

APPENDIX B

DA STANDARD DESIGN PACKAGE

1. General.

a. The basic DA standard design package will be developed on size A1 (594 mm by 841 mm) sheets and include all necessary design drawings and design analysis. All drawings and text will be developed at a scale and size to be legible when reduced to an A3 (297 mm by 420 mm) sheet size.

b. In accordance with the Metric Conversion Act of 1975 (Public Law 94-168) as amended by the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418), and Executive Order (EO) 12770 dated July 25, 1991, DA standard design packages shall be developed using the metric (SI) system of measurement.

(1) All dimensions on drawings should be in millimeter (mm), unless otherwise noted. The primary design module should be in SI, e.g., 100 mm (in lieu of 4 inches), 1200 mm (in lieu of 4 feet), and 400 mm on center (in lieu of 16 inches on center).

(2) All design analysis and narrative information should be in dual units of measurement, with the Si as the primary unit followed by inch-pound (IP) units in parentheses, e.g., 14 m² (150 SF), 20 MPa (3000 psi), and 430 lx (40 footcandles).

c. All DA standard design packages shall be developed using a Computer-Aided Design and Drafting (CADD) system compatible with the CADD standards contained in EM 1110-1-1807.

2. DA Standard Design Drawings.

The DA standard design drawings will be developed to delineate functional layouts, space allocations, special features or requirements, and the configuration of the facility elements both horizontally and vertically. DA standard design drawings will indicate the basic recommended building systems; materials; structural, mechanical and electrical systems; architectural treatment; and

illustrate the mandatory features and optional features of the design. DA standard design drawings will include, but not be limited to:

a. Site plan(s) indicating a typical layout on an idealized fiat site, including any recommended or required support buildings, walks, parking, site access, roads, service areas, lighting, etc.

b. Floor plans with the principal dimensions noted, including all walls, fenestration, partitions, doors, door swings, stairs, elevators, special equipment or fixtures, and with all rooms and spaces properly titled or identified to indicate the functional activity of the room or space.

c. Elevations with the principal dimensions noted and indicating the basic building exterior appearance, including recommended and optional architectural treatment and materials; height, length, and width of the building; entry; fenestration; roof line; etc.

d. Typical cross section(s) through the building(s) with story heights dimensioned, and indicating recommended or required elements of the building systems; materials; structural, mechanical and electrical systems; architectural treatment; etc.

e. Birds-eye perspective or typical ground level perspective based on a suggested architectural theme, but indicating that local architectural themes are applicable.

3. DA Standard Design Analysis.

The DA standard design analysis will be prepared as part of, and in support of, the DA standard design drawings and serve as a guide to USAGE design agencies and AE firms applying the DA standard design package to a specific project. ER 1110-346-700 may be used as a guide during the development of the design analysis. However, since ER 1110-345-700 is applicable to actual

MCA projects, it must be tailored for application at the DA standard design or definitive design level. All areas of the DA standard design analysis must clearly state what elements of the design(s) are mandatory and what elements are optional. As a minimum, the DA standard design analysis should include the following:

a. A general description of the design(s) included in the package. This description should include information concerning the applicability of the design(s) and qualifications regarding the use of the design(s), such as the mandatory and optional features of the design(s), geographical applications and differences, authorized modifications, and adaptability to varying requirements among individual projects.

b. A narrative description of the functional and operational requirements that were met during the development of the design(s), including the range and number of personnel that can be accommodated, the types of equipment and operations that can be accommodated, the military or community population that can be served, and the overall functional objective of the design.

c. A narrative description of the requirements of the site, including boundaries, total hectare (acreage), pedestrian and vehicular access, functional relationships to other facility types, support buildings, parking, service areas, orientation of elements to conserve energy, sound control, handicapped accessibility, signage, physical security/anti-terrorism, lighting, etc.

d. A narrative description of the architectural design objectives and elements of the design(s), including gross building area, an area tabulation of rooms or other spaces on the floor plans, desired image or visual appearance of interior elements and the exterior, furniture and furnishings, contractor and government furnished equipment, recommended theme for the interior design covering building related interior design and customer funded interior furnishings (ER 1110-345-122), signage, occupational safety and health considerations, provisions for handicapped accessibility, physical security/ anti-terrorism, recommended or required finish materials, acoustical design considerations, type of

occupancy, occupant loads, fire safety and protection, etc.

e. A narrative description of the design objectives and provisions of the recommended structural system, including materials, design loads, seismic protection, fallout protection, basis for the system selected, recommended foundation system, etc.

f. A narrative description of the recommended mechanical systems, including plumbing and HVAC, design temperatures, design loads, energy conservation, toilet and other fixture allocations, basis for the systems selected, etc.

g. A narrative description of the electrical system, including loads and load factors, specialized equipment, emergency lighting and stand-by generation, special current/voltage requirements, illumination levels, information systems and communication requirements, energy conservation and monitoring, etc.

h. A preconcept level cost estimate, using MCACES, based on the USACE standard building system work breakdown system. A separate estimate is required for all of the various options of the design(s).

3. Optional DA Standard Design Brochure.

A DA standard design brochure may be developed as an information document for the prospective programmers and users of the facility type for which the DA standard design applies. The specific requirements for the brochure should be established at the predesign conference by the subcommittee responsible for the facility type being standardized. The basic requirement is that the brochure be developed on a 216 mm by 279 mm (8 1/2-inch by 11-inch) vertical format and include, but not be limited to:

a. Drawings of the site plans, floor plans, elevations, sections, and perspectives with corresponding extracts from the design analysis that describe and graphically communicate the character and scope of the facility.

b. A narrative text that indicates where the functional areas, building features, and materials of

the design are mandatory and where they are optional or where changes can be made at the user's request.

c. A narrative text that stresses the importance of an architectural theme in the development of a design using the definitive design.