US Army Corps of Engineers

Center of Standardization, Fort Worth District

STANDARD DESIGN CRITERIA
GENERAL PURPOSE WAREHOUSE

SMALL	30,000 SF
MEDIUM	65,000 SF
LARGE	130,000 SF

ROOM BY ROOM DESCRIPTIONS

June 2024

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General Requirements:

• The General Purpose Warehouse (GPW) must be of commercial construction standards. It must be comprised of the following areas:

- Logistics
- Administration
- Shipping and Receiving operations
- Open storage areas

• All GPW facilities must be protected by an automatic fire suppression system and full detection system to include closets and all conditioned spaces.

• All GPW facilities must comply with the Architectural Barriers Act Accessibility Guidelines for Buildings and Facilities.

• The facility must be LEED Silver certified.

• A recycling area must be included in the facility.

• The building may be rotated or mirrored on the site.

Architectural Requirements

• Exterior walls and roof/floor/ceiling assemblies, doors, windows and interior partitions must be designed to provide for attenuation of external noise sources such as airfields in accordance with applicable criteria, but no less than the following:

a) Interior partitions – STC 42
b) Exterior walls – STC 49
c) Doors and frames – STC 35
d) Ceilings - CAC 38

• Due to the operation of mechanical and electrical systems and devices, sound conditions and levels for interior spaces must not exceed levels as recommended by ASHRAE handbook criteria. Provide acoustical treatment for drain lines and other utilities to prevent noise transmission into the offices and other areas requiring noise suppression.

• All exterior doors from the facility must not have a step in the case of an emergency. Exterior Doors: Provide galvanized insulated hollow metal exterior doors for entry to all spaces other than corridors, lobbies, or reception/waiting rooms. Doors and frames must comply with applicable codes and criteria. Doors must be heavy duty (grade 2) insulated with 18-gage steel cladding; top edge closed flush; A60 galvannealed. Frames must be 12-gauge, with continuously welded mitered corners and seamless face joints. Doors and frames must be constructed of hot dipped zinc coated steel sheet, complying with ASTM A653, Commercial Steel, Type B, minimum A40 coating weight; factory primed. Fire-rated openings must comply with applicable codes, and the requirements of the labeling authority. Door and frame installation must comply with applicable codes and criteria. Exit devices must be installed all building egress doors. Provide aluminum storefront doors and frames where indicated.

• Interior Wood Doors: Provide flush solid core wood doors with Grade A hardwood face veneer for transparent finish. Stile edges must be non-finger jointed hardwood compatible with face veneer. Provide wood doors at all interior locations except noted otherwise. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.
Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes.

• Where exterior windows are provided the following requirements must be met. Must comply with ATFP requirements.

• Safety glass must be provided where required by code or Authorities Having Jurisdiction, with a manufacturer's label indicating that the glass is safety glass.

• View Windows extend from 18"-24" above the floor to the height of the top of the door. Vision Panels extend from 54" above the floor to the height of the top of the door.

• Wall, ceiling and floor finishes and movable partitions must conform to the requirements of the IBC, NFPA and UFC 3-600-01 Fire Protection Engineering for Facilities. Where code requirements conflict, the most stringent code requirement must apply.

• Provide sustainable materials and furnishings that are easily maintained and replaced. Maximize use of day lighting. Provide interior surfaces that are easy to clean and light in color. Interior spaces should be structured to allow maximum flexibility for future modifications.

• Carpet must be minimum of 2 yarn ply, modular tile conforming to ISO 2551, ASTM D 418, ASTM D 5793, ASTM D 5848, solution dyed, tufted, cut and loop pile, commercial 100% branded (federally registered trademark) nylon continuous filament. Vinyl composition tile (VCT) must be minimum 1/8 inch thick, conforming to ASTM F 1066, Class 2, through pattern tile, Composition 1, asbestos free, with color and pattern uniformly distributed throughout the thickness of the tile.

• Where ceramic or quarry tile is provided, grout must be non-staining and resistant to liquid absorption.

• Walls: All wall finish must be minimum 5/8" painted gypsum board, except where stated otherwise. Gypsum board must be paperless gypsum board. Use impact resistant paperless gypsum board in corridors and storage rooms. Gypsum wall board must not be used as a wall finish in the warehouse area below 8 feet above finish floor. The warehouse side of all gypsum wall board partitions must have a minimum 20 gage sheet metal finish up to a height of 8 feet above the finish floor.

• Corner guards are to be provided on all outside corners of interior walls.

General Purpose Warehouse

• All ceiling finishes must be minimum 5/8" painted gypsum board, except where stated otherwise. Gypsum board must be paperless gypsum board.

• Unless noted otherwise in this document, all ceiling heights must be a nominal 9'-0".

• In storage rooms where shelves are provided, interior must be marked with a red line 1 inch in width and located 18 inches below the lowest point of the sprinkler head.

• Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building. Window stools must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• Provide interior signage as required by applicable codes and criteria.

• Toilet partition doors must include latching hardware and coat hooks.

• If automatic flushing toilets are used, the sensors must be hard wired and not battery operated.

Structural Requirements:

- Design and construct as a complete system in accordance with applicable criteria.
- Live Loads: Design live loads must be per the IBC but not lower than the following minimums.
    - Primary roof members, exposed to work floor (in addition to the uniform load): Single panel point on lower chord of roof trusses or any point along primary structural members supporting roofs……..2,000 pounds
    - Floor slab:
        - Warehouse: The most stringent loading of the following:
            - Uniform Load……..300 psf
            - Fork lift with lifting capacity of …..6,000 lb
            - Pallets with average weight of 1200 lb each must be stacked 6 high in pallets storage racks with the first pallet sitting on the floor. (Maximum pallet weight is 2500 lb). Slab must be designed for all loads induced on slab by racking system.
        - Administration……..80 psf

- Column spacing must not be less than 25 feet in the long direction of building and 60 feet (in warehouse) in the narrow direction. Columns are to be spaced in such a way as to allow standard industrial shelving for palletized loading. Shelving must be constructed in a back-to-back double row configuration with no interspersed single rows. Preference is to have no freestanding columns in open warehouse space.

Electrical Requirements

• Lighting: Interior lighting controls and lighting power density must be provided in accordance with ASHRAE 890.1. Design luminance must meet IESNA. Provided lighting levels must be within +/- 10% of required lighting levels. All interior areas, other than the Warehouse, must be illuminated using LED lighting fixtures.

• Voice/data outlets must be two 8-pin modular (RJ45 type) outlet/connector in a double gang outlet faceplate, one connector labeled voice use and one labeled data use. Copper outlet/connector must be TIA/EIA Category 6 for all projects. All connectors must be 8-pin/8-position insulation displacement terminations wired per T568A (default configuration).

• Wireless access point (WAP): Provide WAP outlets to the building with one-Cat 6, unshielded twisted pair (UTP) cable, to a standard 8-pin modular connector for each wireless WAP outlet. WAP outlets must be installed in accordance with the Technical Guide for I3A.

• Wall mounted receptacles and dual port (voice/data) communication outlets must generally be mounted 18" above finished floor unless otherwise noted. Above counter receptacles must be mounted in the vertical wall space 6" above the counter-top unless otherwise noted.

• Wall mounted CATV outlets must generally be mounted 7' above finished floor unless otherwise noted.

• Per code, emergency lighting must be provided in the Mechanical Room.

• Provide mass notification system in accordance with UFC 4-021-01.

• Electrical circuit breaker panels may be located in the corridors if they are provided with locks.

• GFCI outlets must be installed per electrical code.

Fire alarm Requirements:

- There must be one complete addressable Fire Alarm System for each building. This system must consist of a Fire Alarm Panel, a communication device, initiating devices and notification devices. Class type addressable systems must be installed according to the local fire marshal.

- The fire alarm system must be designed by a professional Fire Protection Engineer and installed by a National Institute for Certification of Engineering Technologies (NICET) 3 technician.

- All software, software locks, special tools and any other proprietary equipment required to maintain, add devices to or delete devices from the system, or test the Fire Alarm system must become property of the Government and be furnished to the Contracting Officer's Representative prior to final inspection of the system.

• Mass Notification system: Mass notification system must meet intelligibility requirements up to a distance of 30' from the building's perimeter and in all court yards. Visible notification appliances are not required on the building's exterior walls.

• Paging system: A zoned paging system must be provided throughout the facility and integrated with the telephone system. System may utilize mass notification amplifiers and speakers, but must be overridden by the mass notification system if mass notification system is activated while the paging system is being utilized. System must have a minimum capacity of eight zones. Facility must be zoned per user requirements.

Mechanical Requirements:

- Building must be heated and cooled in accordance with the latest version of the UFC criteria.
- Plumbing systems must be designed in accordance with the latest version of the UFC criteria.
- The fire protection system must be designed in accordance with latest version of the UFC criteria.

GPW MINIMUM SQUARE FOOTAGE REQUIREMENTS
NET SQUARE FEET

Administrative/General Areas

NOTE:
Administrative spaces indicated in this table are maximum for each warehouse size.
Specific facilities may require fewer personnel or a different mix of administrative spaces.
The net area of Administrative/General spaces that are not required by a particular facility may be added to the net area of Warehouse space to maintain the designated Overall Gross Square Footage.

SPACE	NET AREA									Remarks
	30,000 GSF			65,000 GSF			130,000 GSF			
	Quan	Net Area SF	Total Net SF	Quan	Net Area SF	Total Net SF	Quan	Net Area SF	Total Net SF	
Vestibule	1	80	80	1	80	80	1	80	80	
Waiting Area	1	100	100	1	260	260	1	260	260	
Manager's Office	1	144	144	1	144	144	1	144	144	
Private Offices	1	120	120	2	120	240	3	120	360	
Open Offices	8	56	672	16	56	1,344	24	56	2,016	Total Net Incl Aisles
Copy/Storage	1	40	40	1	60	60	1	80	80	
Public and Staff Toilets	2	60	120	2	60	120	2	60	120	
Staff Toilets	2	60	120	2	60	120	2	160	320	
Lactation Room	1	64	64	1	64	64	1	64	64	
Janitor Closet	2	45	90	2	45	90	2	45	90	
Training/Conference Room	1	260	260	1	460	460	1	660	660	
Break Room	1	300	300	1	400	400	1	600	600	
Corridors & Circulation	1	600	600	1	1,200	1,200	1	1,500	1,500	
Stairs and Elevator	0	0	0	1	640	640	1	640	640	
Administrative/General Area Total			**2,710**			**5,222**			**6,934**	

General Purpose Warehouse

Warehouse/Service Areas
NOTE:
Warehouse space net area may be increased by the amount of Administrative/General space not required by a particular facility.
Overall Gross Square Footage for the building should not be exceeded.

SPACE	NET AREA									Remarks
	30,000 GSF			65,000 GSF			130,000 GSF			
	Quan	Net Area SF	Total Net SF	Quan	Net Area SF	Total Net SF	Quan	Net Area SF	Total Net SF	
Warehouse			25,010			55,363			115,846	
Mechanical Rooms			840			1,460			2,090	
Main Electrical Room	1	200	200	1	300	300	1	300	300	
Remote Electrical Room	1	80	80	3	80	240	3	80	240	
Telecom Room	2	80	160	3	80	240	3	80	240	
Forklift Recharge area										Incl in Warehouse
Secure Storage (cage)										Incl in Warehouse
Covered Dock			800			1,750			3,500	Half Scope Area
Warehouse/Service Area Total			**26,690**			**58,478**			**120,466**	Dock at 1/2 area
Net Building Area			**29,400**			**63,700**			**127,400**	
Allowance for Exterior Walls @ 2%			**600**			**1,300**			**2,600**	
Total Building GSF			**30,000**			**65,000**			**130,000**	

1. SPACE: VESTIBULE

• **FUNCTIONAL DESCRIPTION:** Provide separate entrance to exterior. Minimize mechanical air transfer of high traffic doors. Flooring serves to promote cleanliness by removing excess dirt from shoes.

• **ADJACENCIES:** Vestibule must be on direct path from parking. Opens into lobby.

• **OCCUPANTS:** GPW users.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, durable (able to withstand wet and dirt conditions), easily repairable, and easy to maintain. Flooring must be non-slip. A 4" coved wall base material, appropriate for the flooring material used, is required. Depressed walk-off mat required.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, repairable, easy to maintain, and durable. Painted Gypsum wall board (GWB) walls. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guards.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include resistance to environmental conditions, such as changes in air pressure and high humidity, and must be durable.

• **DOORS/FRAME:** Provide aluminum storefront doors and frames with Architectural Class 1 anodized finish, fully glazed, with medium or wide stile for entry into lobbies or corridors. Provide doors complete with frames, framing members, sub frames, transoms, sidelights, trim, applied mountings, and accessories. Framing systems must have thermal-break design. Storefront systems must be capable of withstanding area wind loads, thermal and structural movement required by location and project requirements, and must comply with applicable codes and criteria, including applicable ATFP requirements.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Plastic cores are unacceptable. Provide closers and exit devices.

• **ENTRY DOOR REQUIREMENTS:**

- **SPECIAL HARDWARE AND ELECTRICAL REQUIREMENTS:** Provide an Intrusion Detection System (IDS) for each entry door. Intrusion Detection System must include control panel, balanced magnetic switches and motion sensors unless specified otherwise.

- Non Destructive Emergency Access System (NDEAS): Furnish and install a lock box approved by the Installation Commander, mounted on the exterior, adjacent to the Main Entry.

- Provide buzzer type access system at entry including following features:
  - Buzzer that sounds at reception desk.
  - Intercom system for communication between reception desk and entry.
  - Electronic lock system. Features of electronic lock system must include:
    - Control of access into facility at reception desk.
    - Manual override of electronic lock by key from the outside.
    - Manual override to allow the doors to unlock from the interior.
    - Ensure the locking mechanism does not negate the use of the panic hardware during emergency evacuation. The fire department must be provided with a key to the manual override.

- Auxiliary hardware: provide wall or floor stops for all exterior doors that do not have overhead holder/stops. Provide other hardware as necessary for a complete installation.

• **AUTOMATIC DOOR OPERATION REQUIREMENT:** Provide ABA approved automatic door operators at outer and inner doors for handicapped accessibility. The automatic door operators at inner door must be interlocked with Buzzer Access System controls.

• **SPECIAL ELECTRICAL REQUIREMENTS**: Provide a buzzer at inner set of doors that sounds at the reception desk. Provide intercom connection with Reception Desk. Provide power for lock mechanism at inner doors.

• **VISION PANELS/VIEW WINDOWS:** N/A

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Not applicable for this area.

• **ELECTRICAL:** Provide junction box and raceway for Closed -Circuit television (CCTV) camera. Note that power for camera is provided as part of data cable. Confirm exact location of the CCTV camera with end users. Provide 1 (one) wall mount duplex receptacle for housekeeping purposes. Provide lighting level at 10 foot candles (+/- 10%) and controlled by occupancy sensor(s).

- **SPECIAL REQUIREMENTS:**
  a) Provide one bulletin board at each entry vestibule. Bulletin board must be 4’-0” high and 6’-0” wide. Bulletin boards must have a header panel and must have lockable, glazed doors.

- **ADDITIONAL INFORMATION:** N/A

2. SPACE: WAITING AREA

• **FUNCTIONAL DESCRIPTION:** A waiting area for visitors. Provide an area for seating.

• **ADJACENCIES:** Must be adjacent to the vestibule. Must also have direct access to the toilets.

• **OCCUPANTS:** GPW users.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy cleaning, durable, easily repairable, and easy to maintain. A 4" coved wall base material, appropriate for the flooring material used, is required.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, repairable, easy to maintain, and durable. Wall material must have the ability to absorb pushpins. Wall surface must be able to withstand tape peeling. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guards.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. A "designer" ceiling system may be used in this area.

• **DOORS/FRAME:** Aluminum storefront, non-thermal break type.

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:**

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Provide a total of 2 (two) electric water coolers with bottle fillers adjacent to the public toilets, one adult ABA height, and one at 20" above finish floor.

• **ELECTRICAL:** Provide GFCI receptacles for electric water coolers, 1 (one) wall mount duplex receptacle for CCTV (security video) monitor, and a minimum of 1 (one) wall mount duplex receptacle for housekeeping purposes. Provide lighting level at 10 foot candles (+/- 10%) and controlled by occupancy sensor(s).

• **SPECIAL REQUIREMENTS:**

a) A CCTV (security video) monitor must be mounted on the wall so that it is visible from the reception desk.
b) Stairwell (2) - The flooring in stairwell landings must be designed for high traffic usage. Stair treads and risers to be rubber, with painted steel handrails. Underside of stairs to

be exposed, painted. Partitions extend to deck above, and ceiling is exposed. One stairwell to serve, and provide access to, top of administrative deck and roof of building.

c) Passenger Elevator – 100 SF, Hydraulic passenger elevator with adjacent equipment room. Provide a state licensed elevator inspector to inspect the installation, test all new elevators, applicable to project, and certify in writing that they meet all requirements.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):** Visitor seating

3. SPACE: PRIVATE OFFICES

• **FUNCTIONAL DESCRIPTION:** Offices for the management staff. Includes a private office for Manager, a private office for the Assistant Manager, and an open office area. Provide separate entrance to exterior and warehouse.

• **ADJACENCIES:** Must be adjacent to the Lobby. Private offices must open off of the Open Office area.

• **OCCUPANTS:** Staff.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy cleaning, maintain, and repair. Use of a low profile reinforced raised floor system. A 4" coved wall base material, appropriate for the flooring material used, is required. Area consists of carpet tile flooring.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to repair, easy to maintain, and durable. Standard floor-to-ceiling steel stud partitions. Wall material must have the ability to absorb pushpins. Wall surface must be able to withstand tape peeling. Painted GWB walls. Extend walls to underside of ceiling grid.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Use of a Screw-slot grid, acoustical locking angle and 24" x 24" tegular tile (9'-0" AFF). Ceiling grid must provide a level termination and horizontal support for walls.

• **DOORS/FRAME: WOOD DOORS• VISION PANELS/VIEW WINDOWS:**

- Exterior windows: Provide insulated, high efficiency window systems, with thermally broken frames complying with applicable codes and criteria. Operable windows must be furnished with locks, and fiberglass or aluminum insect screens removable from the inside. Curtain wall systems must be capable of withstanding area wind loads, thermal and structural movement required by location and project requirements, and must comply with applicable codes and criteria. Window sills must be designed to discourage bird nesting.
- Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building.
- Window stools: Must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Not applicable for this area

• **ELECTRICAL:** Provide 1 (one) wall mount duplex receptacle per wall in conjunction with the proposed equipment, furniture layouts and for general purpose use. Provide one duplex receptacle adjacent to CATV outlet. Provide lighting level at 30 foot candles (+/- 10%) and controlled by vacancy sensor(s).

• **TELECOMMUNICATION:** Provide 1 (one) CATV outlet and at least 1 (one) voice/data outlet in conjunction with the proposed furniture layouts.

• **SPECIAL REQUIREMENTS:**

a) Copier/scanning station in the Area must be located along an interior circulation path and must be enclosed with walls extending to underside of deck above, and door equipped with closer.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):** As required by facility.

• **DESIGNER OPTION:** Administrative Offices - If desired by the installation, one or two more private offices, not to exceed 90 net square feet, may be provided in the open office area. The addition of these offices must not affect the arrangement or size of any other function or space.

4. SPACE: OPEN OFFICES

• **FUNCTIONAL DESCRIPTION:** Workstations for the staff. An open office area.

• **ADJACENCIES:** Must be adjacent to the Lobby. A general office copy/storage room must be accessible from this area.

• **OCCUPANTS:** Staff.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, maintain, and repair. Use of a low profile reinforced raised floor system. A 4" coved wall base material, appropriate for the flooring material used.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to repair, easy to maintain, and durable. Wall material must have the ability to absorb pushpins. Wall surface must be able to withstand tape peeling. Painted GWB walls. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guards.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Use of a Screw-slot grid, acoustical locking angle and 24" x 24" tegular tile (9'-0" AFF)

• **DOORS/FRAME:** N/A

• **SPECIAL ELECTRICAL REQUIREMENTS**: Provide under floor power and data/voice cabling to workstations using floor monuments or panel in-feeds. Provide a minimum of two duplex power outlets and three data/voice outlets per workstation, or as required by the facility.

• **VISION PANELS/VIEW WINDOWS:**

- Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building.
- Window stools must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **ELECTRICAL:** Provide a minimum of 2 (two) duplex receptacles for each workstation. Provide lighting level at 30 foot candles (+/- 10%) and controlled by occupancy sensors.

• **TELECOMMUNICATION:** Provide 1 (one) voice/data outlet for each workstation. Provide data outlets along an interior circulation path and adjacent to wall mount duplex receptacle to support copier/scanner stations.

• **SPECIAL REQUIREMENTS:** Copier/scanning station in the Open Office Area must be located along an interior circulation path and must be enclosed with walls extending to underside of deck above, and door equipped with closer.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):** Open office work stations with overhead storage, file and storage pedestals, task lighting and raceways for power and data/voice cabling.

5. SPACE: COPY/STORAGE

• **FUNCTIONAL DESCRIPTION:** General storage for office supplies and other supplies.

• **ADJACENCIES:** Located adjacent to the Open Office Area. Other storage rooms must be adjacent to the areas they serve (such as Training Room, etc.).

• **OCCUPANTS:** Staff.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, maintain, and repair. A 4" coved wall base material, appropriate for the flooring material used, is required.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to repair, easy to maintain, and durable. Walls must be painted gyp board. Extend walls to underside of structural deck above, or provide gyp. board ceiling.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and free of sags or other defects.

• **DOORS/FRAME:** Hollow Metal Doors and Frames.

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **ELECTRICAL:** Provide a minimum of 2 (two) duplex receptacles to support copier/scanner stations. Provide lighting level at 30 foot candles (+/- 10%) and controlled by occupancy sensors.

• **TELECOMMUNICATION:** Provide a minimum of 2 (two) voice/data outlets adjacent to wall mount duplex receptacle to support copier/scanner stations.

• **SPECIAL REQUIREMENTS:**

1. A minimum of 4 adjustable shelves with heavy duty standards and brackets must be provided. Provide shelves on as many walls of the storage rooms as possible while maintaining adequate circulation space. Shelving must be able to support 100 pounds per lineal foot.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):** See SPECIAL REQUIREMENTS

6. SPACE: TOILETS

• **FUNCTIONAL DESCRIPTION:** Toilet Rooms ((1) Men, (1) Women) - Each toilet room must have sufficient water closets (and urinals in Men's Room) enclosed.

• **ADJACENCIES:** Administration area toilets must be located directly adjacent to the Lobby and Lactation room. Warehouse unisex toilet is an option and must follow the guidance listed below.

• **OCCUPANTS:** Per code.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain, and must be durable. A coved wall base material, appropriate for the flooring material used, is required. Rooms to have non-slip unglazed ceramic tile with static coefficient of 0.6 or better.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain, and must be durable. On all walls, a minimum 48" tall wainscot is required that is impervious to water and be able to withstand daily sanitizing. Walls extend to structural deck above with smooth ceramic wall tile finish to a height of 48" and with painted GWB on all remaining wall surfaces. If concrete masonry unit (CMU) is used for the wall structure, glazed CMU is acceptable in lieu of the ceramic tile.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and free of sags or other defects. Ceilings must be moisture-resistant plaster or pointed-and-taped gypsum board.

• **DOORS/FRAME:** Salient characteristics include durability. Doors, frames, and hardware must be able to withstand constant opening and closing. Door must be fitted with a locking mechanism and lever type handle that allows the door to be opened from the inside while locked. Doors must be provided with self-closing device. Insulated Hollow Metal Doors: Comply with applicable codes and criteria. Doors must be minimum Level 3, Physical Performance Level A, Model 2; factory primed. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** Toilet countertops and all other countertops with sinks must have integral coved backsplash. Toilet countertops must be minimum ½-inch thick cast 100 percent acrylic polymer solid surfacing material with waterfall front edge and integral coved backsplash. Provide cabinets complying with AWI Quality Standards. Countertops must have waterfall front edge. Toilet countertops and all other countertops with sinks must have integral coved backsplash. Toilet countertops must be minimum ½-inch thick cast 100 percent acrylic polymer solid surfacing material with waterfall front edge and integral coved backsplash.

• **TOILET PARTITION/ ACCESSORIES:** floor mounted, overhead braced partitions.

- Toilet Accessories: Furnish and install the items listed below and all other toilet accessories necessary for a complete and usable facility. All toilet accessories must be Type 304 stainless steel with satin finish. Each room to include ABA compliant mirror, soap dispenser for each lavatory, paper towel dispenser / trash receptacle, and toilet paper dispenser for each WC. At least one of each fixture type per restroom to be ABA compliant (includes required grab bars, mounting heights of fixtures, etc.). Provide following fixtures: Men: (1) WC, (1) Urinal, (2) Lavatory, Women: (2) WC, (2) Lavatories.

• **HVAC:** Provide heating, cooling and ventilation in accordance with current UFC criteria.

• **PLUMBING:** 1 ABA compliant water closet, and 1 ABA compliant lavatory in each. A floor drain is required in this area that must be self priming, or designed to prevent sewer gases from entering the occupied space by a proven and maintenance-free design. Toilet area plumbing systems must meet the criteria requirements set forth in the current UFC criteria.

• **ELECTRICAL:** Provide lighting level at 20 foot candles (+/- 10%) and controlled by occupancy sensor(s). Ensure appropriate lighting is provided above the mirror. Provide 1 (one) GFCI outlet near the lavatory.

• **SPECIAL REQUIREMENTS:** N/A

• **ADDITIONAL INFORMATION:** N/A

7. SPACE: LACTATION ROOM

• **FUNCTIONAL DESCRIPTION:** ABA compliant area for female staff. Large enough for a chair and an adjacent flat surface. Electrical outlet is needed.

• **ADJACENCIES:** Located directly adjacent to the staff toilets.

• **OCCUPANTS:** 1 person.

• **AREA:** See Minimum Square Footage Requirements

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain, and must be durable. A coved wall base material, appropriate for the flooring material used, is required. Rooms to have non-slip unglazed ceramic with static coefficient of 0.6 or better.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain, and must be durable. Walls extend to structural deck above with painted GWB on all remaining wall surfaces, able to withstand daily sanitizing.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and free of sags or other defects. Ceilings must be moisture-resistant plaster or pointed-and-taped gypsum board.

•**DOORS/FRAME:** Salient characteristics include durability. Doors, frames, and hardware must be able to withstand constant opening and closing. Door must be fitted with a locking mechanism and lever type handle that allows the door to be opened from the inside while locked. Doors must be provided with self-closing device. Insulated Hollow Metal Doors: Comply with applicable codes and criteria. Doors must be minimum Level 3, Physical Performance Level A, Model 2; factory primed. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** Countertops and all other countertops with sinks must have integral coved backsplash. Countertops must be minimum ½-inch thick cast 100 percent acrylic polymer solid surfacing material with waterfall front edge and

integral coved backsplash. Provide cabinets complying with AWI Quality Standards. Countertops must have waterfall front edge.

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** A lavatory in accordance with the current UFC criteria.

• **ELECTRICAL:** Provide lighting level at 20 foot candles (+/- 10%) and controlled by occupancy sensor(s). Provide 1 (one) GFCI outlet near the lavatory.

• **TELECOMMUNICATION:** Provide 1 (one) voice /data outlet.

• **SPECIAL REQUIREMENTS:** As required by facility.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):**
  - Arm chair
  - Small refrigerator

8. SPACE: JANITOR CLOSET

• **FUNCTIONAL DESCRIPTION:** Space to store janitor's equipment and cleaning supplies.

• **ADJACENCIES:** Located next to the toilets.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain, and must be durable. A 4" coved wall base material, appropriate for the flooring material used, is required.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include must be easy to clean and maintain and must be durable. Walls must be able to withstand moving of mop buckets and other janitorial supplies and must be able to resist damage due to moisture. Walls to be painted GWB.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and free of sags or other defects. Must have a minimum CAC rating of 40. Suspended grid and tile at 9'-0" AFF.

• **DOORS/FRAME:** Salient characteristics include durability. Doors, frames, and hardware must be able to withstand constant opening and closing. Door must be fitted with a locking mechanism and lever type handle that allows the door to be opened from the inside while locked. Door must be provided with minimum half-height glass. Door must open 180 degrees into the corridor. Doors must be provided with self-closing device. Insulated Hollow Metal Doors: Comply with applicable codes and criteria. Doors must be minimum Level 3, Physical Performance Level A, Model 2; factory primed. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **HVAC:** Local exhaust vent ventilation is required and must be in accordance with current UFC criteria.

• **PLUMBING:** A janitor's floor mop sink is required. Floor drain is required in this area. A vacuum breaker is required. Janitor closet must have a 10-inch deep floor mounted stainless steel mop sink, with hot and cold service faucet.

• **ELECTRICAL:** Provide a minimum of 1 (one) wall mount GFCI duplex receptacle. Provide lighting level at 5 foot candles (+/- 10%) and controlled by occupancy sensor(s).

• **SPECIAL REQUIREMENTS:**

a) a four holder mop rack.
b) two 18 inch deep by 48 inch long heavy duty stainless steel shelves for storage of cleaning supplies. Shelves must be able to support 100 pounds per lineal foot.
c) Janitor closet must have space for storage of buckets and vacuum.

• **ADDITIONAL INFORMATION:** N/A

9. SPACE: TRAINING / CONFERENCE ROOM

• **FUNCTIONAL DESCRIPTION:** To facilitate training/distance learning by staff.

• **ADJACENCIES:** Directly accessible from the corridor.

• **OCCUPANTS:** Staff.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy cleaning, maintain, and repair. A 4" coved wall base material, appropriate for the flooring material used, is required. Carpet tile flooring.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to repair, easy to maintain, and durable. Wall surface must have the ability to absorb pushpins and to withstand tape peeling. Must have a minimum STC rating of 45. Room consists of, painted GWB walls. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guard.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Must have a minimum CAC rating of 40. 24" x 24" acoustical ceiling grid and tile (9'-0" AFF).

• **DOORS/FRAME:** Salient characteristics include durability. Doors, frames, and hardware must be able to withstand constant opening and closing. Doors must be provided with self-closing device. Doors must be a minimum of half-height glass. Wood Doors: Provide flush solid core wood doors with Grade A hardwood face veneer for transparent finish. Stile edges must be non-finger jointed hardwood compatible with face veneer. Provide wood doors at all interior locations except noted otherwise. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:** Salient characteristics include easy to clean and able to withstand continuous use. Individual windows must be single hung, with only the top portion operable. Screens must be provided. (Applicable to Small facility only.)

Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building. Window stools must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

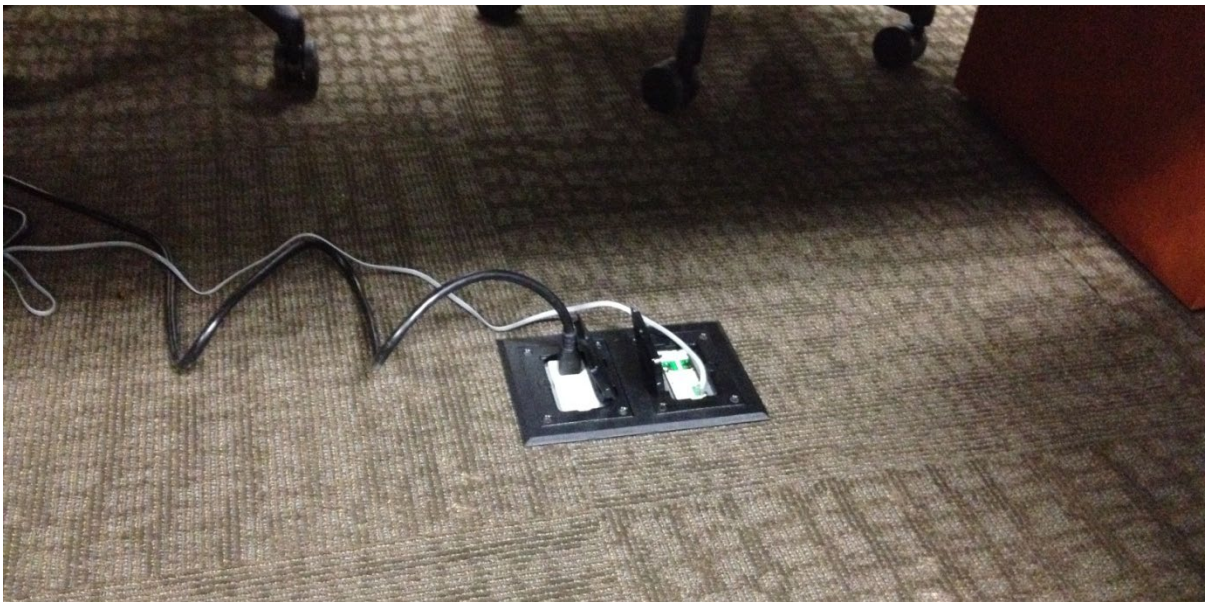
• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** N/A

• **ELECTRICAL:** Provide a minimum of 6 (eight) duplex receptacles evenly spaced along the walls of the room. Provide power outlets for projector and screen. For conference room, provide two floor mount duplex receptacles under conference table.

Provide lighting level at 40 foot candles (+/- 10%) and controlled by occupancy sensors and dimmer (continuous, flicker-free dimming from 100% to 10%) or a multilevel switching scheme (with one inboard lamp switched separately from outboard lamps to provide distinct, evenly distributed lighting levels).

• **TELECOMMUNICATION:** Provide a minimum of 2 (two) wall mount voice/data outlets. For conference room, provide 2 (two) floor mount voice/data outlets adjacent to floor mount duplex receptacles. Following is example of floor mount duplex receptacles and voice/data outlets installed under conference table.



- **SPECIAL REQUIREMENTS:**
  a) white board,
  b) projection screen
  c) projection machine

- **ADDITIONAL INFORMATION:** N/A

- **FURNITURE/FIXTURES/EQUIPMENT (FF&E):**
  a) conference table
  b) chairs

10. SPACE: BREAK ROOM

• **FUNCTIONAL DESCRIPTION:** If possible, this room must be located in the facility along an exterior wall to allow for windows.

• **ADJACENCIES:** Directly accessible from the corridor.

• **OCCUPANTS:** GPW staff.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, durable, easily repairable, and easy to maintain. A 4" coved wall base material, appropriate for the flooring material used.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include easy to clean, repairable, easy to maintain, and durable. Wall surface must have the ability to absorb pushpins and to withstand tape peeling. Must have a minimum STC rating of 45. Wall covering must be painted GWB. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guard.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Must have a minimum CAC rating of 40.

• **DOORS/FRAME:** Wood Doors: Provide flush solid core wood doors with Grade A hardwood face veneer for transparent finish. Stile edges must be non-finger jointed hardwood compatible with face veneer. Provide wood doors at all interior locations except noted otherwise. Hollow Metal Frames: Comply with ANSI A250.8/SDI 100. Frames must be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **VISION PANELS/VIEW WINDOWS:** Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building. Window stools must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** Contractor must provide 50 linear feet of base cabinets, 24" deep, 34" high, with an integral 4" high back-splash. Except for the ABA cut-out under the sink, base cabinets must include one drawer and one internal adjustable shelf, with door. The cabinet top, edges, and back-splash must be high pressure plastic laminate finish. All other surfaces must be laminated. Matching wall-mounted cabinets must be provided by Contractor.

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Provide kitchen sink and associated plumbing. Follow requirements of the current UFC criteria.

• **ELECTRICAL:** Provide GFGI duplex receptacles above backsplash for home type appliances (coffee pot, microwave, etc.) and duplex receptacles for refrigerators and vending machines. Provide lighting level at 30 foot candles (+/- 10%) and controlled by vacancy sensor(s).

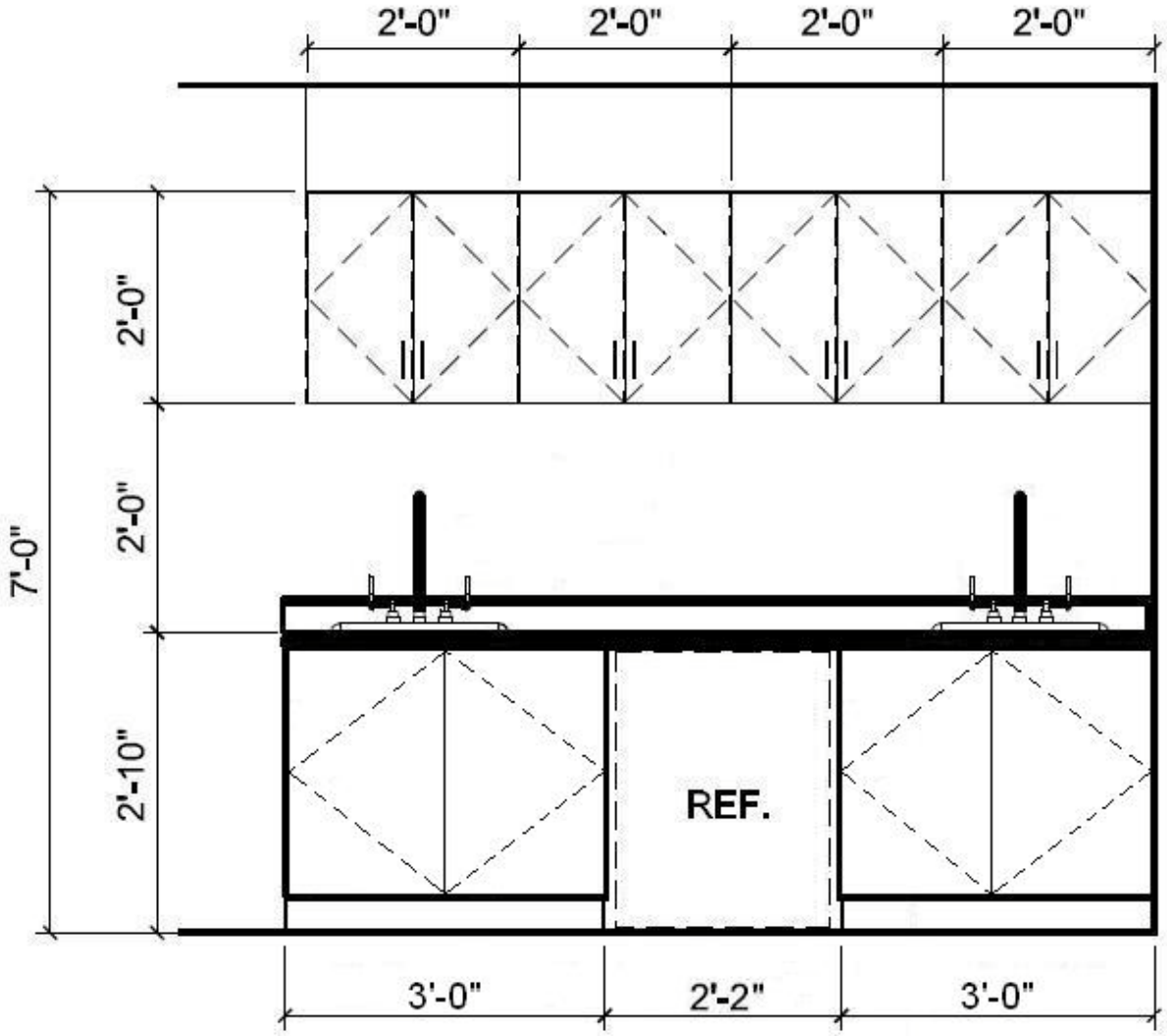
• **SPECIAL REQUIREMENTS:**

a) Locate a vending area in the Common Break Room.
b) Size vending area to accommodate three full size GFGI vending machines.
c) Provide space, plumbing, and electrical for vending machines. Half-height, "z-locker", lockable wall lockers, secured to the wall, with a minimum foot print of 15" x 15", must be provided in this area (total of 10 lockers in the small GPW, 14 lockers in the medium GPW, and 16 lockers in the large GPW). Each locker unit must be 72" H.
d) Provide water for icemaker in refrigerator.

• **ADDITIONAL INFORMATION:** N/A

• **FURNITURE/FIXTURES/EQUIPMENT (FF&E):** Contractor to provide sinks, Microwave ovens, refrigerators, 36" sq. tables, chairs.

•A recommended solution for the Food Prep/Arts and Crafts cabinets in the Break Room is shown below:


2'-0"
2'-0"
2'-0"
2'-0"
7'-0"
2'-0"
2'-0"
2'-10"
REF.
3'-0"
2'-2"
3'-0"

11. SPACE: CORRIDOR

• **FUNCTIONAL DESCRIPTION:** Main Circulation Space. Provide 6' minimum width corridors.

• **MINIMUM FLOOR and WALL BASE CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include easy to clean, durable, easily repairable, and easy to maintain. A 4" coved wall base material, appropriate for the flooring material used, is required. Base must be seamless except at inside corners.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include easy to clean, repairable, easy to maintain, and durable. Wall material must have the ability to absorb pushpins. Wall surface must be able to withstand tape peeling. Also, wall surface must be durable so that impacts from carts do not damage the wall. Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall and column outside corners. Factory fabricated end closure caps must be furnished for top and bottom of surface mounted corner guards. Chair rails must be installed in areas prone to hi-impact use, such as corridors.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Must have a minimum STC rating of 45. 24" x 24" acoustical ceiling grid and tile (9'-0" AFF).

• **DOORS/FRAME:**
All doors that open into the corridor, that are not located within a recessed alcove, must swing 180 degrees to avoid reducing the usable corridor width. Only infrequently-used doors, such as janitor's closet, may open into the corridor without a recess. Doors leading to the outside from the corridor must also be provided with a side light.

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:** Window Treatment: Provide horizontal mini blinds at all exterior windows. Uniformity of window covering color and material must be maintained to the maximum extent possible throughout each building. Window stools must be minimum ½ inch thick cast 100 percent acrylic polymer solid surfacing material. Uniformity of window covering color and material must be maintained throughout the building.

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **HVAC:** Provide heating and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Provide an electric water cooler with bottle filler, near the lobby as shown on the drawings.

• **ELECTRICAL:** Provide a minimum of one duplex receptacle per corridor for housekeeping purpose. Receptacles must not exceed 25 feet apart. Provide ceiling mount receptacles for wireless access point (WAP). Coordinate location of receptacles with WAP locations. Provide lighting level at 10 foot candles (+/- 10%) and controlled by occupancy sensors.

• **SPECIAL REQUIREMENTS:** Corridor must have a minimum clear width of no less than 6'-0". To allow for bulletin boards and other projections, recommend maintaining a clear width between walls of at least 6'-2".

• **ADDITIONAL INFORMATION:** N/A

12. SPACE: MECHANICAL, ELECTRICAL AND TELECOMMUNICATIONS ROOMS

• **FUNCTIONAL DESCRIPTION:**

- **Mechanical rooms** must accommodate space for equipment maintenance/repair access without having to remove other equipment. Mechanical, electrical and telecommunications rooms must be keyed separately for access by Installation maintenance personnel. Filter changes and preventative maintenance must be performed without requiring access to the facility. Exterior access is required for centralized mechanical room. All telecommunications rooms must be conditioned space.
- **Electrical room** The flooring must be vinyl composition tile with 4" rubber base. Walls to be painted GWB with suspended grid and tile at 9'-0"
- **Telecommunications room** must be provided on each floor in accordance with the latest Installation Information Infrastructure Architecture (I3A) guidance. Telecommunications room provides a demarcation point between the outside plant cable and the building telecommunications cabling. Provide an Intrusion Detection System (IDS) for the Sensitive Secure Storage areas Level II and III. The flooring must be static dissipative vinyl composition tile. Contractor must provide and install 50 square feet of finish-grade interior, fire treated, 5/8 inch plywood wall panel to serve as a termination board; the plywood must be finish painted. Contractor must provide and install in a wall cabinet one 5-pound dry chemical fire extinguisher in this room.

• **MINIMUM FLOOR and BASE CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include easy to clean, durable, easily repairable, and easy to maintain. A base material, appropriate for the flooring material used, is required. Base must be seamless except at inside corners.

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include easy to clean, repairable, easy to maintain, and durable. Wall material must have the ability to absorb pushpins. Wall surface must be able to withstand tape peeling. Also, wall surface must be durable so that impacts from buggies and carts do not damage the wall.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:**
Salient characteristics include ease of accessibility to mechanical system above ceiling, durable, and must provide an aesthetically pleasing surface, free of sags or other defects. Must have a minimum STC rating of 45.

• **CAT-6 CABLE AND CONNECTION:** As required.

• **DOORS/FRAME:** Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the

existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

• **HVAC:** Provide heating and ventilation in accordance with current UFC criteria.

PLUMBING: For mechanical room provide floor drains with deep traps or trap inserts.

• **ELECTRICAL:** In addition to NFPA 70 requirements, provide a minimum of 2 (two) duplex receptacles in each room mechanical room and one in each electrical and telecommunications room. In addition to the I3A Technical Guide requirements, provide two 120 Volt, 20 Amp receptacles each on a dedicated circuit on the telephone backboard in each telecommunications room.

Provide lighting level at 30 foot candles (+/- 10%) for electrical and mechanical rooms and controlled by switch. Provide lighting level at 50 foot candles (+/- 10%) for telecommunications room and controlled by switch.

• **TELECOMMUNICATION:** Provide 1 (one) wall mount telephone outlet at 48” above finish floor for each room.

• **SECURITY INFRASTRUCTURE:** The security infrastructure must be installed to support Government furnished equipment including cameras, door alarms, and motion sensors. These devices must be utilized at all exterior entrances with the exception of utility room entrances. Infrastructure must consist of conduit, pull wire and outlet boxes per user requirements. Conduits must be homerun from outlet boxes for equipment connection to designated security monitor room.

• **SPECIAL REQUIREMENTS:** N/A

• **ADDITIONAL INFORMATION:** N/A

13. SPACE: WAREHOUSE

• **FUNCTIONAL DESCRIPTION:** Standard, high bay, temperature and humidity controlled warehouse. This facility type is to store combustible and non-combustible supplies. Ability to store Class2, Class4, Class6, Class7 and Class9 supplies as defined by AR 700-8. It is intended to be similar, both functionally and technically, to similar warehouse storage facilities in the private sector surrounding the community.

• **ADJACENCIES:** Direct access to admin area and dock.

• **OCCUPANTS:** Small: 4-10, Medium: 15-40, Large: 40-50

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM INTERIOR CLEAR HEIGHT:** 32'-0"

• **MINIMUM FLOOR and BASE CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** Due to the operation of mechanical and electrical systems and devices, sound conditions and levels for interior spaces must not exceed levels as recommended by ASHRAE handbook criteria.

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **DOORS/FRAME:**

a) Vertical Lift doors: Provide 10'H x 8'W sectional or rollup doors at truck docks, openings to exterior dock and for ventilation purposes. For safety reasons provide eyebrows of sufficient width and depth to protect forklift drivers from the elements during inclement weather.
b) Truck And Pedestrian Doors - The large dock rollup doors must be a minimum of 10'w x 12'h. One 3'-0 x 6'-8" pedestrian door must also be provided. All doors must have nylon brush-style weather-stripping to prevent the entry of insects and to protect against external weather conditions.
c) Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.
d) Electrically Operated Sectional Overhead Doors: Doors must be industrial class, high-lift sectional overhead doors, electrically operated, with auxiliary hand chain override. In the open position, the horizontal portion of the door must be aligned with the angle of the roof structural elements; and must be no more than 6 inches below the bottom of the

roof structural elements. Doors must consist of horizontal sections hinged together which operate in a system of tracks to completely close the door opening in the closed position and make the full width and height of the door opening available for use in the open position. Provide a permanent label on the door indicating the name and address of the manufacturer. Doors, components, and methods of installation must be designed in accordance with DASMA 102. Minimum design wind load must be 20 psf. Maximum wind load deflection of the door must not exceed the door height in inches divided by 120 and the door width in inches divided by 120. Doors must be operable during design wind load when tested in accordance with ASTM E 330. Door sections must be formed from hot-dipped galvanized steel not lighter than 16 gage with longitudinal integral reinforcing ribs. Meeting rails must have interlocking joints to ensure a weather tight closure and alignment for full width of the door. Provide sections of the height indicated or the manufacturer's standard. Do not exceed 24 inch height for intermediate sections. Bottom sections may be varied to suit door height. Do not exceed 30 inch height for bottom section. Door sections must be insulated and must provide a "U" factor of 0.14 or less when tested in accordance with ASTM C 1363. Interior of door sections must be covered with steel sheets of not lighter than 20 gage to completely enclose the insulating material. Provide galvanized steel tracks not lighter than 10 gage. Provide vertical tracks with continuous steel angle not lighter than 10 gage for installation to walls. Incline vertical track through use of adjustable brackets to obtain a weather tight closure at jambs. Reinforce horizontal track with galvanized steel angle; support from track ceiling construction with galvanized steel angle and cross bracing to provide a rigid installation. Provide hinges, brackets, rollers, locking devices, and other hardware required for complete installation. Counterbalance doors with an oil-tempered, helical-wound torsion spring mounted on a steel shaft. Provide adjustable spring tension; connect spring to doors with cable through cable drums. Provide cable safety factor of at least 7 to 1. Provide operators of the type recommended by the door manufacturer. Operators must include electric motor, machine-cut reduction gears, steel chain and sprockets, magnetic brake, brackets, pushbutton controls, limit switches, magnetic reversing contactor, a manual operator as specified below for emergency use and other accessories necessary for operation. The electric operator must be designed so that the motor may be removed without disturbing the limit switch timing and without affecting the manual operator. The manual operator must be clutch controlled so that it may be engaged and disengaged from the floor; operation must not affect limit switch timing. Provide an electrical or mechanical device that disconnects the motor from the operating mechanism when the manual operator is engaged. Provide a galvanized, endless chain operating over a sprocket. Extend chain to within 4 feet of the floor and mount on inside of building. Obtain reduction by use of roller chain and sprocket drive or gearing. Provide chain cleat and pin for securing operator chain. The force required to operate the door must not exceed 35 pounds. Each door motor must have an enclosed, across-the-line type, magnetic reversing contactor, thermal overload and undervoltage protection, solenoid-operated brake, limit switches, and control switches. Locate control switches at least 5 feet above the floor so the operator must have complete visibility of

the door at all times. Control equipment must conform to NEMA ICS 1 and NEMA ICS 2. Control enclosures must be NEMA ICS 6, Type 12 or Type 4, except that contactor enclosures may be Type 1. Each control switch station must be of the three-button type; buttons must be marked "OPEN," "CLOSE," and "STOP." The "OPEN" and "STOP" buttons must require only momentary pressure to operate. The "CLOSE" button must require constant pressure to maintain the closing motion of the door. If the door is in motion and the "STOP" button is pressed or the "CLOSE" button released, the door must stop instantly and remain in the stop position; from the stop position, the door may be operated in either direction by the "OPEN" or "CLOSE" buttons. Pushbuttons must be full-guarded to prevent accidental operation. Provide limit switches to automatically stop doors at the fully open and closed positions. Limit switch positions must be readily adjustable. Provide a safety device on the bottom edge of electrically operated doors. The device must immediately stop and reverse the door in its closing travel upon contact with an obstruction in the door opening or upon failure of the device or any component of the control system and cause the door to return to the full open position. The door-closing circuit must be automatically locked out and the door must be operable manually until the failure or damage has been corrected. Do not use the safety device as a limit switch. Each sectional overhead door must be furnished with a “headache bar” on the interior and exterior side of the facility. Set bottom of each “headache bar” 6-inches below bottom of door head height and 4-feet from face of door. Each interior “headache bar” must be suspended from a pair of steel cables mounted on the roof structure. Each exterior “headache bar” must be suspended from a pair of steel cables mounted on the roof structure or suspended from a pair of steel cables mounted on the upper arm of a structural steel tube “Γ” structure set in concrete on one side of the door. Use one structural steel tube “Γ” structure on each side of doors wider than 10-feet. Length of “headache bar” must be minimum 80% the width of the door and must be centered on the door width.

• **ENTRY DOOR REQUIREMENTS:** N/A

• **SPECIAL HARDWARE AND ELECTRICAL REQUIREMENTS:** N/A

• **AUTOMATIC DOOR OPERATION REQUIREMENT:** N/A

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:** N/A

• **HVAC:** Provide heating, ventilation, and air conditioning in accordance with current UFC criteria.

• **PLUMBING:** Floor drains for warehouse must be in accordance with current UFC criteria.

General Purpose Warehouse

• **ELECTRICAL:** Provide duplex receptacles along warehouse wall. Provide duplex receptacles in warehouse and mount on storage racks or columns at 48" minimum above finished floor. Receptacles must not exceed 25 feet apart. Provide at a minimum of two battery-charging receptacles for fork-lift equipments.
Provide lighting level at 10 foot candles (+/- 10%) and controlled by occupancy sensors for individual aisle groups. All of the warehousing lighting levels must be measured 48 inches from the floor.

• **TELECOMMUNICATION:** Provide voice communication between offices, shipping/receiving and all areas of the warehouse, if desired by the installation commander. Following is example of receptacle and voice communication installed in a typical warehouse.

• **SPECIAL REQUIREMENTS:**

a) Provide guard rails. Guardrails must protect all exterior walls with minimum 17" high single guard rails and all interior walls with minimum 44" high double guard rails adjacent to the defined warehouse storage area. Additional racks can also be added along the exterior walls, wherever possible in lieu of guardrails.
b) Customer Pickup: Standard warehouse floor used for storage.
c) Ramps with Vertical Lift doors: Provide ramps with vertical lift doors.
d) Corridors: Provide 6 feet minimum width corridors.

• **ADDITIONAL INFORMATION:** N/A

• **DESIGNER OPTION:** The Administrative areas indicated in this document which may not be required by a particular facility may be added to the net warehouse area to maintain the total building gross square footage.

a) Team area – provide within Warehouse area for 130,000 GSF warehouses:
    a. Breakroom
    b. Unisex toilet - Provide toilet facilities to serve the public and administrative personnel assigned to company- provide to meet code.
    c. Janitor's closet - must have a 10 inch deep floor mounted stainless steel mop sink, with hot and cold service faucet, a four holder mop rack and two 18 inch deep by 48 inch long heavy duty stainless steel shelves for storage of cleaning supplies. Janitor's closet must have a space for storage of buckets and vacuum.

14. SPACE: FORKLIFT RECHARGE AREA

• **FUNCTIONAL DESCRIPTION:** Provide an area for recharging battery operated forklifts. Conventional and standup electrical lifts must be used.

• **ADJACENCIES:** Within the warehouse footprint, direct access to the dock.

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and BASE CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **DOORS/FRAME:** N/A

• **ENTRY DOOR REQUIREMENTS:** N/A

• **SPECIAL HARDWARE AND ELECTRICAL REQUIREMENTS:** N/A

• **AUTOMATIC DOOR OPERATION REQUIREMENT:** N/A

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:** N/A

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **HVAC:** Charging area must be provided with exhaust fan equipment. The equipment must be sized to remove battery charging area gases in accordance with current UFC criteria.

• **PLUMBING:** Emergency eyewash/ shower must be provided. System must meet the requirements of the latest version of ANSI Z358.1.

• **ELECTRICAL:** Provide at a minimum of two battery-charging receptacles for fork-lift equipments. Provide lighting level at 10 foot candles (+/- 10%) and controlled by occupancy sensor(s).

• **SPECIAL REQUIREMENTS:** N/A

• **ADDITIONAL INFORMATION:** N/A

15. SPACE: DOCK

• **FUNCTIONAL DESCRIPTION:** Provide covered exterior dock. Dock must be 48" (nominal) above hardstand and have 3 vertical lift doors into warehouse. Provide high-capacity, low-maintenance, ergonomically-friendly dock levelers at each truck dock door. Dock height above the hardstand must be 48". Truck/trailer heights may vary from 36" above their hardstand up to 60" above the hardstand. Provide dock levelers to accommodate this range (using electric lifts). Dock levelers need to be of sufficient width for safe and efficient fork lift operation and have features intended to prevent lifts from driving office the dock when a truck/trailer is not present. Provide features such as dock bumpers suitable to prevent building or truck/trailer damage. Also provide dock seals that must work effectively with standard truck/trailer sizes.

The facility must have five dock wells must be truck-level height and must have automatic dock leveling plates, one dock ramp for vans, cars and smaller trucks, steel rollup doors, one pedestrian door, one stairwell, and a dock ramp for forklifts to enter and exit the facility. Vented electric forklift charging station inside dock. Provide safety rail along edge of dock, stopping to allow clearance at each truck door.

• **ADJACENCIES:** The dock area must be separated from adjacent areas by a 2-hour rated fire.

• **OCCUPANTS:** N/A

• **AREA:** See Minimum Square Footage Requirements.

• **MINIMUM FLOOR and BASE CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **MINIMUM WALL CONSTRUCTION/SURFACE PERFORMANCE:**

• **MINIMUM CEILING CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **DOORS/FRAME:**

- Finish Hardware: All hardware must be consistent and must conform to ANSI/BMHA standards for Grade 1. All requirements for hardware keying must be coordinated with the Contracting Officer. Extension of the existing Installation keying system must be provided. Cores must have not less than seven pins; cylinders must have key-removable type cores. Disassembly of knob or lockset must not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only must be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor must have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Exit devices must be installed all building egress doors.

- Fire Door Hardware: Hardware for fire doors must be installed in accordance with the requirements of applicable codes. Exit devices installed on fire doors must have a visible label bearing the marking "Fire Exit Hardware". Other hardware installed on fire doors, such as locksets, closers, and hinges must have a visible label or stamp indicating that the hardware items have been approved by an approved testing agency for installation on fire-rated doors. Hardware for smoke-control door assemblies must be installed in accordance with applicable codes.

• **ENTRY DOOR REQUIREMENTS:** N/A

• **SPECIAL HARDWARE AND ELECTRICAL REQUIREMENTS:** N/A

• **AUTOMATIC DOOR OPERATION REQUIREMENT:** N/A

• **SPECIAL ELECTRICAL REQUIREMENTS**: N/A

• **VISION PANELS/VIEW WINDOWS:** N/A

• **CABINET CONSTRUCTION/SURFACE PERFORMANCE:** N/A

• **PLUMBING:** As required

• **ELECTRICAL:** Each loading dock must be illuminated for security must be illuminated with building mounted lighting fixtures. Following is an example of lights provided at docking station.

• **TELECOMMUNICATION:** Provide wall mount telephone outlets at 48” above finish floor at shipping/receiving areas.

• **SPECIAL REQUIREMENTS:**

a) Dock Wells - Each dock well must be designed to service a 53-foot long trailer plus tractor. Floors must be reinforced concrete with a concrete sealed surface and level. Floor loading must be adequate for maximum allowable truck/trailer loads. Sump pumps must be provided. The wells must be 4'-0" below the floor of the loading dock except for the well for vans, cars, and small trucks. Dock wells should run most of the full length of the building.

b) Dock/Truck Guards - To avoid damage to the door jambs from trucking operations, suitable protective posts (bollards) or concrete truck wheel guards must be provided at all truck entrances.

c) Dock Levelers - 5'd x 7'w automatic pit-type platform levelers are to be provided and installed by the Contractor. The levelers must be adjustable 6" below and 6" above the platform, and incorporate forward and backward movement of the dockboards themselves. When at rest and in the level position, the levelers must be supported by steel posts rather than totally dependent on hydraulics. Capacity of levelers must be rated at 20,000 pounds or more. Also provide dock seals that must work effectively with standard truck /trailer sizes.

d) Dock Bumpers And Chocks - Rubber bumpers, size 12"d x 24"w x 12"h, are to be installed on both sides of each truck bay per manufacturer's specifications. Truck wheel chocks 8" x 8" must be provided and chained to the dock by the Contractor.

• **ADDITIONAL INFORMATION:** N/A