

1. GENERAL GUIDANCE REGARDING DESIGN

- A. Commissary facilities are Department of Defense (DoD) projects, and as such must be constructed in accordance with the following criteria, codes, and standards.
- B. Project design shall conform to Department of Defense (DoD) criteria and other applicable DoD regulations, manuals, and pamphlets; (latest edition shall be used) including but not limited to the following:
 - 1. Unified Facilities Criteria - Design: General Building Requirements (UFC 1-200-01).
 - 2. Unified Facilities Criteria - High Performance and Sustainable Building Requirements (UFC 1-200-02).
 - 3. Unified Facilities Criteria - Civil Engineering (UFC 3-201-01).
 - 4. Unified Facilities Criteria - Design: Fire Protection Engineering for Facilities (UFC 3-600-01).
 - 5. Unified Facilities Criteria - DoD Minimum Anti-Terrorism Standards for Buildings (UFC 4-010-01).
 - 6. Project location "Installation Design Guide" (IDG), "Base Exterior Architectural Plan" (BEAP), "Architectural Compatibility Guidelines" (ACG), or other general design guide at the project location.
 - 7. Guiding Principles for Sustainable Federal Buildings.
- C. Project design shall conform to national codes and regulations for building construction and safety, including but not limited to the following:
 - 1. International Building Code.
 - 2. International Plumbing Code.
 - 3. International Mechanical Code.
 - 4. International Fuel Gas Code.
 - 5. National Electric Code.
 - 6. National Fire Protection Association.
 - 7. OSHA Regulations.
 - 8. ASHRAE Standards.
 - 9. All applicable Federal, State, and Local Environmental Regulations.
 - 10. Architectural Barriers Act (ABA) Standards (2015).

2. GENERAL GUIDANCE REGARDING DESIGN OF SALES AREA

- A. Sales Area layout shall be in accordance with the latest DeCA approved definitive floor plan. Deviations from the approved definitive floor plan shall be identified during the design charrette

process and documented in the Final Project Definition Package that is developed for a particular project.

- B. Aisle spacing in Sales Area shall be as follows:
1. Aisles between gondola shelving rows shall be 8'-0" minimum.
 2. Aisles between refrigerated display case rows and gondola shelving rows shall be 9'-0" minimum.
 3. Aisles between refrigerated display case rows shall be 10'-0" minimum.
 4. Aisles between glass door refrigerated display cases shall be 8'-0" minimum plus width of glass doors opening into aisle (i.e., 8'-0" + 2'-6" for glass doors on one side only and 8'-0" + 5'-0" for glass doors on both sides).
 5. Aisles between end of gondola shelving rows and refrigerated display cases at back of Sales Area shall be 12'-0" minimum.
 6. Aisles between end of gondola shelving rows and checkout counters at front of Sales Area shall be 24'-0" minimum.
 7. Aisle between checkout counters and front wall of Checkout Area shall be 15'-0" minimum
 8. Aisle between checkout counters shall be 3'-0" clear.

Maintain these minimum aisle widths unless approved otherwise by DeCA during the design charrette process.

Note that unobstructed exit aisle widths, equivalent to exit width provided at front of Sales Area, shall be provided as required by NFPA 101 Life Safety Code. Space between checkout counters may not be used to satisfy this requirement, unless a dedicated exit path through checkout counters is provided.

- C. Sales Floor interior volume shall be maintained at a minimum of 15'-0" clear AFF to bottom of all obstructions including ductwork, lights, refrigeration lines, etc. exclusive of décor elements and specialty lighting. Bottom of roof structure should be set at approximately 20'-0" to lowest point (height adjustable depending on roof slope configuration used in design). Refer to Appendix "D" Uniform Décor Package for further guidance.
- D. A natural color polished concrete floor with dye finish is to be used in all customer areas of new facilities. Requirements for this system are identified in Section 03 35 43 Polished Concrete Finishing.
- E. Resilient floor tile is typically used in customer areas of addition / alteration projects, as this product can better conceal patched or otherwise damaged existing concrete floor slabs. Basis-of-Design for single color solid vinyl tile (SVT) to be used throughout shall be as indicated in the DeCA Uniform Décor 2010, "Adaptive Uniform Décor Package". Documents shall indicate that floor tile shall be installed with grain running in one direction, with joints in straight line.
- F. Interior décor shall comply with requirements of the DeCA Uniform Décor 2010, "Adaptive Uniform Décor Package". Refer to Section 10 15 00 Interior Décor Specialties Design Criteria for further guidance. Typically, new stores should have an exposed structure ceiling and incorporate the standard décor package. Addition / Alteration projects typically have acoustical panel ceiling system with either a 12'-0" and 14'-0" high standard décor package requiring an adaptation of the Uniform Décor Package criteria components to fit the scale of the specific Store environment.

- G. Gypsum wallboard soffits (i.e., fur-downs) are typically provided at 8'-0" AFF around the perimeter of the Sales Area to accommodate interior décor elements and conceal HVAC return air ductwork, refrigeration piping, etc. A soffit height of 10'-0" AFF is typically provided at the front of the checkout area to accommodate automatic entrance door packages with glass transoms above. The face of these, roof structure suspended, soffits should be offset from (i.e., extend in front of) the face of, floor-supported, walls below with control joints allowing for movement. This also provides a uniform horizontal banding around the sales area for the interior décor elements.
- H. Provide gypsum wallboard partitions (i.e., wingwalls) at the ends of all display case line-ups along perimeter walls, and between cases with different profiles (i.e., widths, depths, heights, etc.). This is necessary to properly close-off spaces above and at sides of display cases as identified in Design Standard Plates 10 15 00-01 07 92 00-01 and 10 15 00-02 07 92 00-02, so that HVAC return air is drawn from the floor. Additionally, if these spaces are left open to the sales area they must have a fire sprinkler system with coverage densities matching that used in the sales area.
- I. Overhead HVAC return air and refrigeration piping vertical drops at island refrigerated display cases shall also be concealed within roof structure supported gypsum wallboard enclosures. These enclosures should have décor elements matching that used throughout the sales area.
- J. In new stores with high bay exposed structure in customer areas, the preferred method of illumination is continuous rows of fluorescent light fixtures mounted at décor height and running perpendicular to shopping aisles (refer to Division 26 for required foot-candle levels). Consider fluorescent light fixtures above checkout counters, mounted at a lower height, to provide even illumination with less glare for cashier functions. Refer to Section 10 15 00 Interior Décor Specialties Design Criteria for additional guidance regarding painting of exposed utilities in customer areas.
- K. On addition / alteration projects, acoustical panel ceiling systems are typically used in lieu of exposed structure. This is usually necessary to conceal existing ductwork, piping, conduits, etc that were previously installed. Run recessed continuous strip fluorescent lighting rows perpendicular to shopping aisles.
- L. Coordinate placement of décor banners so that they are not located directly beneath light fixtures. Arrange décor banners so that the same color banners are not placed next to each other.
- M. Do not locate light switches in areas accessible to customers. If necessary to do so, provide lockable switch covers.
- N. Do not locate HVAC thermostats or hose bibs in areas accessible to customers. If necessary to do so, provide lockable covers.
- O. All wall surfaces accessible to impact damage from shopping carts shall have wood bumper rails and protection posts. Corners of island refrigerated display cases shall be protected with display case corner guards. Automatic entrance door shall be protected with protection posts at door jambs and protection plates on impact side of sliding doors. Floor mounted storefront systems shall be protected with cart bumpers. Refer to Section 10 26 00 Design Criteria for additional information and Design Standard Plate 10 26 00-01 and Door Types Legend in Appendix A.
- P. Coordinate mounting height of electrical receptacles on walls with wood bumper rail protection. Refer to Design Standard Plate 10 26 00-01.
- Q. Janitor Closets with doors opening directly into customer areas shall have door closers.
- R. Fire extinguishers shall be located throughout the commissary in accordance with UFC 3-600-01 and NFPA 10. Extinguishers located in customer and admin areas shall be contained within fully recessed or semi-recessed cabinets. Extinguishers located in warehouse and other related

storage areas shall be exposed with manufacturer's standard surface mounting bracket. Refer to Section 10 44 00 Fire Protection Specialties Design Criteria for additional guidance.

3. GENERAL GUIDANCE REGARDING DESIGN OF OPERATIONAL SUPPORT AREAS

- A. The use of CMU walls in staging/receiving areas, as well as other back room support areas (i.e., offices, employee break rooms, toilet rooms, locker rooms, storage rooms, etc.) should be avoided, to lower both initial construction cost and facilitate future expansion. An exception to this requirement would be that walls adjacent to cold storage rooms shall be CMU, with open air space between the CMU and the cold storage room wall panels for ventilation. Other exceptions to this requirement are:
1. Enclosures around roof stair tower shall be full height CMU.
 2. Main Electrical Room and Fire Sprinkler Room shall be full height CMU.
 3. Free standing offices located in staging/receiving area (typically limited to Receiving Manager's Office), shall be CMU up to 10'-0" AFF with GWB on metal studs on top of the CMU and extending to roof structure above.

Cold storage room wall surfaces facing the staging/receiving area (as well as other wall surfaces facing staging/receiving area) shall be protected by 30" high concrete curbs (8" thickness at base and tapered to 6" thickness at top). No additional wall protection is required above the curb, as the curb will protect walls from damage by MHE.

A metal stud wall, with foil-faced GWB on side facing staging/receiving area, shall be installed from top of cold storage rooms to underside of metal roof deck, with all penetrations sealed air tight. In high humidity project locations, do not use foil-faced GWB. All other walls facing receiving/staging area shall also extend to underside of metal roof deck, with all penetrations sealed air tight. This is necessary to minimize infiltration of warm humid air in the warehouse area from entering the open space above cold storage rooms, allowing condensation to form on refrigeration piping and cold storage room ceilings. At project locations with normally high humidity, the interior GWB walls facing the warehouse areas should be painted with an interior vapor barrier primer/sealer. In particularly warm and humid locations it may be appropriate to insulate the full height wall surrounding the staging and receiving area, in addition to sealing penetrations air tight and painting GWB walls. Walls separating conditioned spaces (breakrooms, offices, etc.) from staging/receiving area and other non-conditioned spaces should be insulated full height.

- B. Stair towers for roof access, using 3'-0" wide by 7'-0" high insulated standard steel doors, shall be provided in facilities with roof mounted refrigeration mechanical centers and HVAC systems. Refer to Division 08 Hollow Metal Doors and Frames for roof access door criteria. UFC 4-010-01 requires doors into stair towers, stairs used for roof access on new buildings to be located on the interior of buildings. The door to the stair shall be lockable and shall be located in the exterior wall to the service yard.
- C. Provide galvanized (and insulated where walls are insulated) HM access doors to allow access from warehouse area to space above cold storage rooms as required for service access and maintenance. Provide service lighting (minimal footcandle required) above cold storage rooms controlled by light switch (with pilot light) located immediately adjacent to the access door, with switch facing the warehouse area. At a minimum, position access door so that a ladder or movable stair can be positioned directly in front of the opening, against the wall. If access door can be located with clear floor space below, provide folding wall ladder (similar to Alaco Ladder Company – Model 435) at each access door location. It will be necessary to provide steel framing behind the GWB for attachment of the ladder to the wall. There will be no platform at top of ladder. Persons using ladder will step directly from ladder through access door. Refer to

Guide Specification, Division 05, Section Metal Fabrications for information on "Folding Wall Ladder".

- D. Design freezer in accordance with Section 03 30 50 Insulated Freezer Floors Design Criteria, Section 13 21 26 Cold Storage Rooms Design Criteria, and related Design Standard Plates 03 30 50-01, 03 30 50-02, 03 30 50-03, and 13 21 26-01 through 13 21 26-18. Provide adequate air space between freezer wall panels and adjacent non-refrigerated wall surfaces, with positive mechanical ventilation of air space. This is necessary to prevent condensation from occurring within air space, possibly causing mold growth and damage to adjacent wall surfaces. Provide heater cable within concrete curbs on exterior sides of freezer walls to prevent condensation and ice from forming on curbs and adjacent floor surfaces.
- E. Provide stainless steel closures to seal air spaces between cold storage room walls and adjacent partitions. This is necessary for sanitation and rodent control. Refer to Design Standard Plate 13 21 26-05.
- F. When locating sliding cold storage room doors, verify that adequate space is available for the sliding portion of the door. Minimum space requirements are 8" on the latch side of door opening, actual door width, and door width plus 15" on the sliding side of door opening ($8" + 6'-0" + 7'-3" = 13'-11"$ minimum).
- G. It is undesirable to locate electrical panels within janitor closets. These rooms are frequently locked, have maintenance equipment stored within that often block access to panels, and are also subject to contact with water from mop basin faucet hose, which is a safety concern. When multiple panels are required in one area, consider providing a separate electrical room. If only a random single electrical panel is required, locate on wall in non-customer areas (i.e., vestibule between sales and warehouse, or warehouse area).
- H. All restrooms and employee locker rooms shall meet as a minimum, the applicable codes stated above. Also, the rooms shall follow the specific Specification Criteria within the specification Section 06 40 23 INTERIOR ARCHITECTURAL WOODWORK, 10 21 13 TOILET COMPARTMENTS, 10 51 13 METAL LOCKERS, 10 28 13 TOILET ACCESSORIES for specific features and components and the general guidelines as stated below for general design intent.
1. Provide a 3/2 women to men ratio of toilets in which no more than 50% of men's toilets can be urinals. Generally, commissaries have more women shopping than men and often have small children with them.
 2. Customer Restrooms (RM 10 and 11) shall be equipped with solid surface countertops and undercounter mount sinks. Provide a single wall mounted mirror matching the width of the countertop. Refer to Design Standard Plate 06 40 23-05 and 06 40 23-06. Customer single user Family Restrooms and Employee Restrooms shall be equipped with wall hung lavatories.
 3. A single user family restroom should be included with the separate gender multi-stall patron toilet facilities. Family, unisex, or single-user restrooms offer flexibility. Males or females can use them, and one or more individuals, of the same or opposite sex, can use them.

Intended User Benefits:

- Wheel chair users.
- People who need assistance when using the washroom.
- Paruretics (Shy-bladder or bashful bladder syndrome).

- Parents with children of the opposite sex.
 - All users by having an additional option to use a toilet (i.e. while the multi-stall restroom is getting cleaned).
 - Transgendered persons.
 - Vision impaired.
4. Provide sufficient double tier lockers in both the men's and women's employee locker rooms as determined during Project Definition. Provide ADA Compliant single tier lockers equal to a minimum of 5% in each individual room containing lockers. ADA Compliant benches are required in all rooms containing ADA Compliant lockers.
- I. Solid waste management and recycling requirements shall be coordinated with sustainable design goals, including the requirements to achieve LEED certification. Each Store shall determine the goals during Project Definition and investigative phases of every project. The goals shall be coordinated with existing Installation contracted waste services as well as current force protection standards. Trash and waste handling and storage concerns affect store layout and processes as well as site planning concerns. The climatic conditions associated with installation regions will impact design decisions. Generally a waste holding area at the building requires secure fencing around the containers including tops of areas. Alternatives make use of remote facilities used in heightened security conditions, however access and use of remote facilities is not convenient or prudent in certain climates.

4. GENERAL GUIDANCE REGARDING ANTITERRORISM AND FORCE PROTECTION

- A. During charrette phase meet with the Installation ATFP Officer and determine the following:
1. Is the facility considered to be within the installation perimeter? If no, UFC 4-010-01 Appendix B and C are applicable to this project.
 2. Is there an identified DBT (Design Basis Threat) and LOP (Level of Protection) that must be designed to, or can the building be designed according to the base level requirements of UFC 4-010-01? If yes, UFC 4-010-01 Appendix B and C are applicable to this project.
 3. If there is an identified DBT and LOP, what is the DBT and LOP? (ATFP Officer will provide this information).
 4. Are there any other ATFP requirements the ATFP Officer requires this facility comply with?
- B. Develop an ATFP analysis from the charrette phase onward, detailing the requirements for each Standard in UFC 4-010-01.
- C. If Appendix B and C are applicable to the project, determine the additional requirements the project must comply with.
1. Determine standoff distances required based on DBT charge weight and exterior wall construction type (see Tables in Appendix C).
 2. Determine standoff distances required due to exterior glass and glazing.
 3. Determine if Conventional Construction can be used or if blast analysis is required for all exterior components of the building.

4. If the required standoff distances cannot be met, a blast consultant may be required to assist with the design of the exterior components of the building, and the connections of the components to ensure the required LOP is provided by the facility.
- D. Standards 1 thru 21 in Chapter 3 of UFC 4-010-01 latest edition are applicable to ALL Commissary projects that trigger the requirements set forth in UFC 4-010-01, without exception. These standards may be superseded by other requirements that are more stringent, but the requirements in Chapter 3 provide the minimum protective measures that must be provided.

END OF SECTION