remain mission operational during periods of national crisis and/or if subjected to terrorist attack should be analyzed to significantly higher levels of protection as determined by the local and/or Major Command Commander.

Intrusion barrier component of AT/FP design analysis will consider integration of landscape materials in meeting requirements. Jersey Barriers have been used throughout the DoD as an expedient and effective intrusion barrier. However, other types of barriers may be used which are much less obtrusive and more subtle in appearance. Transparent barriers, such as retaining walls, bollards, benches, trash receptacles, and landscape materials, may be designed to be as effective as Jersey Barriers while contributing to a more attractive setting.

Utilize, as a minimum, the following documents to complete the tasks described above:

- a) MIL-HDBK-1013/1A, Design Guidelines for Physical Security of Facilities
- b) UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
- c) UFC 4-021-01, Design and O&M: Mass Notification Systems
- d) UFC 4-022-01, Security Engineering: Entry Control Facilities / Access Control Points

- e) UFC 4-023-03, Design of Buildings to Resist Progressive Collapse
- f) TM 5-853-1/AFMAN 32-1071, Volume 1, Security Engineering Project Development
- g) TM 5-853-2/AFMAN 32-1071, Volume 2, Security Engineering Concept Design
- h) TM 5-853-3/AFMAN 32-1071, Volume 3, Security Engineering Final Design
- i) TM 5-853-4, Security Engineering - Electronic Security Systems

Note this list of references is not all inclusive. It is intended to serve as the minimum starting point.

Other related documents are available off the internet at

- a) The DoD UFC website will be provided under separate cover at the task order level
- b) Links to Army Technical Manuals, Engineer Regulations, Engineer Technical Letters (ETLs) and other publications will be provided under separate cover at the task order level.

#### 6.3.2.3.1.14 Fire Safety

Discuss the following:

- a) Type of occupancy and construction
- b) Separation distances
- c) Fire fighting support, fire hydrant flow tests, and locations
- d) Occupant load, exits, and travel distances
- e) Zoning and treatment of each potential hazard
- f) Fire resistance of interior finishes and materials
- g) Mechanical/Suppression Systems
- h) Electrical/Detection and Alarm Systems

#### 6.3.2.3.1.15 Operability and Maintainability

Discuss these items at each submittal point. Update the contents of this element at each required submittal point to account for changes and corrections since the last submittal. Use Engineering Technical Letter (ETL) 88-4 dated 5 Dec 88, as the guide in discussing this segment, including preparation of operation and maintenance manuals as well as any required detailed acceptance testing, commissioning and/or start up procedures and validation requirements.

#### 6.3.2.3.1.16 Shielding, Special Sound Attenuation, Physical Security, Vulnerability to Terrorism, and Other Special Topics

Provide the requirements for these special topics as they relate to the specific project in the Design Analysis and Specifications, as well as drawings.

#### 6.3.2.3.1.17 Site Surveys and Investigations

Review and discuss the need for and/or results of the following types of surveys and investigations: Topographic surveys, site and utility surveys, as-built surveys, soils

investigations, construction permit requirements, asbestos surveys, lead-based paint surveys, contamination surveys, etc. Some or all of this information may be a restatement of the F&R Report.

#### 6.3.3 Use of “Or Equal” Clauses

Products or materials may be specified by describing the item to set an acceptable standard, or by specifying by brand or manufacturer's name, followed by the phrase “or equal.” When using the “or equal” phrase, more than one acceptable brand or manufacturer’s name shall be identified and the specifications shall state, “Product brand is for informational purposes only and shall not be construed as the only product available.” Provide the documentation upon which the design was based with the design analysis. **(CDRL A001)**

#### 6.3.4 Applicable Publications

Include in the specifications only those referenced publications that are necessary to establish a biddable standard. All references must be available for review in the Contractor's office.

### 6.4 Preparation of Project Cost Profile

#### 6.4.1 Construction Cost Limitations (CCLs)

Before design starts, the Government establishes the CCL. This is a percentage of the Programmed Amount (PA) which project costs cannot exceed and is usually between 90% and 97% of the PA. The CCL is established when the Government determines there is a need to reserve a small amount of project funds for unforeseen expenditures elsewhere in the program. The Government determines the CCL before Design begins and will specify the CCL in the TO. Precautions shall be taken to prevent disclosure of the construction cost or any other information that might provide prospective contractors, manufacturers, or suppliers with a bidding advantage. If the Contractor determines at any time that the specified construction cannot be accomplished within the specified CCLs, the Contractor shall notify the CO in writing, briefly explaining this determination. **(CDRL A001)**

#### 6.4.2 Cost Estimates

Prepare cost estimates using the most recent standard Construction Specification Institute (CSI) format, or other form as identified in the individual task order. For design work, submit the cost estimate on AF Forms 1178, 1178a, and 1178b, Project Cost Estimate (PCE) Work Sheets. Include with the F&R Report. **(CDRL A010)**

##### 6.4.2.1 Preliminary Cost Estimate Submittal

Provide a PCE using the most recent standard Construction Specification Institute (CSI) format. The PCE shall show totals of each CSI divisional breakdown with subtotals, and below cost markups, as required. Additionally, the Contractor shall have a summary sheet illustrating all CSI divisions and an individual sheet per applicable CSI divisions, including at a minimum, a Description of Item, Quantity, Unit Type (e.g., Ea, SF, LF), Unit Price, and Subtotals.

#### 6.4.2.2 Successive Design Submittals and Cost Estimates

Provide updated cost estimates with the appropriate level of detail as required by that particular submittal. Reviews of design submittals may result in significant impacts to the PCE. When this occurs, submit a revised PCE and price validation within 14 days of the receipt of those comments or the review conference, whichever occurs first. The final detailed cost estimate shall also include the Construction Cost Estimate in CSI format. Lump sum estimates must be limited to only minor items.

#### 6.4.2.3 Final Cost Estimate

Provide a Final Cost Estimate in CSI format which provides costs for each applicable CSI Division. The amounts for each Division will include Material, Labor, Other Direct Costs, Profit, and G&A. The overall construction cost shall include the totals for all CSI Divisions and the Bond. In addition, provide a detailed cost report, which illustrates costs associated with in each of the CSI Division elements. Lump sum estimates must be limited to only minor items. Separate costs into those for new work and repair and maintenance/upgrade work.

### 6.5 Project Support – Pre-Proposal Through Construction

#### 6.5.1 Preparation of Proposal Schedule

Provide a proposal schedule for each design project. Coordinate the bid schedule with the CO and include a complete list of bid items and instructions for bidding and award. **(CDRL B002B)**

#### 6.5.2 Pre-Proposal Opening

Provide clarifications to questions regarding the construction documents within 3 business days to the CO. **(CDRL A001)**

#### 6.5.3 Proposal Opening

Provide recommendations, and correct/adjust the project design, to include drawings, specifications, design analysis, and cost estimates. The Contractor shall provide the technical evaluation of construction proposals to provide support for compliance review. **(CDRL A001)**

#### 6.5.4 Construction Support

Provide responses to job site concerns and prepare addenda, change orders, and related cost estimates during construction provided these concerns, addenda, change orders, and estimates address design errors, omissions, and deficiencies within the TO scope of work at Final Documents submission. Provide construction inspection support only when specified in the TO. **(CDRL A001)**

### 6.6 Project Criteria

The project design shall conform to the following criteria and applicable standards in effect at the time of the TO:

- a) Residential Energy Evaluation Manual (If required--new construction only)
- b) Air Force Family Housing Guide

- c) ANSI B31.8 (1968) and B31.8b (1969) Gas Transmission and Distribution Piping Systems
- d) Mechanical systems - ASHRAE and SMACNA Standards
- e) National Electric Code, NFPA No. 70
- f) National Electric Safety Code (ANSI C2)
- g) National Fire Protection Association (NFPA 101) Life Safety Code
- h) Title 24 - HUD Part 3280 Federal Manufactured Housing Construction and Safety Standards (FMHCSS), with latest revisions
- i) International Building Code (IBC)
- j) International Residential Code (IRC)
- k) Uniform Federal Accessibility Standard (UFAS)
- l) International Mechanical Code (IMC)
- m) International Plumbing Code (IPC)
- n) All Applicable UFC including but not limited to
  - i. UFC 3-400-01 Energy Conservation
  - ii. UFC 3-600-01 Fire Protection Engineering for Facilities
  - iii. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
  - iv. UFC 3-120-10 Interior Design
- o) Applicable Federal, DoD and AF regulations and policies
- p) Energy Policy Act of 2005
- q) Applicable State, City, and County codes and regulations
- r) United States Green Building Council's LEED™ Guidance

## **6.7 Government-Furnished Information and Materials**

The following information and materials, as applicable, will be furnished to the Contractor by the government for the execution of the project work:

- a) Project Location Plan
- b) Utility Maps of the project site (electrical, sanitary sewer, storm drains, and water) as available for use as reference
- c) Housing Community Plan
- d) DD Form 1391
- e) Command/Base Guidelines
- f) Pricing Schedule and Time Schedule
- g) Project Management Plan (PMP)
- h) Environmental Assessment
- i) Base Construction Standards

## **6.8 Support for Design-Build Process**

Prepare statements of work, performance specifications, request for proposals (RFPs), cost estimates, drawings, etc. to support RFP development for all types of Design-Build (D-B) projects. Assist the government in preparing the D-B Request for Proposal. Develop the level of project definition in the requirements documents necessary to clearly define the elements of

design the Government wants to control. The balance of design and construction technology is determined by the D-B team. Identify key elements to be submitted by offerors such as a management plan and technical design solutions. **(CDRLs A001, A005, A009, A010, A011, A012, B002B)**

Provide support when requested for common variations of the D-B delivery method to include the following:

- a) One Step: The RFP is usually based on performance specifications and a general description. Proposals are detailed and evaluated on technical merit and cost.
- b) Two Step: This delivery method is used when the specifications or description of work are not definite enough to permit full competition without evaluation and discussion of technical requirements. Step-one selects a short list of 3-4 contractors who will compete for the construction contract. In Step-two, the short listed construction contractors are provided with the technical requirements to prepare a technical proposal.
- c) Fast Track: The Fast Track delivery method is similar to D-B, in that construction begins before working drawings and specifications are complete, but work is based on multiple bid packages.
- d) Turnkey: A Turnkey project establishes a fixed price, usually based on a written RFP with no sketches or drawings and involves an RFP that contains little more than a general description of the project requirements.
- e) Design-Build with Preliminary Design: The Preliminary Design variation of the D-B delivery method involves a detailed description of the project and utilizes preliminary design drawings and specifications.

#### 6.8.1 Prepare Statements of Work for the RFP

The D-B Statement of Work provides supporting information necessary for the Offeror to understand the project requirements in order to prepare technical, management and price proposals. **(CDRL A001)**

## 7 TITLE II TRADITIONAL SERVICES

### 7.1 General

Title II Quality Assurance services shall be performed by individuals who possess, at least, a degree in Engineering, Construction Management, or applicable field related to the overall project tasking. The proposed lead on-site Title II inspector shall have a minimum of 5-7 years experience in construction practices, procedures, and testing, to include three (3) years of quality control management of DoD construction projects. The individual must have attended a professionally accredited Quality Control Management Course (e.g., conducted by the US Army Corps of Engineers or an independent private company) within the last five (5) years; Contractor's self-developed programs will not fulfill this requirement.

The Title II Contractor shall also provide Registered/licensed Architects and Engineers to accomplish design review for Design-Build projects as required to ensure design is accurate and consistent with project requirements.

The proposed inspector's resume shall be submitted to AFCEE as part of the cost proposal for approval. It shall be the inspector's responsibility to perform Quality Assurance for the Project and ensure the construction is in accordance with the contract documents, accepted designs, and with all applicable standards/criteria and codes. The Title II Contractor shall act as an extension of the Air Force's management team. The Title II Contractor shall provide complete staff support, as required or notify the COR if needed technical expertise exceeds the proposed level of effort and staffing.

#### 7.1.1 Construction Quality Assurance

The Title II Contractor shall perform construction quality assurance services. Since the construction contractor is responsible for the quality of the construction project, quality assurance services are those actions taken to assure that the construction contractor is fulfilling the obligations of the contract and working in compliance with accepted Quality Control and Health and Safety Plans. While inspection of the work in progress is inherent in this TO determination, that is not the total extent of the service. Title II Contractor shall review construction submittals, to include plans, to validate contract compliance. Title II contractor shall inspect material deliveries to confirm condition and compliance with specifications. Title II services may be required during non-standard duty hours, weekends, and Government holidays to support project completion requirements.

For design-build construction efforts, the Title II contractor shall assist in facilitating design review activities. Primary role of the Title II contractor during design activities include

- a) Helping to ensure customer and installation personnel participate in design coordination and review activities
- b) Ensuring functional information from the customer and installation personnel is captured and addressed
- c) Ensure design-build contractor confirms design solution is maintained within budget
- d) Ensure design-build contractor confirms compliance with all applicable standards/criteria and codes or has obtained appropriate waivers from the authority having jurisdiction
- e) Ensure design decisions are documented for the record.

#### 7.1.2 Construction Progress Monitoring

The Title II Contractor shall monitor design and/or construction progress, recommend progress payments, attend construction management and review meetings, and prepare/process construction progress reports. **(CDRL B012)**

#### 7.1.3 Claims, Dispute Resolution, and Litigation

The Title II Contractor shall assist with claims, dispute resolutions, and litigation.

## **7.2 Meetings and Conferences**

### **7.2.1 Weekly Construction Progress Meetings**

The Title II Contractor shall participate in and/or lead weekly job-site meetings with the construction contractor, the COR and other interested parties, to discuss procedures, progress, problems, coordination, scheduling and other appropriate matters. **(CDRLs B007, B008, B009)**

### **7.2.2 Monthly Construction Progress Meetings**

The Title II Contractor shall participate in Monthly Construction Progress Meetings to support design coordination, design review, provide up-to-date information on construction activities, and to address concerns on upcoming activities. **(CDRLs B007, B008, B009)**

## **7.3 Project Files**

### **7.3.1 General**

The Title II Contractor shall maintain a filing system for all correspondence, submittals, shop drawings, reports, payments, contract changes, etc.

### **7.3.2 Records of Contracts**

The Title II Contractor shall maintain, on a current basis, records/correspondence received or issued by the CO; change orders/documents related thereto; RFIs; all records relating to shop drawings, samples, purchases, material, and equipment; applicable handbooks; daily diary; and all other records related to a TO and construction work. The Title II Contractor shall deliver these records to the CO, as directed (hard copies or CD-ROM), and at the end of the TO period of performance. **(CDRL B013)**

### **7.3.3 Log of Site Inspections**

The Title II Contractor shall maintain a log of all site inspections and include this information in the weekly reports to the COR as specified herein. **(CDRL B012)**

### **7.3.4 Written Records/Daily Diary**

The Title II Contractor shall keep and maintain accurate and detailed records of project progress during all stages of construction. Maintain a detailed daily diary of all events that occur at the job site or elsewhere that affect or may be expected to affect, progress. Include the Schedule Activity ID for all applicable items. **(CDRL B012)**

### **7.3.5 Daily Reports**

The Title II Contractor shall prepare and submit daily reports to the COR on the status of construction, including updated copies of all logs maintained at the site, e.g., submittals, inspections, minutes of the weekly construction progress meetings, actual versus scheduled percentage of completion. **(CDRL B012)**

#### **7.4 Contractor's Schedule Analysis**

The Title II Contractor shall review the construction Contractor's schedule when required and provide analysis of delays and unforeseen impacts to the schedule. **(CDRL A001)**

#### **7.5 Monitoring Contractor Performance**

##### **7.5.1 General**

The Title II Contractor shall validate that the construction contractor pursues the work with diligence and ensure that status of time sensitive correspondence is reviewed in weekly meetings. As a minimum, the Title II Contractor shall provide adequate coverage of on-site construction inspection to observe all construction work by the general contractor and his subcontractors to ensure compliance with the contract requirements. Promptly prepare a punchlist (list of defects and omissions) as they occur and forward a copy to the CO and COR. Witness all specialty inspections/testing. Review all Third Party Testing results and advise the CO/COR of issues. The Contractor shall ensure there is Title II coverage at all times during the performance of construction activities or notify the COR when coverage cannot be maintained. **(CDRL A001)**

##### **7.5.2 Professional Support**

The Title II Contractor shall provide professional support by registered/licensed Architects and Engineers required to provide technical support during design reviews and to address any technical issues as needed during construction.

##### **7.5.3 Unsatisfactory Work**

The Title II Contractor shall promptly notify the CO and the COR by telephone within 24 hours and in writing within 72 hours of any work that does not meet contract requirements. The Title II Contractor shall advise the CO if the construction contractor fails to immediately correct deficiencies and omissions or to promptly remove, replace, or correct unsatisfactory work. It is important that unacceptable workmanship is identified and documented. All correspondence with the construction contractor must be through the COR and CO. **(CDRL A003)**

#### **7.6 Management and Inspection Services Staff**

##### **7.6.1 General**

Title II personnel named during negotiations of a TO shall be utilized for these services. In the event that any personnel named at the time of the CO's acceptance of a TO are unable to perform their duties, the Contractor shall promptly submit to the CO, in writing, with the name and qualifications of a proposed replacement for approval. **(CDRL A001)**

##### **7.6.2 Licensed Personnel**

Registered/licensed Architects and Engineers shall provide the leading roles in any technical support efforts required by the TO SOW. Full-time inspectors shall perform the inspection work with reach back support from a registered/licensed Architect or Engineer as required by the TO SOW.

### 7.6.3 Project Coordinator

Upon award of a TO, the Title II Contractor shall immediately advise the CO and the COR, in writing, of the name of the individual appointed as project coordinator to serve as a single POC and liaison between the construction contractor and the COR for all work required under a TO. This individual is typically the on-site inspector. **(CDRL A001)**

## 7.7 Job Site Relations

The Title II contractor shall ensure the construction contractor adequately superintends worksite activities to include quality control and safety responsibilities. The Construction Contractor shall be present when dealing with subcontractors. Title II personnel shall not undertake to settle disputes or differences of opinion between the Construction Contractor and their subcontractors, or between various subcontractors. Differences of opinion/disputes between the Construction Contractor's personnel and Air Force personnel shall be settled by the CO. Generally, RFIs shall be forwarded to the CO; this is not to be interpreted as restricting the necessary flow of information between the Title II Contractor and the Construction Contractor. The Title II Contractor shall not issue oral instructions to, or make any agreements with, the Construction Contractor or their representatives, that affect the work in a material way, or that may possibly result in a change order or request for equitable adjustment. **(CDRL A001)**

## 7.8 Construction Contractor Payments

### 7.8.1 General

The Title II Contractor Shall review all requests for payment, conduct specified payment/inspection meetings and recommend payment or rejection of progress payments to the Contracting Officer's Representative (COR).

#### 7.8.1.1 Payment/Inspection Meetings

To expedite the payment process, the Title II Contractor shall establish a schedule for payment/inspection meetings, to be held in person or by telephone, to be attended by the project manager, designated inspector and the construction contractor. The designated inspector shall have the technical expertise to perform payment inspections and validation of progress against the AF IMT 3065 forms. The payment/inspection meeting shall be completed prior to or during the inspection, thus ensuring timely inspections. These payment meetings should result in an agreement concerning the percent of work complete based on inspection, and verified with the schedule, to support the amount of the approved payment.

#### 7.8.1.2 Progress Payment Recommendations

The Title II Contractor shall prepare progress payment recommendations monthly from site inspections and forward them directly to the COR no later than two work days from the receipt of the construction contractor's invoice. This requires establishing the extent of acceptable in-place work, determining the amount of installed and non-installed materials, keeping track of the current contract amount as may be changed by contract modification, keeping records of prior payments, and recommending a reduction in amount to be submitted for payment in the event

that the construction contractor is not in compliance with the terms and conditions of the contract. The construction contractor's invoice for payment shall not be assumed to be a valid amount to recommend for payment. Recommendations must be arrived at by independent analysis. The Title II Contractor shall make recommendations based on evaluation against the schedule planned versus actual percent complete. Payment for in-place work shall be made only for satisfactory in-place work. The CO will not pay for in-place work that is not acceptable. **(CDRL A001)**

## **7.9 Submittals**

The Title II Contractor shall review all submittals for completeness, technical accuracy, and compliance with contract requirements, and also ensure compliance with the Buy American Act where applicable, recommend approval or rejection accordingly on AF Form 3000, and submit to the COR for Approval/Rejection. The Title II Contractor shall maintain an accurate log of all submittals received and the action taken and ensure the Contractor's submittal register is current and accurate. Submit a copy of this log to the COR with the weekly report. Review all design submittals as required by the CO/COR. Turnaround time for submittals is five (5) working days. **(CDRL A001)**

## **7.10 Contract Modifications**

### **7.10.1 General**

The Title II Contractor shall assist the COR by providing supporting documentation for any necessary changes to the TO, including an independent cost and schedule estimate.

### **7.10.2 Estimates**

All estimates prepared must have the following statement on them:

"This estimate was prepared as an independent Government estimate and has been checked for mathematical accuracy. The source used for estimating pricing on this modification/change order was \_\_\_\_\_."

The Title II Contractor shall include an impact statement identifying cost and time impact to the contract for the proposed construction modification. The estimate shall be signed and dated by the individual who prepared the estimate.

Quantity surveys and cost estimates shall remain the sole property of the Air Force, and shall not be made available to others for any purpose. The sale or sharing of takeoffs of quantities and costs to prospective bidders or estimators is prohibited. The Title II Contractor shall take precautionary measures necessary to maintain the confidential nature of all estimates prepared. The General provisions of this contract govern subcontracting of estimating services.

The Title II Contractor shall analyze the impact to the construction schedule and provide information to the COR. Only the CO can approve a modification to the TO.

### **7.11 Claims and Claims Resolution**

The Title II Contractor shall review claims from the construction contractor and render any assistance that the Air Force may require, including supporting information necessary to resolve the dispute.

### **7.12 As-Built Drawings**

The Title II Contractor shall ensure the construction contractor maintains a current set of hand-marked, as-built drawings on the job site, and that they are updated as required. The Title II Contractor shall ensure any field changes are appropriate adjustments. If changes represent deviations to accepted designs, ensure the construction contractor completes appropriate design coordination with the COR and CO. **(CDRL A013)**

### **7.13 Shop Drawings**

Upon receipt of material submittals and shop drawings, the Title II Contractor shall check them for completeness and compliance with contract requirements. Ensure that selections (color, style, finish, etc.) to be made and/or coordinated through the COR are performed in a timely manner and are accurately reflected on the shop drawing submittals prior to returning to the construction contractor. Mark the appropriate action taken on each submittal and transmit, with completed AF Form 3000, to the COR/CO (within five (5) work days of receipt). Maintain accurate log of submittals received and action taken. **(CDRL A001)**

### **7.14 Replies to RFIs**

Within five (5) work days, the Title II Contractor shall submit to the COR and CO written response and clarification, and/or drawings, as necessary, to fully provide answers to the written RFIs to include support validating differing conditions. The Title II Contractor shall review the Contractor's cost and schedule impact associated with each RFI. **(CDRL A001)**

### **7.15 Labor Standards and Compliance**

#### **7.15.1 Labor Standards**

The Title II Contractor shall assist the CO in the enforcement of all Labor Standards Provisions of the construction contract. The Title II Contractor shall interview employees of the construction contractor and subcontractor(s) for proper classification and rate of pay as required by regulations issued by the Department of Labor implementing construction labor standards (29 CFR Part 5). Additionally, the Title II Contractor shall observe and report to the CO any disproportionate number of laborers, helpers, and apprentices to journeymen. **(CDRL A001)**

#### **7.15.2 Labor Compliance**

In conjunction with the proper inspections, the Title II Contractor shall monitor contract labor compliance, perform on-site interviewing of selected employees, check for posting of wage rates and nondiscrimination notices, and fill out labor interview reports and forward to the CO and

COR with the inspection report. The Title II Contractor shall direct the construction contractor's attention to any apparent labor violations and inform the CO immediately. **(CDRL A001)**

## **7.16 Other Title II Services**

### **7.16.1 Time Extensions**

The Title II Contractor shall analyze requests for time extensions by reviewing the baseline schedule, critical path, and the cause(s) for delays. The Title II Contractor shall make daily observations of construction activities delayed due to unusually severe weather. Review and evaluation of schedule impacts will be forwarded to the COR for processing. **(CDRL A001)**

### **7.16.2 Claims and Terminations**

The Title II Contractor may be asked to support claim/terminations by preparing written supporting documents. **(CDRL A001)**

### **7.16.3 Final Inspection**

The Title II Contractor shall observe pre-final and final inspections and testing of all systems pertaining to the construction project and ensure the construction contractor maintains a complete and accurate punch list. The Title II Contractor shall provide the CO, the Base Project Manager (BPM) and the COR with an evaluation of the punch list and all defects and omissions written throughout the project with the date of correction noted beside each item. **(CDRL A001)**

### **7.16.4 List of Defects**

The Title II Contractor shall provide the BPM and the COR with a complete list of all defects and omissions written throughout the project with the date of correction noted beside each item. **(CDRL A001)**

### **7.16.5 Correction of Defects**

After the final inspection, the Title II Contractor shall insist that the construction contractor immediately correct the final defects and omissions, then maintain strong follow-up until all items are resolved and submit a report and a final payment recommendation to the CO, the BPM, and the COR. **(CDRL A001)**

### **7.16.6 Interpretation of Drawings**

The Title II Contractor shall interpret and clarify the intent of the drawings and specifications as requested by the CO and/or COR. Submittal reviews are also a part of this activity. **(CDRL A001)**

### **7.16.7 Warranty Listing**

The Title II Contractor shall obtain a listing of all materials and equipment covered by warranties, complete with duration of the warranty, from the construction contractor. The Title II Contractor shall complete all actions required to ensure validation of all warranties. The Title II Contractor shall confirm that the construction contractor has provided required quantities of attic stock, extra material, and repair materials, as specified. **(CDRL A001)**

#### 7.16.8 DD Form 1354

The Title II Contractor shall ensure that the DD Form 1354, "Transfer and Acceptance of Military Real Property" is properly prepared and ready for project close-out. **(CDRL A001)**

#### 7.17 Photography

The Title II Contractor shall provide high quality color photographs that are in sharp focus and at locations directed by the BPM; label each photograph with a description of what the photo is taken of, its location, name and location of building, construction contractor's name, Project Number, and date taken; provide a minimum of 20 digital color photographs of ongoing monthly construction in appropriate hard copy and/or electronic media as approved by the CO; and include photographs of all modification work. All photography shall be maintained on the project website. **(CDRL B005)**

#### 7.18 Limitations of Authority

Certain actions are reserved for the CO. The Title II Contractor shall not

- a) Authorize deviations from the contract documents.
- b) Approve substitute materials or equipment.
- c) Assume any of the responsibilities of the construction contractor's superintendent or of subcontractors.
- d) Expedite the work for the construction contractor.
- e) Advise on, or issue directions concerning, construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the work.
- f) Reject work or require special inspection or testing.
- g) Order the construction contractor to stop the work or any portion thereof, except under a life-threatening, health-threatening or safety-threatening condition or event.
- h) Grant a time extension.
- i) Obligate an expenditure of funds.

### 8 OTHER TRADITIONAL A-E SERVICES

Provide advanced A-E services of interest to the government. In addition, complete renderings, technical field investigation and survey requirements, field reconnaissance and surveying, and engineering information and design data and other project-specific work. The Contractor may be required to perform environmental studies, energy analyses, Federal sustainability and LEED™ requirements and analyses and documentation, Building Commissioning, or building performance evaluation associated with a construction project. Other professional services not necessarily connected with a specific construction project may also be required. Contractor is required to provide the required credentialed professional: (a) is licensed (e.g., registered professional engineer) to practice in the state where a facility is located and (b) commands the

necessary expertise, in terms of knowledge and experience, to undertake the specified task (e.g. API 653 Inspector; Mechanical Engineer) to be identified at the task order level.

### **8.1 Fuel Facilities**

Provide support of DLA, fuel facilities, and other facilities of interest to the government. Specific services include, but are not limited to, fuel system analysis, pipeline safety studies, optimization of systems at fuel facilities, and pollution prevention activities for DLA fuel facilities. Other services include program management, incidental environmental compliance, scoping studies, investigations, evaluations, value engineering services, and inspections. Provide program level assistance in the development of DLA Petroleum, Oil, and Lubricants (POL) Facilities. Support for fuel facilities has unique characteristics and should comply with UFC 03-460-01 Petroleum Fuel Facilities (current version), American Petroleum Institute (API) Standards and recommended policies, and AF Standard Designs. Services apply to new construction, upgrades, inspections, maintenance, or repair. Fuel facilities for which services shall be provided include, but are not limited to, off-loading facilities, above ground/below ground tanks, loading facilities, hydrant fueling systems, pipelines, secondary containment, support facilities, office facilities, laboratories, access roads, vehicle service stations, enclosures, soil/groundwater treatment systems, cathodic protection, fuel system evaluations under pressure with incidental repairs to facilitate completion of required fuel flow/pressure testing procedures, and all related mechanical, electrical, controls, and security requirements. The Contractor shall complete work order requests as specified. (CDRLs A001, A005)

### **8.2 Technical Investigation**

Provide services such as field and topographic surveys, utility location and capacity analysis, toxic and hazardous material surveys incidental to the primary requirement, geotechnical investigations, and interior and exterior concept studies. Perform field investigations and research necessary to ascertain all existing conditions affecting the design and project construction. Obtain an excavation permit (AF Form 103), from the local Civil Engineer prior to any excavation or drilling in connection with a design project. Follow all local rules and coordination requirements necessary to obtain this permit including coordination within the Civil Engineer organization. After the required information and other study/design support data have been obtained, submit a Technical Field Investigation and Survey Report for record purposes and for use in Design Services work. (CDRLs A001, A014)

### **8.3 Graphics Support**

Provide graphic design, production and printing oversight of various items in support of various Air Force activities, such as the USAF Design Awards Program, and various training workshops and conferences. (CDRLs B005, B007)

### **8.4 Publication Development and Production**

Provide research, production (text, graphics and/or photographic designs), and web site and/or hardcopy development for various Air Force publications. These may include Architectural

Compatibility Guides, design guides, Uniform Facility Criteria documents, and general web site development. (CDRLs A001, B005, B007)

## **8.5 Other Services**

Perform services not associated with a specific construction project. These services may include standards development; policy and regulation development; preparing facility design guides, handbooks, tutorials and pamphlets; preparing, revising and editing Air Force Civil Engineer publications; assistance team participation; landscape design; resource study and analysis; renderings, graphics and drafting (including CADD and/or GIS and digital media/file translation; conference organizing; Project Evaluation Review Technique (PERT) and CPM schedule development; time/material/labor/cost estimates; energy analysis; planning and urban design; noise studies; preparing schematics; standard or definitive designs; development of grounds maintenance standards; development of specialized landscape guidance and training tutorials; construction detail development; and other similar professional services; sustainable design guidance, sustainable installation assessments, development of metrics/indicators associated with sustainable design principles; studies related to sustainable design principles which may include renewable energy technology application, evaluation of industrial process energy saving opportunities and alternatives, emerging building technology evaluation and analysis, building performance and condition validation/evaluation. Provide support for program areas such as, but not limited to, Planning, Architecture, Sustainable Design and Design/Construction. Support may include data analysis and management associated with these programs and their respective websites. (CDRLs A001, A005, A010, B010, B011)

### **8.5.1 Claims, Dispute, Resolution, and Litigation**

Act as a consultant, witness, or litigation-support contractor, as the Air Force may require, when there is a dispute (assisting with claims, complaints, demands, or requests for equitable adjustment, for example). Review claims from, or assists in pursuing Government claims against, any other the construction contractor. Render any assistance that the Air Force may require, including furnishing reports with supporting information necessary to resolve the dispute or defend against the claim; assisting in preparing and assembling the appeal file; participating in meetings or negotiations with the claimant; appearing at depositions, appearing before the Board of Contract Appeals or court of law; and providing other appropriate assistance. (CDRL A001)

## **9 GOVERNMENT POINTS OF CONTACT**

Government POC shall be specified in this TO or provided under separate cover.