

CHAPTER A-3
ARCHITECTURAL

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CHAPTER A-3
ARCHITECTURAL

3.1 GENERAL.

3.1.1 Scope. This chapter states criteria, requirements and guidance for architectural design. Specific submittal requirements in this chapter supplement the requirements of Volume 1.

3.1.2 Architectural Quality. The objective of the COE is to obtain attractive facilities that are designed using sound technical knowledge and constructed using recognized, good industry practices, as well as being cost effective. The design and construction shall incorporate those characteristics which will provide facilities with present and continuing utility, durability and desirability, and which will be economical to maintain for the life of the structure. The design shall also be such as to provide a safe and healthy environment.

3.1.3 Sustainable Design. The COE has a policy to support the design, construction, operation and reuse/removal of the built environment (infrastructure and buildings) in an environmentally and energy efficient manner. Architectural contributions include building envelope characteristics, solar control and day lighting, views, indoor air quality, environmentally preferable materials selections, salvage/reuse opportunities, waste reduction and close collaboration with all team members and User to synthesize successful sustainable design solutions. Chapter 14, Sustainable Design, contains detailed requirements.

3.1.3.1 Energy Conservation Study. Economic studies to evaluate the use of passive solar design techniques (building orientation, amount and location of windows, etc.) will be in accordance with Chapter A-7 ENERGY ANALYSIS.

3.1.4 Antiterrorism/Force Protection. All facilities must be designed in accordance with UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings.

3.1.5 Multiple Buildings. Unless directed otherwise, when a project includes multiple buildings, drawings shall be sequenced so that each building has a separate stand-alone set of drawings. If floor plans are mirror images of other buildings, the drawing shall actually be copied and a separate standalone set of drawings created.

3.1.6 Site Adapting. When site adapting standard working drawings or using earlier designs at other locations, the design changes will generally be limited to exterior revisions to comply with the Installation Design Guide or other applicable local criteria, the selection of alternate interior materials when such changes are economically justified and to changes necessary for updating for conformance to current criteria.

3.1.7 Renovations. On renovation and modification projects provide separate plans showing demolition work required. Indicate items to be removed with dashed lines and

hatched/poche'd areas to clearly show quantities and extent. Provide demolition notes to clarify scope of demolition work.

3.2 APPLICABLE PUBLICATIONS. The following publications form a part of this Manual to the extent indicated by the references thereto. Where a publication date is not indicated the current version at the time of contract award is applicable. This list is not intended to include all criteria that may apply.

Air Force Handbook 32-1084 Facility Requirements
ADA and ABA Accessibility Guidelines for Buildings and Facilities

AR 190-11 Physical Security of Arms, Ammunition, and Explosives

MILCON Transformation RFP Template

MILCON Transformation RFP Implementation Guidelines

IBC International Building Code

IPC International Plumbing Code

NFPA 80 National Fire Protection Association, "Fire Doors and Windows"

NFPA 101 National Fire Protection Association, "Life Safety Code"

UFAS Uniform Federal Accessibility Standards

UFC 1-200-01 Design: General Building Requirements
UFC 1-300-07A Design Build Technical Requirements

UFC 3-600-01 Design: Fire Protection Engineering for Facilities

UFC 4-010-01 DoD Minimum Antiterrorism Standard for Buildings

USACE Engineering and Construction Bulletin (ECB) 2009-29 "Building Air Tightness Requirements" dated 30 October 2009

3.3 PRECONCEPT SUBMITTAL REQUIREMENTS.

3.3.1 Submittal. Certain projects may be of such magnitude or significance that in order to select the best possible design the COE may require a study to be made prior to concept submittal. Where a preconcept submittal is specifically called for, the architect shall submit three separate schemes of the project (Scheme A, Scheme B, Scheme C) consisting of a site plan, floor plan and major elevations for each scheme.

3.3.2 Design Approach. Each scheme shall show the design approach in sufficient detail so that an evaluation by SAS and using agency together with the A-E may arrive at the most feasible scheme to prepare a concept package. This submittal shall be on full size drawing sheets printed at 1/2 size.

3.3.2.1 After selection of the most feasible scheme (A, B, or C), or a combination of the three, the preconcept submittal requirements of other disciplines will be accomplished.

3.4 CODE 3 DESIGN SUBMITTAL REQUIREMENTS.

3.4.1 Submittal. Submittal content and format shall be as described in applicable year Project Definition Report (PDR) instructions (obtained from SAS PM).

3.5 CONCEPT/EARLY PRELIMINARY (35 PERCENT) DESIGN SUBMITTAL REQUIREMENTS.

3.5.1 Architectural Narrative. Provide a general description of the project. State the purpose, function, and capacities in sufficient detail to delineate and characterize functional features. Indicate expected occupancy (number of FTEs, visitors, students and residents as applicable and male/female ratio of each). Indicate expected hours of use. State HC-accessibility requirement for the project. Discuss how the project relates to the Installation Design Guide and the visual characteristics of the existing facilities around the site. Describe the following building systems: Exterior walls, floor finishes, interior partition types and finishes, ceilings, doors, windows, roofs and specialties. Include a statement of any proposed building-mounted signage or graphics. List all items that will be needed to complete the project but will not be included in the construction contract (Government-Furnished-Government-Installed).

3.5.2 Design Calculations. Submit complete calculations for toilet fixture/urinal/lavatory count in accordance with IPC except where facility criteria include fixture counts/criteria.

3.5.3 Specification List. Provide a list of guide specifications to be used for this project. UFGS specifications are available on the Internet at <http://www.hnd.usace.army.mil/techinfo>.

3.5.4 Fire Protection Design Analysis. Provide fire protection design analysis as required by Chapter A-6, Fire Protection.

3.5.5 Architectural Drawings. Drawings shall be provided in sufficient detail and so annotated for the using service to visualize how the designer has interpreted the user's functional and operational requirements in his proposal for final design. Drawings shall include, but not be limited to, the following:

3.5.5.1 Floor Plan(s). Floor plans for each floor shall be shown at 1:50 or 1:100 scale metric. If design is in inch-pound units, floor plans shall be 1/4"=1'-0" or 1/8"=1'-0". If the main floor plans must be drawn in segments in order to comply with the requirements

on the proper scale, provide a smaller scale composite floor plan that fits on one sheet for each floor. Show the following:

Exterior walls

Interior partitions

Doors and door swings

Windows

Room names

Cross referencing for sections

Overall dimensions to allow independent verification of gross area tabulation

Gross area tabulation on lower portion of first floor plate, calculated in accordance with IBC except where facility criteria include an alternate method of calculating gross area.

3.5.5.2 Furniture Example Plan. Provide an example furniture plan to demonstrate functional aspects of floor plan and ability to meet program requirements. The furniture example plan is not a detailed plan. Show individual open office workstations as dashed line boxes.

3.5.5.3 Building Elevations. Provide building elevations at 1:100 metric (1/8"=1'-0" inch-pound) for all major building elevations (at least four). Note all exterior materials, roof pitch, floor-to-floor and floor-to-eave dimensions. Indicate exterior colors.

3.5.5.4 Building and Wall Sections. Provide building cross section(s) at 1:100 metric (1/8"=1'-0" inch-pound) that show major structural elements and building volume. Provide a typical exterior wall section at 1:20 metric (3/4"=1'-0" inch-pound). Wall section shall be unbroken where practical and show materials, individual material and overall wall thicknesses, floor-to-floor height, grade and steps.

3.5.5.5 Fire Prevention/Life Safety Plans. Provide fire prevention/life safety plans as required by Chapter A-6, Fire Protection.

3.5.6 Single Line Perspectives. When required by contract, provide single line perspective drawings in accordance with paragraph 3.13.

3.6 SIXTY PERCENT SUBMITTAL REQUIREMENTS.

This submittal consists of a limited number of drawings. Its purpose is to check progress, functional layout and incorporation of concept review comments. Design does not stop at this submittal.

3.6.1 Implement concept submittal review comments.

3.6.2 Architectural Drawings. Drawings shall be provided in sufficient detail and so annotated for the using service to visualize how the designer has interpreted the user's functional and operational requirements in his proposal for final design. Drawings shall include, but not be limited to, the following:

3.6.2.1 Floor Plans. Provide floor plans as required for concept submittal, with the following additional information:

Stairs and utility spaces properly related to exterior access roads, parking, service areas, etc.

Structural grid system and columns

Fire rating and smoke resistance of walls and partitions

Door and Room numbers

Window type symbols

Cross referencing for enlarged floor plans

Floor slopes and floor drains

Downspouts

Dimensions

3.6.2.2 Schedules

3.6.2.2.1 Room Finish Schedule. Provide room finish schedule indicating floor, wall base, wainscot, wall and ceiling finishes and ceiling and wainscot heights. Provide a legend for finish abbreviations.

3.6.2.2.2 Door Schedule. Show door numbers, door and frame types, door size, door and frame materials and fire ratings.

3.6.2.3 Door and Frame Types. Door and frame types shall be placed on the same sheet, where possible, with the door schedules.

3.6.2.4 Window Types. Indicate for each window type dimensions, type of operation, frame material, glazing type and thickness.

3.6.2.5 Enlarged Floor Plans. Provide enlarged floor plans for toilet rooms, stairs and other major elements at 1:50 scale metric (1/4"=1'-0" inch-pound). Show toilet partitions, toilet accessories and HC clearances as required.

3.6.2.6 Elevations. Provide elevations as required for concept submittal, with the following additional information:

Louvers

Gutters and downspouts

Visible structural frame

3.6.2.7 Sections. Provide typical building sections through the entire building showing coordination with structural system and room volumes. Provide wall sections showing typical exterior wall conditions including porches, loading docks and other special conditions.

3.6.2.8 Roof Plan. Provide a roof plan showing roof slopes, gutters and downspouts, roof drains and scuppers.

3.6.2.9 Equipment Plans and Schedules. Where food preparation and serving equipment is required, provide equipment plans and schedule fully defining the equipment. Schedule may be provided on the equipment plan sheet or on a separate sheet immediately following. Medical facility casework and equipment schedules shall be provided in a similar manner. Indicate by schedule which items the Contractor shall furnish and which shall be furnished by the Government.

3.6.2.10 Fire Prevention/Life Safety Plans. Provide fire prevention/life safety plans as required by Chapter A-6, Fire Protection.

3.7 PRELIMINARY (60 PERCENT) SUBMITTAL REQUIREMENTS.

3.7.1 Implement concept submittal review comments.

3.7.2 Architectural Narrative. Provide as indicated for Concept submittal, updated for design development.

3.7.3 Design Calculations. Submit complete calculations for toilet fixture/urinal/lavatory count in accordance with IPC except where facility criteria include fixture counts/criteria.

3.7.4 Specification List. Provide a list of guide specifications to be used for this project. UFGS specifications are available on the Internet at <http://www.hnd.usace.army.mil/techinfo>.

3.7.5 Fire Protection Design Analysis. Provide fire protection design analysis as required by Chapter A-6, Fire Protection.

3.7.6 Architectural Drawings. Drawings shall include, but not be limited to, all drawings required for Sixty Percent submittal (Para 3.6).

3.8 FINAL (100 PERCENT) DESIGN SUBMITTAL REQUIREMENTS.

3.8.1 Implement Concept and Preliminary review comments.

3.8.2 Architectural Narrative. Provide as indicated for Concept submittal, updated for design development.

3.8.3 Design Calculations. Submit complete calculations for the following:

3.8.3.1 Calculations for toilet fixture/urinal/lavatory count in accordance with IPC except where facility criteria includes fixture counts/criteria.

3.8.3.2 Calculations for gutter and downspout sizing in accordance with IPC.

3.8.4 Fire Protection Design Analysis. Provide fire protection design analysis as required by Chapter A-6, Fire Protection.

3.8.5 Hardware Consultant Qualifications. Provide name and statement of qualification of certified hardware consultant used to select and specify the hardware sets.

3.8.6 Arms Vault Certification. Submit signed and dated Arms Vault Checklist (Exhibit A-3-1) for each arms vault in project.

3.8.7 Final Drawings. Final drawings shall show all pertinent plans, elevations, sections, details, schedules and notes to present a complete description of the construction required. Architectural drawings shall be coordinated with the structural, mechanical, electrical and site drawings and with the specifications. Dimensions, schedules, sections and details shall be completely checked. Door, window, and space numbers or symbols shall be properly shown. Locations of wall sections and cross sections shall be shown on plans and elevations. All errors and discrepancies noted shall be corrected. Assure drawing index is complete and coordinated with the drawings. Coordinate reflected ceiling plans with electrical and mechanical plans. Roof details shall be provided for all roof conditions and shall be no smaller than 1:5 metric (3"=1'-0" inch-pound). Lapping of flashings and membranes shall be clearly shown and dimensioned on roof details. Brick expansion joints shall be shown and labeled on floor plans and building elevations. CMU control joints shall be shown and labeled on floor plans. Floor slopes shall be diagrammed and floor drains shall be shown on floor plans. Tile expansion joints (including those required over slab joints) shall be shown and labeled on floor plans or tile pattern plans. Ceiling access panels shall be shown on reflected ceiling plans. Gutter expansion joints and downspouts shall be shown and labeled on roof plans.

3.8.8 Fire Prevention/Life Safety Plans. Provide fire prevention/life safety plans as required by Chapter A-6, Fire Protection. Include these drawings in the contract documents with a note on each sheet stating that this drawing is included for reference only and that all requirements shown are indicated elsewhere in the contract documents.

3.8.9 Specifications. Specifications shall be written using the latest UFGS guide specifications. Notes to the specification writer shall be thoroughly reviewed before marking for typing. The specification writer shall be familiar with the drawings, and shall coordinate his work with the person(s) doing the drawings so that there will not be discrepancies.

3.8.10 Rendering. When required by contract, provide rendering per paragraph 3.13.

3.9 CORRECTED FINAL DESIGN SUBMITTAL REQUIREMENTS.

The corrected final submittal is not to be considered a normal design level and will be provided in those cases in which the review comments require revision to the final submittal documents.

3.9.1 Implement final review submittal comments and submit all revised documents that show implementation of the comments.

3.9.2 Verify consistency between plans, specifications and final corrections.

3.10 REQUIREMENTS FOR PREPARATION OF DESIGN/BUILD RFP PACKAGES.

3.10.1 General. Unless indicated otherwise, Army RFPs shall be prepared using the MILCON Transformation RFP template and the online RFP “wizard”. Contact the SAS Project Manager for access to the RFP “wizard”. Unless indicated otherwise, Air Force and all other RFPs shall be based upon “partial” design development as defined by UFC 1-300-07A.

3.10.2 MILCON Transformation RFP Template

3.10.2.1. Develop complete RFP using current MILCON Transformation RFP Template documents and the online “wizard”. Follow MILCON Transformation RFP Implementation Guidelines (located at the “wizard”) in developing the RFP. Incorporate the basic premises of MILCON Transformation in the RFP.

3.10.2.2. Facility-Specific Functional Requirements, Applicable Criteria and Technical Requirements.

For Army standard designs with completed facility-specific functional requirements, applicable criteria and technical requirements paragraph (Statement of Work (SOW) paragraph 3) developed by the Center of Standardization (COS) and uploaded in the wizard, use the standard SOW paragraph 3 provided. For Army standard designs without completed SOW paragraph 3 developed by the COS and uploaded in the wizard, develop SOW paragraph 3 based on input from and coordination with the COS. For modified Army standard designs and unique non-standard facilities, develop SOW paragraph 3 based on input from and coordination with the User and COS if applicable.

3.10.2.3. Project-Specific Architectural Requirements. Coordinate with the Installation and develop SOW paragraph 6 (Project-Specific Requirements) and RFP appendices. Incorporate Installation Design Guide (IDG) to the extent that IDG compliance does not jeopardize project award within budget.

3.10.2.4. Coordinate with the Installation and provide technical support for Installation requests for deviations from MILCON Transformation RFP requirements as needed.

3.10.2.5 Draft RFP Submittal Requirements. Provide Statement of Work document to include, as a minimum: description of required spaces, minimum net areas, number of occupants, hours of occupation, features, furniture and equipment, adjacencies, special requirements, project-specific requirements, appendices.

3.10.2.6 Final RFP Submittal Requirements.

3.10.2.6.1 Implement draft RFP submittal review comments.

3.10.2.6.2 Verify consistency between drawings, appendices and RFP text.

3.10.2.6.3 Update RFP to reflect changes to MILCON Transformation RFP Template documents as needed during RFP preparation.

3.10.3 "Partial" Design Development RFP.

Prepare in accordance with UFC 1-300-07A. Unless indicated otherwise, AE shall be furnished an electronic format sample or template for the written technical requirements portion of the RFP to be edited for the specific project.

3.10.3.1 Draft RFP Submittal Requirements. Provide the following:

Concept floor plan(s) as described in UFC 1-300-07A..

Concept building elevations as described in 3.5 above.

Concept building and/or wall sections for special design conditions.

Concept Fire Protection Design analysis as described in Chapter A-6 Fire Protection Functional requirements document to include, as a minimum, for each space: description of use of space, minimum net area, number of occupants, hours of occupation, features, furniture and equipment, adjacencies, finishes, ceiling height. Specification indicating architectural design requirements.

3.10.3.2 Final RFP Submittal Requirements.

3.10.3.2.1 Implement draft RFP submittal review comments.

3.10.3.2.2 Verify consistency between drawings , specifications, appendices and RFP text.

3.11 TECHNICAL REQUIREMENTS.

The following technical requirements apply to all projects except MILCON Transformation RFPs.

3.11.1 Site Work.

3.11.1.1 Access to Entrances. All stoops, steps, or similar required access to entrances that will normally be built by a building Contractor as differentiated from sidewalks, driveways, etc., which are normally constructed by a paving subcontractor, shall be shown on the architectural drawings.

3.11.2 Masonry.

3.11.2.1 Interior Walls and Partitions. Concrete masonry units in interior masonry walls and partitions shall be not less than 200 mm (8 inches) in nominal thickness.

3.11.2.2 Grout-filled cavities between wythes of exterior masonry walls is not allowed. Grouting of reinforced concrete masonry unit cores is allowed.

3.11.2.3 Single wythe masonry exterior building walls are not allowed.

3.11.2.4 Brick Expansion Joints (BEJ) and CMU Control Joints (CJ). Provide brick expansion joints and CMU control joints in accordance with the spacing guidelines in UFC 1-200-01, Tables 1-2 and 1-3.

3.11.2.5 Brick Detailing. All brick detailing, including flashing and sills, shall be in accordance with the latest edition of the Technical Notes on Brick Construction published by the Brick Industry Association (BIA).

3.11.3 Miscellaneous Metals. All access panels required to service mechanical items normally furnished and installed by the non-mechanical trades shall be shown on the architectural drawings. Make sure that access panels, when required, are specified. Exposed exterior metals shall be the same finish and color.

3.11.4 Thermal and Moisture Protection.

3.11.4.1 Roof and Wall Insulation Thickness. Except when required for refrigerated spaces, roof and wall insulation shall be drawn at a nominal thickness consistent with the insulation requirements of the particular building or project. The thickness of roof or wall insulation shall not be dimensioned nor the thickness indicated on the drawings. Exceptions:

a. In roofing alterations or reroofing projects where insulation is required only to provide required roof slope for drainage.

b. Where insulation is used as back-up for a stucco type system finish only in alteration work to provide a new facade.

General standards for insulation, as indicated in the applicable guide specification, require insulation thickness as determined by the established "U" value for total roof or wall thickness, and the type of material utilized. Unless specifically directed, "U" values shall be provided. Details shall allow for possible differences in insulation thickness. "U" values shall be called for in the specifications and not shown on the drawings.

3.11.4.2 Exterior Insulation Finish System (EIFS). EIFS system shall be water-managed type with drainage for intruded moisture. Edit guide specification for this feature and provide typical details showing it.

3.11.4.3 Thermal Envelope. Ensure conditioned facilities have a complete uninterrupted thermal envelope. Water and fire sprinkler pipes must be located inside the building thermal envelope.

3.11.4.4 Roof Slope. The roof slope for low-slope (built-up or membrane) roof shall be minimum 1:50 (1/4 inch per foot) and maximum 1:6 (2 inches per foot). Single-ply roofs shall in general, conform to the minimum slope of 1:50 (1/4 inch per foot). Structural standing seam metal roofs shall be a minimum of 1:25 (1/2 inch per foot).

3.11.4.5 Sheet Metal. In all cases, sheet metal for various elements used throughout a building shall be of the same basic metal. Atmospheric conditions shall be considered in the selection of exposed sheet metal.

3.11.4.6 Louvers. All louvers shall be storm louvers and shall have enclosed drainable sill pans with end dams.

3.11.4.7 Downspouts. When downspouts are required, they shall not drain directly onto a walk, platform, or open ground. When downspouts must occur at walks or platforms, they shall pass through or under into underground drains or toward open ground beyond. Downspouts draining onto open ground shall be diverted to prevent erosion by utilizing splash blocks. Use of interior roof drains shall be avoided where possible. When interior roof drains are used provide overflow scuppers. Where downspouts discharge onto a roof below, provide splash pans.

3.11.4.8 Gutters. Gutters shall be exposed. Concealed gutters shall not be used. The A-E shall provide specific details on the plans of how expansion joints are to be constructed as well as appropriate fabrication and installation details.

3.11.4.9 Roof Details. Roof details shall be in accordance with NRCA Roofing and Waterproofing Manual, latest edition.

3.11.4.10 Standing Seam Metal Roof. Concealed clips shall not be fastened through rigid insulation to the structure below. If rigid insulation is provided between metal roofing and deck below, subpurlins shall be provided.

3.11.5 Doors and Windows.

3.11.5.1 All pedestrian doors shall be 2100 mm (7 feet 0 inch or 7 feet 2 inches), or 2400 mm (8 feet 0 inch) high except in family housing where they may be 2000 mm (6 feet 8 inches). Door openings shall, in general, be 900 mm (3 feet 0 inch) in width, except for special purpose doors, toilet rooms, closets, family housing, etc.

3.11.5.2 Doors to rooms shall be adequate size to accommodate the installation and removal of furniture and equipment installed herein without requiring demolition.

3.11.5.3 Exterior Doors. Except in underground structures, doors to boiler or mechanical rooms shall normally be provided to the exterior for all buildings. Doors from the power rooms, generator rooms, etc., should be to the outside of the building only.

3.11.5.4 Special type doors such as rolling doors shall be adequately designed to safely resist the required wind pressures. Rolling steel or aluminum doors shall be designed so as to permit operation of the door at maximum wind velocities defined in the area where used.

3.11.5.5 Louvers. Overall size of return air or air intake louvers located in doors shall be indicated in the Door Schedule. Minimum bottom rail dimension shall be 75 mm (3 inches) and the minimum stile dimension shall be 125 mm (5 inches).

3.11.5.6 Door and Window Connections. Door and window connections/anchorage to exterior wall shall be designed to comply with antiterrorism/force protection criteria. Anchorage/connection design shall be accomplished by designer and indicated on the project drawings.

3.11.6 Door Hardware

3.11.6.1 Hardware Consultant. A certified hardware consultant shall be used to select and specify the hardware sets.

3.11.6.2 Coordination of door numbers and hardware set numbers shall be accomplished by indicating hardware set numbers for each door on the Door Schedule or by listing applicable door numbers at each hardware set heading in the hardware schedule. Do not indicate hardware set numbers on the floor plans.

3.11.6.3 Hardware sets. Hardware set components shall be indicated using ANSI designations.

3.11.6.4 Proprietary Hardware. Under no circumstances shall proprietary hardware be specified unless a specific waiver has been obtained authorizing its use.

3.11.6.5 Hardware Sets. When selecting hardware sets, limit the use of closers to reasonable locations. Parallel arm closers are required when the hinged jamb is less than 178 mm (7 inches) from the adjacent wall. Door locations should be studied in the design stage to eliminate the need for parallel arm closers. Limit the use of door coordinators at pairs of doors only in those locations where removable mullions cannot be used. Except in cases where aesthetics are extremely important AND the door will not receive heavy use, do not use concealed vertical rod exit devices.

3.11.7 Finishes.

3.11.7.1 Finishes Disclaimer. Interior and exterior finishes may be specified by using manufacturer and product names. When this is done, a disclaimer must be placed on the drawings or in the specification where this is done that states the following: "The manufacturer's names and their products referenced indicate the color, texture, and pattern required for the materials listed. The products furnished shall meet the color, texture, and pattern indicated as well as the material quality and performance specified in the applicable technical section. The use of manufacturer's names and products do not preclude the use of other manufacturer's products of approved equal color, texture, and pattern as long as all requirements in the technical sections are met".

3.11.7.2 Acoustical Tile. In electronic and communications facilities in which avoidance of dust is a major consideration, acoustical treatment shall be limited to acoustical tile with nondusting characteristics. Square tile 600mm x 600mm (24" x 24")

shall be used at all areas. Insulation shall not be placed directly above acoustic tile ceilings.

3.11.7.3 Ceramic Tile on Concrete Masonry Units (CMU). Utilize thickset (setting bed) method for installation of ceramic tile when applied directly to CMU.

3.11.8 Floor Drains and Slopes. Floor drains and showerheads shall be shown on architectural drawings as well as on mechanical drawings, and shall be closely coordinated. All floors in areas requiring drains shall be sloped toward the drains, and coordinated with structural drawings for depressed slab requirements.

3.11.9. Handicapped Accessibility. Where facilities for the handicapped are to be included in whole or in part, the design shall be in accordance with the American With Disabilities Act Accessibility Guidelines (ADAAG), and Uniform Federal Accessibility Standards (UFAS). In case of conflict, the more stringent requirement shall be followed.

3.11.10. Arms Vaults. Arms vaults where called for and required shall be designed in conformance with AR 190-11. Arms Vault Checklist (Exhibit A-3-1) will be completed by the architect and submitted with the final submittal.

3.11.11. Egress During Construction. For renovation of an occupied building, drawings and specs shall include provisions to ensure egress requirements for occupied areas are met during construction.

3.11.12 Building Air Tightness Requirements. Use performance specification UFGS 01 83 16 EXTERIOR ENCLOSURE PERFORMANCE REQUIREMENTS (Contractor design and testing of air barrier) to comply with USACE Engineering and Construction Bulletin (ECB) 2009-29 "Building Air Tightness Requirements" dated 30 October 2009. Obtain 01 83 16 at <http://en.sas.usace.army.mil/enweb>.

3.12 AESTHETIC GUIDANCE.

3.12.1 Discussion. The aesthetic quality of an area is not determined solely by the architecture of its buildings, the complexity of its site development and landscape features, or the size, shapes, colors, and textures which are predominant; it is determined by how well all these elements function together and complement existing natural and man made features.

3.12.2 Policy. The A-E shall be responsible for insuring that proper attention is paid to achieving an aesthetic design solution, which includes harmony of design and the visual linkage of architecture to the surrounding community. New design projects shall respect the architectural character of existing facilities that are to remain and that are considered to be architecturally appropriate for the environment. Where the architecture of existing permanent facilities reflect a predominant character or style, the new facilities should be designed to be in harmony with that character or style. This

emphasis will also be placed on landscaping and structures other than buildings. Follow the Installation Design Guides or other applicable local criteria.

The architect shall take the lead on ensuring aesthetic coordination is accomplished for all design disciplines. The following items will be addressed in each design:

- a. All designers shall consider the effects of their decisions upon the project aesthetics.
- c. During concept design, a site visit will be made for familiarization and color photographs taken of the surrounding area.
- e. Special attention shall be given to color and materials selection in relationship with existing surroundings.
- f. Landscaping, exterior lighting, and signage shall be given the same aesthetic consideration as the structures.
- g. The exterior treatment of renovated buildings shall be in harmony with the effort to improve the aesthetic quality of an area.
- h. Potential site adapted building(s) shall be reviewed with the same aesthetic criteria required for new design.
- i. The screening of exterior equipment, i.e., chillers, cooling tower, transformers, etc., will be accomplished whenever possible.
- j. Provide underground electrical service lines whenever possible.
- k. Primary entrances to buildings shall be architecturally delineated so entrance location is obvious to a visitor approaching the building.
- l. Restrooms shall be arranged to ensure visual privacy from adjacent areas. This will include consideration of the views into rooms due to mirror placement.

3.13 EXTERIOR PERSPECTIVES AND RENDERING.

3.13.1 Exterior Perspectives and Rendering. The exterior perspective and rendering requirement applies to facilities having a significant visual impact within an installation and/or occupancy which requires special design attention. When required by contract, provide the following.

3.13.1.1 Concept: Single line perspectives indicating the three dimensional aspects of the facility with emphasis on the main building features, shall be provided at concept design. The perspectives will illustrate the view planned for the final color rendering. In

addition, 200 x 300 mm (8-inch by 10-inch) sample photos shall be provided showing the rendering techniques to be used.

When required by contract, provide three softline sketches of alternate exterior perspectives (three different exterior treatments of same floor plan) depicting the exterior design motif, massing, building materials, color, texture, and site features. All alternatives shall be within construction cost limit.

3.13.1.2 Final: A 500 x 750 mm (20-inch by 30-inch) full color rendering by a professional architectural renderer and two full size photographic, true color, copies shall be provided at the final design submittal, showing the view approved in the single line perspective and illustrating the colors and patterns of exterior building materials. (An example of the color medium to be used shall be submitted for approval prior to submittal of full color rendering.) In addition, two 200 x 300 mm (8-inch by 10-inch) color photos of the color rendering with a 125 x 175 mm (5-inch by 7-inch) negative shall be provided. The project title and location shall appear on the rendering front side. The project title, line item number, fiscal year and location shall appear on the backside.

3.13.2 Submittals. Provide the required information as indicated below:

3.13.2.1 Concept Design: Include one copy of concept requirements in the following submittal packages: Project Manager, Architectural (EN-DA), and Engineering Central Files (EN-SF).

3.13.2.2 Final Design: Include final requirements in the final submission to the Project Manager. The rendering and full size photographic copies shall be matted and framed. Provide one each 200 x 300 mm (8-inch by 10-inch) color photo, of rendering only, to Architectural (EN-DA) and Engineering Central Files (EN-SF).

CHAPTER A-3
ARCHITECTURAL
EXHIBITS

A-3-1 Architect Engineer Checklist of Items Governing Design for Arms
Vault Constructed in Accordance with Army Regulation 190-11.