

### 3.0 BATTLEFIELD WEATHER SUPPORT FACILITY <VER>(REV 1.1 – 31 JAN 2013)</VER>

3.1. GENERAL REQUIREMENTS: BWF provide administrative and readiness facilities for unit personnel functions and storage of their equipment. These facilities serve as the primary staging, training, and deployment center for Air Force battlefield weather support personnel and their individualized gear.

3.1.1. FACILITY DESCRIPTION: The United States Air Force Battlefield Weather Support Facilities (BWF) for Squadrons (SQDNs) and Detachments (DETs) on Army Installations provides a consolidated Support Facility on Army Installations to house, train, and sustain USAF Battlefield Weather units in direct support to Army units IAW AR 115-10. Includes administrative, personnel support and maintenance space allowances typically provided in Army Battalion (SQDN BWF) or Company Admin & Supply (DET BWF) facilities configured for USAF organizational structure (composition), functions, and operations IAW AR 115-10.

3.1.2. FACILITY RELATIONSHIPS: Locate BWF with proximity to the units and organizations they support, such as the Corps, Division, or BCT. Orient the facilities within this complex to support deployment and daily operations.

#### 3.1.3. ACCESSIBILITY REQUIREMENTS

A. SITE PLAN DESIGN AND CONSTRUCTION: Provide at least one accessible route within the site from accessible parking spaces and accessible passenger loading zones; public streets and sidewalks; and public transportation stops to the accessible building or facility entrance they serve.

B. FACILITY DESIGN AND CONSTRUCTION: Provide accessibility to the physically challenged and design the BWF in compliance with the Architectural Barriers Act (ABA) Accessibility Standard for Department of Defense Facilities.

#### 3.1.4. BUILDING AREAS:

A. GENERAL: Compute gross areas of facilities according to subparagraphs below. Maximum gross area limits indicated in Paragraph 2.0, SCOPE, may not be exceeded. A smaller overall gross area is permissible if all established net area program requirements are met.:

B. ENCLOSED SPACES: The gross area includes the total area of all floors, including basements, mezzanines, penthouses, usable attic or sloping spaces used to accommodate mechanical equipment or for storage with an average height of 6'-11" measured from the underside of the structural system and with the perimeter walls measuring a minimum of 4'-11" in height, and other enclosed spaces as determined by the effective outside dimensions of the building.

#### C. GROSS AREA LIMITATIONS:

1) Half Space: One-Half Spaces: One-half of the area will be included in the gross area for balconies and porches; exterior covered loading platforms or facilities, either depressed, ground level, or raised; covered but not enclosed passageways or walks; covered and uncovered but open stairs; and covered ramps.

2) Excluded Spaces: Crawl spaces; exterior uncovered loading platforms or facilities, either depressed, ground level, or raised; exterior insulation applied to existing buildings; open courtyards; open paved terraces; roof overhangs and soffits for weather protection; uncovered ramps; uncovered stoops; and utility tunnels and raceways will be excluded from the gross area.

D. NET AREA: Net area requirements for functional spaces are included in the space allocation table (paragraph 3.2.1.D, Table 1). If net area requirements are not specified in the Statement of Work, size the space to accommodate the required function, comply with code requirements, comply with overall gross area limitations and other requirements of the RFP (for example, area requirements for corridors, stairs, and mechanical rooms will typically be left to the discretion of the Offeror).

3.1.5. ADAPT BUILD MODEL: An Adapt-Build Model for the BWF is not currently available.

## 3.2. FUNCTIONAL AND OPERATIONAL REQUIREMENTS

### 3.2.1. FUNCTIONAL SPACES

#### A. GENERAL:

- 1) The BWF is comprised of one vertical construction component consisting of an Administrative Module and a Readiness Module. In conjunction with this, each site-specific project shall include necessary site amenities, such as the Tactical Meteorological Observing System – 53s (TMQ-53s) exterior training area on grass or dirt, organizational vehicle parking, access drives, wash stations, and exterior utilities. These components are described more fully below.
- 2) The Admin Module consists of two areas, the **<BWF\_SQUAD>**SQDN Command Group Offices area **</BWF\_SQUAD>****<BWF\_DET>** DET Command Offices section **</BWF\_DET>**, and all other Offices and Admin Support area.
- 3) The Readiness Module consists of two bays, the Personnel Support Bay and the Equipment Support Bay.
- 4) Provide an open, flexible design for the admin and readiness modules that allows easily reconfigurable space in response to changes in force structure, equipment, and doctrine. The BWF will employ design features that are both durable and reconfigurable without altering the structural design of the building. The goal is to allow ready adaptability in response to changes in force structure, equipment, and doctrine. The addition of internal load bearing structures that limit design flexibility will not be permitted.
- 5) BWF functional layout and adjacency requirements are as indicated on drawings.

#### B. PRIMARY SPACES: The following items are the Army Standard mandatory features for the BWF.

##### 1) Administration Module: Provide space for the following executive, admin, and admin support functions:

a) **Executive Functions:** **<BWF\_SQUAD>**For a SQDN BWF, provide a command group of private offices for the Commander, First Sergeant, and Superintendent, including a separate private restroom for the command group of offices, two open workstations for executive administrative personnel, a command group office reception area, a command conference room, and file storage. **</BWF\_SQUAD>** **<BWF\_DET>**For a DET BWF, provide private offices for the Commander, Senior Enlisted Advisor, and DET Operations Officer. **</BWF\_DET>**

b) **Admin Offices:** **<BWF\_SQUAD>**For a SQDN BWF, provide private offices for the Director of Operations (DO), and the Assistance Director of Operations (ADO). Locate the DO and ADO in a pivotal position between the Command Group and the Flights. **</BWF\_SQUAD>**Provide semi-private offices for each pair of Flight OIC-NCOICs.

c) **Admin Open Offices:** Provide open office space (cubicles) for all flight personnel who are not assigned private or semi-private office space, or who are not permanently assigned space at the airfield. When arranging the cubicles, allow space for ten (10) feet (ft) of shelving for Technical Manual Storage.

##### d) Provide the following admin support space:

(1) Provide an Organizational Classroom as part of the admin support space. The Organizational Classroom requires 15 Secret Internet Protocol Router (SIPR) drops to train an entire flight at one time. Provide the room with a movable divider and access control. The Organizational Classroom does not need to be located specifically in the Admin Module.

(2) Provide a SIPR Café as a separate room with four (4) SIPR drop stations for users to connect to the Secure Internet Protocol Routing Network (SIPRNET) at console size desks. Provide space for a container for Communications Security (COMSEC) / Controlled Cryptographic Item (CCI) storage IAW AR 380-40. Provide space for a container for Secure Document storage for classified files IAW AR 380-5. Provide access control.

(3) Provide admin support space with file storage space, printer / copier space, lockable supply closet for general purpose storage, and a break room.

##### 2) Readiness Module: Provide space for the following operational and supply functions:

a) **Personnel Support Bay:** The Personnel Support Bay consists of shower rooms and Battlefield Airman Management System (BAMS) locker space.

(1) **Consolidated Showers and Latrines.** Provide a set of shower / latrine facilities (ABA requirements) for each BWF. The design layout shall allow adjustment for the ratio of males and females in any unit by

repositioning the dividing wall between their facilities at the time of initial construction. ~~<BWF\_SQUAD>In the SQDN BWF, initial construction will provide a ratio of 75:25, men to women.</BWF\_SQUAD><BWF\_DET>In the DET BWF, initial construction will provide a ratio of 75:25, men to women.</BWF\_DET>~~The facilities will have «BWF\_LATRINE\_ACCESS» access to these facilities. Provide lockers at a ratio of 3:1, lockers to showers, with benches. Minimum shower locker size is 12 inches (w) x 18 inches (d) x 36 inches (h). Provide showers for 100 percent of the organization to shower within 45 minutes after PT ~~at a ratio of<BWF\_SQUAD>75:25, men to women, for the SQDN</BWF\_SQUAD><BWF\_DET>75:25, men to women, for the DET</BWF\_DET>~~.

Comment [sdn1]: [both] [interior] [exterior]

(2) **BAMS Locker Space.** Provide space in the Personnel Support Bay for Battlefield Airman Management System (BAMS) individual combat equipment lockers (similar to COF TA-50 lockers) for all military personnel located adjacent to showers. Provide space for BAMS lockers in sufficient quantity to meet the upper limit of the design capacity of the facility (100 percent of maximum military personnel strength authorized to BWF organization). BAMS lockers measure 42 inches (w) x 24 inches (d) x 78 inches (h) to allow each Airman to securely store current BAMS as well as future Airman System equipment.

b) **Equipment Support Bay:** The Equipment Support Bay consists of arms vault; multi-purpose area; radio maintenance; communications equipment storage; non-sensitive secure storage (NSSS); nuclear, biological, and chemical (NBC) equipment storage; and unit equipment storage space. The Equipment Support Bay provides storage space for supplies and equipment - Tables of Equipment (TOE) and Common Tables of Allowance (CTA) (or Air Force equivalent), weapons, and consumable supplies (including items awaiting issue, turn-in, or repair). Also, it provides accommodation for the supply sergeant, supply clerk(s) and the armorer in performing shipping and receiving functions. The Equipment Support Bay additionally provides space for maintenance, training, and pre-deployment preparations. Specific areas in the equipment support bay include:

(1) **Arms Vaults.** Provide space for Arms Vaults to accommodate storage of arms, ammunition and explosives (AA&E). See paragraph 3.5.G for specifications for vaults.

(2) **Multi-Purpose Area.** Size the Multi-Purpose Area in the Equipment Support Bay for TMQ-53 equipment maintenance, with NLT 16 ft by 16 ft for each TMQ-53 maintenance space required by BWF Table 1, with an open area (unobstructed) of NLT four (4) ft by four (4) ft clear height to accommodate the 10 ft height for setting up ~~the TMQ-53s in the quantities indicated each of two (2) TMQ-53s.~~ The Multi-Purpose Area provides space for equipment maintenance and pre/post-deployment checks, as well as other unit preparatory and training requirements. Within each 16 ft by 16 ft space in the Multi-Purpose Area, do not permit any ceiling obstruction, such as pipes, electrical, ventilation, or similar within a central four (4) ft square area of each 16 ft by 16 ft space. (This will allow the TMQ-53 mast to be fully extended.)

(3) **Radio Maintenance.** Include the space for radio maintenance (bench maintenance) in the Multi-Purpose Area.

(4) **Communications Equipment Storage.** Provide space for storage of unit radios and communications equipment.

(5) **Non-Sensitive Secure Storage (NSSS) (other than AA&E).** Provide a secure storage room for non-sensitive items (high value items, including the Air Force tactical meteorological weather equipment, other than AA&E) for which accountability is a concern. Construct the NSSS area of material to prevent forcible entry. The minimum acceptable construction is expanded steel fabric behind impact resistant gypsum board at both walls and ceiling. The door shall provide an equivalent degree of security, and as a minimum, be constructed of sheet metal material not less than 16 gauge in thickness and be equipped with a hasp to accommodate a high security padlock. Provide for ICIDS (Internal Commercial Intrusion Detection System).

(6) **NBC Storage.** Provide space for nuclear, biological, and chemical (NBC) equipment storage.

(7) **Unit Equipment Storage.** Provide Unit Equipment Storage (organizational storage) space for other unit equipment. Provide climate control to prevent dry heat and humid heat from producing dry rot and mold of canvas and cloth equipages, as well as allow the same equipages to dry in either humid or cold climates.

(8) **Mud Wash Area.** Provide space for two (2) interior mud wash utility sinks in the Equipment Support Bay area near the Multi-Purpose Area loading area to prevent tracking mud through the bay to the Personnel Support Bay.

C. **COMMON AREAS:** Provide consolidated utility spaces to serve the entire facility including a mechanical room, electrical room, telecommunication rooms (including Non-secure Internet Protocol Routing Network (NIPRNET) and Secure Internet Protocol Routing Network (SIPRNET)), restrooms, janitor's closet, vending area to also accommodate recycling receptacles and recycling storage closet.

- 1) **Lobby:** Provide an accessible lobby as a primary entry area for the BWF and visitors.
  - 2) **Public Toilet(s):** Provide a set of public restroom facilities on the second floor for the BWF admin module.
  - 3) **Vestibule:** Designer will determine if a vestibule is appropriate.
  - 4) **Corridors:** The minimum corridor width shall be in accordance with the established Army criteria.
  - 5) **Stairs:** The minimum stair width shall be in accordance with the established Army criteria, but not less than 44 inches. Stair construction shall be in accordance with the established Army criteria.
  - 6) **Janitor's Closet:** Provide one (1) Janitor's Closet on each floor located as near to the restrooms / showers as practicable.
  - 7) **Mechanical, Electrical, and Telecommunications Rooms**
    - a) **Telecommunications Rooms.** Provide Telecommunications Rooms for voice and data. Provide a minimum of one room on each floor, located as near the center of the building as practicable, and stacked between floors. ~~I3A Technical Criteria Comply with UFC 3-580-01.~~
    - b) Provide NIPRNET and SIPRNET in accordance with AR 380-5, Chapter 7.
  - 8) **Vending Area:** Locate a vending area «BWF\_VENDING\_LOCATION».
  - 9) **Recyclables Storage:** Provide a Recyclables Storage area.
  - 10) **Mudroom / Bootwash:** Provide outdoor areas for soldiers to rinse mud off field gear, boots and clothing before entering into the Readiness Module. Provide one rinsing station per 30 persons, or a minimum of one boot wash area close to each entrance, whichever is greater. Furnish each rinsing station with a pedestal mounted, hosed cold-water faucet or hydrant. Faucet or hydrant shall be non-freeze type. Provide two interior mud wash utility sinks in the Personnel Support Bay area.
- D. **SPACE ALLOCATION TABLE:** BWF Table 1 provides the BWF Space Allocation

**Comment [sdn2]:** [near the lobby on each floor][in the break room]

BWF Table 1 - BWF Space Allocation, Functional Area Standard Sizes in NSF						
Squadron or Detachment Tenant:			Large SQDN	Small SQDN	Large DET	Small DET
Functional Area	Program Code	Capacity	85 PN	50 PN	60 PN	40 PN
			NSF	NSF	NSF	NSF
<b>ADMINISTRATION MODULE</b>						
Command Group - SQDNs Only				Command Section - DETs Only		
Commander	P3	1	200	200	150	150
Superintendent	P4	1	150	150		
First Sergeant	P5	1	110	110	110	110
Executive Admin	X	1	48 sqft x 2 PN	48 sqft x 2 PN	n/a	n/a
Reception Area, SQDN only	RA	6	60	60	n/a	n/a
File Storage	ST	n/a	88	88	88	88
Conference Room, Large SQDN only	CM	12+12	480	n/a	n/a	n/a
Conference Room, Small SQDN only	CS	8+8	n/a	320	n/a	n/a
Private Restroom (Command Group, SQDN ONLY)	CT	1	54	54	n/a	n/a
<b>ADMINISTRATION BAY</b>						
Director of Operations	P5	1	150	150	150	150
Asst Director of Operations (SQDN only)	P5	1	110	110	n/a	n/a
Semi-Private Offices (Flight Commander and NCOIC)	P5	2	150 sqft per 2 PN X 5 FLT's	150 sqft per 2 PN X 3 FLT's	150 sqft per 2 PN X 3 FLT's	150 sqft per 2 PN X 2 FLT's
Open Office (for PN not assigned a private or semi private office)	OR	1	48 NSF / PN X 67 PN	48 NSF / PN X 36 PN	48 NSF / PN X 50 PN	48 NSF / PN X 32 PN
General Purpose Storage	ST	n/a	96	96	96	96
SIPR Café	SIPR	4	200	200	200	200
Secure Files Storage in SIPR Café	SFC	n/a	included above	included above	included above	included above

**BWF Table 1 - BWF Space Allocation, Functional Area Standard Sizes in NSF**

Squadron or Detachment Tenant:			Large SQDN	Small SQDN	Large DET	Small DET
Functional Area	Program Code	Capacity	85 PN	50 PN	60 PN	40 PN
COMSEC / CCI File Storage in SIPR Café	CCI FC	n/a	included above	included above	included above	included above
Printer / Copier Station	PC	n/a	96 sqft X 3 PCs	96 sqft X 2 PCs	96 sqft X 2 PCs	96
Break Room	BR	n/a	108	108	108	108
Organizational Classroom	CLL/CLM	15-30	800	600	600	600
File Storage	FC	n/a	88	88	88	88
<b>READINESS MODULE</b>						
Arms Vault	ARMS	n/a	400	300	400	300
Multi-Purpose Area	MP-W	n/a	NLT 512 (two (2) areas 16 ft x 16 ft)	NLT 256 (one (1) area 16 ft x 16 ft)	NLT 256 (one (1) area 16 ft x 16 ft)	NLT 256 (one (1) area 16 ft x 16 ft)
Radio Maintenance	in MP-W	n/a	48	48	48	48
Communications Storage	COMMST	n/a	94	94	94	94
NBC Storage	NBC	n/a	94	94	94	94
Non-Sensitive Secure Storage	NSSS	n/a	525	400	400	325
Unit Storage	UNITST	n/a	500	250	300	200
<b>Personnel Support Bay</b>						
BAMS Locker Room	BAMS	n/a	1,512	882	1,062	702
Shower Rooms - Men	SHWR - M	n/a	566	352	280	185
Shower Rooms - Women	SHWR - W	n/a	254	143	310	210
<b>EXTERIOR FUNCTIONAL ELEMENTS</b>						
			<b>NSF</b>	<b>NSF</b>	<b>NSF</b>	<b>NSF</b>
Training Area Hardstand	TAH	n/a	100	100	100	100

**BWF Table 1 - BWF Space Allocation, Functional Area Standard Sizes in NSF**

Squadron or Detachment Tenant:			Large SQDN	Small SQDN	Large DET	Small DET
Functional Area	Program Code	Capacity	85 PN	50 PN	60 PN	40 PN
Exterior TMQ-53 Training Area	XTA	3 TQM-53's, 16 ft by 16 ft each	768	768	768	768
			<b>SQ YDs</b>	<b>SQ YDs</b>	<b>SQ YDs</b>	<b>SQ YDs</b>
Privately Owned Vehicle Parking (POV)	POV		2,678	1,575	1,890	1,260
Organizational Vehicle Parking	ORGP	n/a	2,524	1,607	2,330	1,387
Organizational Vehicle Parking Apron	PKAPRN	n/a	126	126	126	126
Vehicle Count			20	10	15	5
Trailer Count			20	10	15	5

### 3.3. SITE FUNCTIONAL REQUIREMENTS

A. **GENERAL:** Provide all site design and construction within the BWF limits of construction necessary to support the new building facilities. Site features include organizational vehicle parking and drives, utilities, and site improvements.

#### B. **PARKING:**

1) **Privately Owned Vehicle (POV) Parking:** Provide POV parking for 90% of authorized strength in BWF on the facility site.

#### 2) **Organizational Vehicle Parking**

a) Provide a rigid concrete pavement for the Organizational Vehicle Parking from the Readiness Module (depending on site layout) to the project demarcation line.

b) Provide the Organizational Vehicle Parking sufficient depth (minimum 80 ft deep) to accommodate up to a 35-ft long vehicle with a 45-ft turning radius along the entire length of the Readiness Module. Slope the service yard to drain away from the Readiness Module area with a slope of no more than two percent (2%). Provide accommodation for boot / Battlefield Airman Management System (BAMS) gear washing, drainage, and grit removal in Organizational Vehicle Parking area. Provide two (2) boot / BAMS gear-washing stations with four freeze-proof hose bibbs and drying rack (handrail).

c) Provide a secured area for tactical vehicle parking for Trucks, Utility: Cargo / Troop Carrier 1-1/4 Ton 4x4 W/E (HMMWV) with Light Tactical Trailers, ¾ Ton.

C. **ACCESS DRIVES AND LANES:** Provide access / service drives and access lanes in accordance with the following:

1) **Entrance Drives:** Entrance Drive into Organizational Vehicle Parking: Provide two 28-ft wide rigid concrete pavement entrance drives from the Organizational Vehicle Parking to an adjacent roadway.

2) **Emergency Vehicle / Fire Access Lanes:** Provide Emergency / Fire Access Lanes in accordance with the requirements of the Authority Having Jurisdiction (AHJ).

3) **Drop-off Lanes:** Drop-off lanes are not required for this facility.

D. **SPECIAL SETBACKS AND PERIMETER CONTROLS:** Provide a 10 ft X 10 ft Covered Hardstand with three electrical power outlets (120 Volt), and lighting. Provide a grass or dirt training area immediately adjacent to the hardstand for setting up at least three (3) TMQ-53s, one tactical weather radar, and one tactical satellite communications system for training. Each TMQ-53 and the tactical weather radar requires an area with an eight (8) ft radius when set up, plus circulation area, for weather personnel to train around them. The tactical satellite communications system footprint is negligible. The grass / dirt area requires line-of-sight to geostationary equatorial satellites. Coordinate with user regarding satellite direction for proper line-of-sight location of the Exterior Training Area for the TMQ-53s.

E. **LOADING DOCKS / SHIPPING & RECEIVING:** Loading docks are not authorized for the loading area at the back of the Multi-Purpose Room; however, loading mission equipment for both field exercises and mobilization requires a full-size rollup door to the Multi-Purpose Room.

#### F. **SPECIAL SETBACKS & PERIMETER CONTROLS:**

1) **Antiterrorism / Force Protection (ATFP):** Include Antiterrorism / Force Protection (ATFP) measures in the facility design in accordance with established Army criteria.

2) **Security Fencing:** Provide fencing and access control for the BWF organizational vehicle parking at the rear of the facility. Minimum requirement is a security fence at the site perimeter consisting of seven (7)-ft high chain link fabric plus a single outrigger with three (3)-strand barbed wire, designed in accordance with STD 872-90-03, FE-6, Chain-Link Security Fence Details. A zone cleared of trees and shrubs, 20 ft wide inside the fence and 10 ft wide outside the fence is required. The clear zone shall be gravel underlain by a synthetic fabric. Treat the clear zone with herbicides to discourage vegetative growth. Provide manually operated vehicular gates, approximately 30 ft wide overall, at each vehicle entrance/exit.

### 3.4. SITE AND LANDSCAPE REQUIREMENTS

A. **GENERAL:** Site features include TMQ-53 training area, POV parking, operational vehicle parking, operational vehicle drives, utilities, and site improvements.

#### B. **SITE STRUCTURES:**

1) **Dumpster Enclosures:** Provide dumpster screening aesthetically and architecturally compatible with the building it serves, designed in accordance with Installation Guidelines. Locate the dumpster areas in accordance with UFC 4-010-01 "DoD Minimum Antiterrorism Standards for Buildings". Position the space for GFGI dumpsters outside of restricted areas to allow for servicing activities.

#### C. **SITE SPECIALTIES AND FURNISHINGS:**

1) **Site Specialties - Bollards:** Provide 6-inch diameter by 5-ft high, concrete-filled, schedule 80 galvanized steel pipe bollards, 5-foot O.C. spacing, painted Safety Yellow. Locate bollards adjacent to the service yard where frequent vehicle movement increases the risk of damage by vehicle impact. Also, provide bollards five (5) ft from the edge of electrical and mechanical equipment, and from the corners of the building to protect the building. Design bollard footprints to withstand vehicular impact.

2) **Site Furnishings:** <BWF\_SQUAD>SQDN Helium Tank Storage. Provide a covered helium tank storage rack that can be secured in the organizational vehicle parking area. <BWF\_SQUAD><BWF\_DET>DET – n/a. </BWF\_DET>

### 3.5. ARCHITECTURAL REQUIREMENTS

#### A. **GENERAL:**

1) Design exterior architectural features of the building in accordance with the established Installation architectural theme.

2) Designer shall consider economy of construction to suit the function, i.e. warehouse or light industrial type facilities.

#### B. **WALLS:**

1) **Exterior Walls:** Construct the Readiness Module to meet the requirements of a Risk Level II analysis in accordance with AR 190-51 and AR 190-13. In conjunction with this, it has been determined that a minimum exterior wall construction consisting of 26 gauge metal wall panels with insulation and an interior metal liner panel extended to a height 8' above the finished floor will satisfy the minimum Risk Level II requirements of AR 190-51, Appendix B-2, paragraph c.

2) **Mold and Mildew:** Use construction systems that prevent the development of mold and mildew.

C. **ROOF SYSTEMS:** Roof system shall comply with applicable criteria for fire rating.

1) **Roof Mounted Equipment:** Roof mounted equipment is expressly not authorized.

#### D. **OPENINGS:**

1) **Exterior Glass and Glazing:** Provide exterior glass and glazing that complies with established Army criteria. Provide windows that comply with ATFP requirements.

2) **Windows - Natural Lighting:** Provide windows for natural lighting in all office areas, with a preference for natural lighting in the Readiness Areas to the greatest extent possible, ensuring compliance with anti-terrorism/force protection and physical security requirements. Areas where classified material (both physical and electronic format) is handled, stored, processed, or discussed shall be limited to having non-operable windows. This prohibition extends to locations with components for SIPRNET and to other devices processing classified data, which includes all private offices and conference rooms. When fixed windows are provided in rooms authorized for SIPRNET, the following potential problem areas must be addressed:

a) Ensure TEMPEST is mitigated by using TEMPEST approved equipment and shielded or fiber optic cabling.

- b) Provide window curtains and/or blinds, or application of a one-way film to the window glazing.
- c) Provide capability for curtains to be drawn across windows where audio from classified VTC sessions has the potential of being transmitted through window glazing.
- 3) **Overhead Doors:** Provide an overhead door to the rear entrance (loading area) of the Multi-Purpose Area for loading equipment during training exercises and mobilization.

E. **VAULT REQUIREMENTS:** Provide arms vaults to accommodate storage of arms, ammunition and explosives (AA&E). Design these vaults in accordance with physical security requirements contained in AR 190-11, Appendix G. An option exists for use of prefabricated, modular vaults conforming to Federal Specification AA-V-2737 requirements. Provide a GSA approved Class 5 Armory vault door with lock in accordance with Fed. Spec. AA-D-600D and a Dutch-style day gate with issue port.

F. **ACOUSTICAL REQUIREMENTS:**

- 1) **Sound Insulation:** Provide sound insulation at all video teleconferencing equipped classrooms and conference rooms to meet a minimum rating at doors, walls, and floor / ceiling assemblies of STC 50 or better. Provide sound insulation in all other administration areas to meet a minimum rating of STC 42 at walls and floor / ceiling assemblies, and a rating of STC 33 for doors, which are to be solid core wood in a metal frame. In addition to the sound insulation required, video teleconferencing areas shall meet a Noise Criteria (NC) 30 rating in accordance with ASHRAE Fundamentals Handbook.
- 2) **Office and Administrative Areas:** Construct the command group offices to provide privacy and sound control in accordance with SOUND INSULATION paragraph above.

3.5.1. FINISHES AND INTERIOR SPECIALITIES

A. **FINISHES:**

- 1) **Minimum Finish Requirements:**
  - a) **Walls:** Walls shall comply with minimum finish tables, BWF Table 2, Paragraph 3.5.1.A.2).
  - b) **Ceilings:** Ceilings shall comply with minimum finish tables, BWF Table 2, Paragraph 3.5.1.A.2).
  - c) **Floors:** Floor finishes shall comply with Minimum Finish Tables, BWF Table 2, Paragraph 3.5.1.A.2).
- 2) **Finish Tables:** Finishes shall comply with Minimum Finish Tables, BWF Table 2.

**Table 2, Paragraph 3.5.1.A.2 - MINIMUM FINISH TABLES**

ROOM NAME	FLOOR FINISH	WALLS		CEILINGS		REMARKS
		BASE	WALLS	FINISH	HEIGHT	
<b>COMMAND GROUP/SECTION</b>						
Commander	CPT	RB	PT	ACT	9'-0"	
Superintendent	CPT	RB	PT	ACT	9'-0"	
First Sergeant	CPT	RB	PT	ACT	9'-0"	
Executive Admin	CPT	RB	PT	ACT	9'-0"	
Command Suite Reception Area, SQDN only	CPT	RB	PT	ACT	9'-0"	
Executive Private Bathroom (Command Suite, SQDN only)	CT	CT	CT	GWB	9'-0"	NOTE 1
Command Conference Room, Large SQDN only	CPT	RB	PT	ACT	9'-0"	NOTE 4
Command Conference Room, Small SQDN only	CPT	RB	PT	ACT	9'-0"	NOTE 4
File Storage	CPT	RB	PT	ACT	9'-0"	

<b>FLIGHT ADMINISTRATION BAY</b>							
Semi-Private Offices	Director of Flight Operations	CPT	RB	PT	ACT	9'-0"	
	Assistant Dir. Of Flight Ops (SQDN only)	CPT	RB	PT	ACT	9'-0"	
	Operations Support Flight	CPT	RB	PT	ACT	9'-0"	
	Flight A	CPT	RB	PT	ACT	9'-0"	
	Flight B	CPT	RB	PT	ACT	9'-0"	
	Flight C	CPT	RB	PT	ACT	9'-0"	
	Flight D	CPT	RB	PT	ACT	9'-0"	

<b>FLIGHT ADMINISTRATION BAY, continued</b>						
ROOM NAME	FLOOR FINISH	WALLS		CEILINGS		REMARKS
		BASE	WALLS	FINISH	HEIGHT	

Open Office Space	Operations Support Flight	CPT	RB	PT	ACT	9'-0"	NOTE 4
	Standardization / Evaluation	CPT	RB	PT	ACT	9'-0"	NOTE 4
	Flight A	CPT	RB	PT	ACT	9'-0"	NOTE 4
	Flight B	CPT	RB	PT	ACT	9'-0"	NOTE 4
	Flight C	CPT	RB	PT	ACT	9'-0"	NOTE 4
	Flight D	CPT	RB	PT	ACT	9'-0"	NOTE 4

ADMIN SUPPORT AREA							
General Purpose Storage	VCT	RB	PT	ACT	9'-0"		
File Storage	VCT	RB	PT	ACT	9'-0"		
SIPR Room / SIPR Café/Secure Files Storage/COMSEC Storage	VCT	RB	PT	GWB	9'-0"		
Printer / Copier Station	CPT	RB	PT	ACT	9'-0"		
Break Room	VCT	RB	PT	ACT	9'-0"	NOTE 4	
Organizational Classroom	VCT	RB	PT	ACT	9'-0"	NOTE 4	

EQUIPMENT SUPPORT BAY							
Arms Vault	SC	---	---	---	9'-0"		
Multi-Purpose Room (with space for Radio Maintenance)	<del>VCT-SC</del>	RB	PT	GWB	9'-0"	NOTE 6	
Communications Storage	SC	RB	PT	GWB	9'-0"		
NBC Storage	<del>VCT-SC</del>	RB	PT	GWB	9'-0"		
Secure Storage for Non-Sensitive Items	<del>VCT-SC</del>	RB	PT	GWB	9'-0"		
Unit Storage	<del>VCT-SC</del>	RB	PT	GWB	9'-0"		

**Table 2, Paragraph 3.5.1.A.2 - MINIMUM FINISH TABLES, continued**

ROOM NAME	FLOOR FINISH	WALLS		CEILINGS		REMARKS
		BASE	WALLS	FINISH	HEIGHT	
<b>PERSONNEL SUPPORT BAY</b>						

BAMS Locker Space	VCT-SC	RB	PT	GWB	9'-0"	
Shower Rooms- Men	CT	CT	CT/PT	GWB	9'-0"	NOTE 1
Shower Rooms- Women	CT	CT	CT/PT	GWB	9'-0"	NOTE 1

BUILDING SUPPORT AREAS						
Mechanical	SC	RB	PT	EXP	9'-0"	
Electrical Room(s)	SC	RB	PT	EXP	9'-0"	
1st Floor Public Restrooms	CT	CT	CT/PT	GWB	9'-0"	NOTE 1
2nd Floor Public Restrooms	CT	CT	CT/PT	GWB	9'-0"	NOTE 1
Communication Rooms	SC	RB	PT	ACT	9'-0"	
Lobby or Entry Area	CT	RB	PT	ACT/GWB	9'-0"	NOTE 2, 3, 5
Corridor	VCT	RB	PT	ACT	9'-0"	NOTE 3

NOTES
1. Ceramic Tile to 7'-0" A.F.F.
2. Include a walk-off mat
3. Include Chair Rail
4. Include bulletin board and white board
5. Include bulletin board
6. Provide <del>each required</del> <del>two (2)</del> 4 ft x 4 ft areas with unobstructed clear height of <del>10'0"</del> <del>12'0"</del>

LEGEND	
ACT - ACOUSTICAL CEILING TILE	RB - RUBBER BASE
CPT - CARPET	SC - SEALED CONCRETE
CT - CERAMIC TILE	VCT - VINYL COMPOSITION TILE
EXP - EXPOSED TO STRUCTURE	
GWB - GYPSUM WALL BOARD	
PT - PAINT	

B. INTERIOR SPECIALTIES:

1) Signage:

- a) **Room Signage:** Provide room number sign with changeable two-line message strip signage. Changeable message strip signs shall be of same construction as standard room signs to include a clear sleeve that will accept a paper or plastic insert with identifying changeable text. The insert shall be a prepared typeset message, electronically enlarged to size and mounted on paper cardstock.
- b) **Bulletin Boards:** Provide bulletin boards as indicated in Finishes Table in Paragraph 3.5.1. B.3. Bulletin boards shall be four (4) ft high and six (6) ft wide. Bulletin boards shall have a header panel and lockable, glazed doors.

2) Wall Protection:

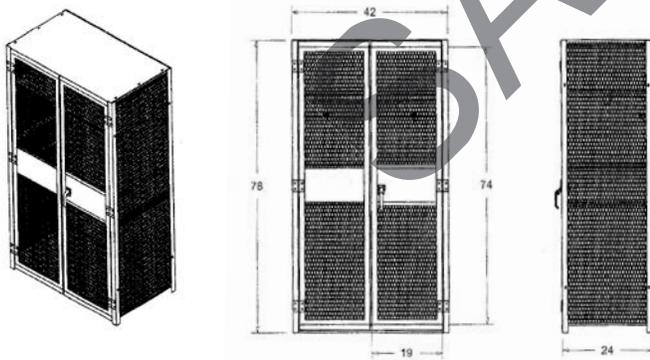
- a) **Chair rails:** Provide chair rails in areas that are prone to high-impact use, such as corridors, classrooms, and lobby seating areas to protect the walls.
- b) **Corner guards:** Provide surface mounted, high impact resistant, integral color, snap-on type resilient corner guards, extending from floor to ceiling for wall/column outside corners in high traffic areas. Furnish factory fabricated end closure caps for top and bottom of surface mounted corner guards.

3) **Storage Shelving:** Provide ten (10) ft of shelving in the open office area for Tactical Weather Technical Manuals.

4) **Janitor's Closet:** Provide storage shelving in the janitor's closet for janitorial supplies.

5) Lockers:

- a) **Shower lockers.** Provide shower lockers with minimum size of 12"(w)x18"(d)x36"(h), galvanized and coated with a high quality durable finish with color to be manufacturer's standard tan or gray.
- b) **BAMS Lockers.** In the Personnel Support Bays, provide individual combat equipment (BAMS) lockers, Contractor Furnished Contractor Installed (CFCI) for all military personnel. Provide individual combat equipment (BAMS) lockers in sufficient quantity to meet the upper limit of the design capacity of the facility (100 percent of maximum military personnel in BWF organization). Provide permanently installed, individual steel lockable lockers sized 42" (w) x 24" (d) x 78" (h) to allow each Airman to securely store current BAMS as well as future Airman Systems equipment. Provide TA-50 lockers as indicated in Paragraph 3.2.1.B.2). (2), with size and appearance similar to that shown below. BAMS lockers shall be single-tier, heavy-duty, all-welded, ventilated type and meet the following minimum requirements:



- (1) Provide all tops, bottoms and shelves constructed of minimum 16 gauge thick cold rolled sheet steel. Provide all sides, intermediate partitions and backs constructed of minimum 14 gauge flattened expanded metal or perforated metal with a minimum free area of 50%, welded to angle iron frames. Provide frames constructed of minimum 1" X 1" X 1/8" angle iron steel. Thickness of metal and details of assembly and supports shall provide strength and stiffness.

- (2) Provide locker with double doors having a three-point three-sided cremone latch and be padlock-able. Doors shall be hinged with minimum five knuckle heavy duty steel pin butt hinges welded to both door and locker frame – provide three hinges per single tier door.
- (3) Each locker shall include: one aluminum number plate (numbered in sequential order), one full width shelf located 12” from the top with clothes hangar rod and three locker hooks mounted below.
- (4) Provide galvanized lockers, coated with a high quality durable finish with color to be manufacturer’s standard tan or gray.
- (5) Anchor lockers to concrete floor in accordance with manufacturer’s recommendations.
- 6) **Fire Extinguishers, Cabinets & Mounting Brackets**: Provide Fire Extinguisher cabinets and brackets when fire extinguishers are required by UFC 3-600-01 and NFPA 101. Placement of cabinets and brackets shall be in accordance with NFPA 10. Provide semi-recessed cabinets in finished areas and provide brackets in non-finished areas (such as utility rooms, storage rooms, shops, and vehicle bays). Fire extinguishers shall not be provided in this contract.
- 7) **AED Cabinets**: Provide an automated external defibrillator (AED) in compliance with established Army criteria.

### 3.6. STRUCTURAL REQUIREMENTS

#### A. DESIGN LOADS

- 1) **Live Loads**: The readiness module area shall accommodate forklift access from the equipment support bay to the exterior loading areas. The bay floor shall be capable of supporting forklift movement throughout the area. Design slab for forklift truck maximum axle load of five (5) kips and maximum load capacity of two (2) kips.

### 3.7. SEE PARAGRAPH 6.7 THERMAL PERFORMANCE – NOT USED

### 3.8. PLUMBING REQUIREMENTS

- A. **DOMESTIC WATER**: Heating System: Domestic Hot Water System. Locate the main water heating equipment within a mechanical room, on the ground floor level only. Size system storage and recovery to deliver sufficient capacity at the showers to meet Paragraph 3.2.1.B.2) a) (1) and 3.2.1.C.2) requirements. Usage diversity factor for the showers shall be one. Minimum system total storage of water heater(s) shall be 100 gallons for every five (5) authorized military personnel.

- B. **EYE WASH STATIONS**: Provide a minimum of one eye wash station in each Multi-Purpose Area.

### 3.9. COMMUNICATIONS AND SECURITY SYSTEMS

- A. **TELECOMMUNICATION SYSTEMS - TELECOMMUNICATIONS ROOMS**: Design the telecommunication rooms in accordance with the I3A Criteria and ANSI/EIA/TIA-569-B.

- 1) **Cabling, Patch Panels & Connectors**:

- a) Where copper cable runs exceed 295 ft, provide additional telecommunication rooms as required.
- b) Provide telecommunications outlets per the Installation Information Infrastructure Architecture (I3A) Technical Criteria based on functional purpose of the various spaces with the facility as modified by user special operational requirements. All BWF workstations \ desks shall have voice and data connection capability. All conference rooms shall have voice and data connection capability (minimum four outlets). A wall telephone outlet with a single jack shall be provided in each mechanical room, electrical room, arms vault and communications room and entrances / exits in the Support Bays / Multi-Purpose Area. Telecommunications infrastructure shall meet the I3A Criteria and ANSI/TIA/EIA requirements.

- 2) **Equipment Racks**

- 3) **Cable TV (CATV)**: Provide cable tray pathways through-out the facility to support the systems required for the construction of the facility as well as user’s computer networks, video integration system, telecommunication systems and other specialized electronic systems.

B. AUDIO / VISUAL SYSTEMS & INFRASTRUCTURE

- 1) **Projectors:** Provide projector capabilities in each classroom and conference room.
- 2) **Public Address (PA) Systems:** A Public Address (PA) System not required.
- 3) **Video Teleconferencing VTC:** Provide an 8-pin modular jack to provide video teleconferencing connectivity in conference room.

C. SECURE COMMUNICATIONS

1) **SIPRNET**

- a) Design and construct the SIPRNET Communication Room (the utility space, not habitable) and infrastructure in accordance with the "Building SIPRNET Communication Room – New Construction Guidance", paragraph of the Technical **Guide-Criteria** for the Integration of SIPRNET (Secret Internet Protocol Router Network). Coordinate the SIPRNET building infrastructure design and installation with the local NEC.
  - b) In the NSTISSI 7003 and the Technical **Guide-Criteria** for Integration of SIPRNET, paragraph "Protective Distribution System", the word "shall" shall be substituted for the word "should" or "will" in this paragraph.
  - c) Install one (1) SIPRNET outlet with one (1) drop in the commander's office. Install one (1) SIPRNET outlet with four (4) drops in the SIPR Café (a secure internet user's habitable space, distinct and separate room from the SIPRNET Communication Room). **<BWF\_SQUAD>** SQDN: Install SIPRNET outlets with 24 drops in the Command Conference Room. SQDN: Install SIPRNET outlets with 30 drops in the Organizational Classroom. **</BWF\_SQUAD><BWF\_DET>**DET: Install SIPRNET outlets with 15 drops in the Organizational Classroom. **</BWF\_DET>** The SIPRNET building infrastructure shall use Category 6 UTP copper cables with red cable jacket and red outlet modules. Terminate cables in the SIPRNET room and at the outlet in accordance with the I3A Technical Criteria for data cables. Where copper cable runs exceed 295 ft, see guidance in paragraph "Building SIPRNET Communication Room – New Construction Guidance".
  - d) Incorporate Specifications Section 27 05 28.39, "SURFACE RACEWAYS FOR COMMUNICATION SYSTEMS" for the SIPRNET Communications System into the project. SIPRNET Draft Specifications are located in the SIPRNET Technical Implementation Criteria. Use the **surface mounted raceway** instead of the surface mounted conduit, unless otherwise indicated by the local NEC.
- 2) **Secure Video Teleconferencing VTC:** SIPRNET connectivity shall include secure video teleconferencing.

D. SECURITY INFRASTRUCTURE/SYSTEMS:

- 1) **Intrusion Detection (IDS):** Contractor shall install the necessary conduit, electrical power, and wiring, to support installation of an ICIDS system in each of the Arms Room and SIPRNet Room. The Government normally installs the signal devices and equipment necessary to activate the system. Contact the Physical Security Office for guidance.
- 2) **Door Status/Alarm Monitoring:** Provide a door monitoring systems consisting of a door status / alarm panel and door balanced magnetic switches. Each monitoring system shall provide door status/alarms on all required doors. System shall allow each door alarm to be individually activated or deactivated. Coordinate door status / alarm panel locations with Physical Security. Panels shall provide both audio and visual signal when alarm is activated.

E. MASS NOTIFICATION SYSTEMS: Provide a mass notification system with coverage throughout each facility and throughout the complex as required by UFC 4-010-01. The system shall be fully compatible with and integrated with the local Installation-wide Mass Notification System.

3.10. ELECTRICAL REQUIREMENTS

A. POWER:

- 1) Select electrical characteristics of the power system to provide a safe, efficient, and economical distribution of power, based upon the size and types of loads to be served. Use distribution and utilization voltages of the highest level that is practical for the load to be served.

2) Consider and accommodate the effect of nonlinear loads such as computers and other electronic devices as necessary. These loads generate harmonics, which can overload conventionally sized conductors or equipment and thereby cause safety hazards and premature failures. Equip circuits serving such devices with a separate neutral conductor not shared with other circuits. Panelboards and any dry type transformers shall be rated accordingly.

3) **Panels:** Provide electrical panels in accordance with established Army criteria.

4) **Outlets:** Provide power receptacles per NFPA 70 and in conjunction with the proposed equipment and furniture layouts. Provide power connectivity to each workstation / desk. Power poles shall not be used. Provide duplex receptacles adjacent to each duplex (voice/data) outlet and CATV outlet.

5) Provide a minimum of one 125-volt duplex receptacle per corridor at 18" AFF. No point along corridor wall shall be more than 25 ft from a receptacle.

6) Provide a minimum of two 125-volt duplex receptacles in each mechanical room in addition to NFPA 70 requirements and one in each electrical room.

**B. LIGHTING LEVELS, FIXTURES AND CONTROL:**

1) Lighting and lighting controls shall comply with the recommendations of the Illumination Engineering Society of North America (IESNA) and the requirements of ASHRAE 90.1.

2) Provide interior ambient illumination with a generally glare free, high quality lighting environment and conform to IESNA RP-1-04.

3) Provide lighting fixtures with dimming ballasts capable of dimming to five (5) percent in conference rooms and classrooms.

4) Provide a minimum illumination level of 30 foot-candles.

**C. LIGHTNING PROTECTION:** Lightning Protection System and Transient Voltage Surge Protection. Design in accordance with NFPA 780 and other referenced criteria. Provide transient voltage surge protection.

**D. GROUNDING.** Provide the ground counterpoise around the building perimeter for grounding incoming service, building steel, telephone service, piping, lightning protection, and internal grounding requirements. Provide ground straps where required by function and connect to the building grounding system. Provide additional grounding based on project requirements. Systems shall conform to NFPA 70 National Electrical Code, NFPA 780 Lightning Protection Code, local codes, and the US Army I3A Criteria.

**3.11. HEATING VENTILATING AND AIR CONDITIONING (HVAC) REQUIREMENTS**

**A. HVAC DESIGN CRITERIA:**

**1) Unit Location and Access:**

a) **Administrative Areas:** Serve Communications and SIPRNet rooms each by an independent and dedicated air-handling system. Air handling unit system(s) shall not be floor-space mounted within the actual space served. Rooms shall be maintained at 72 degrees F and 50 percent relative humidity year-round. Consult ISEC for current load of equipment in these rooms for BTU per hour for the equipment heat dissipation. Contractor shall verify this load during the design stage.

**2) Ventilation:**

a) **Readiness Module:** <BWF\_AC>The readiness module shall be heated and air conditioned. Indoor design temperature for heating shall be 55 degrees F, and for cooling the indoor design conditions shall be 80 degrees F dry bulb with a maximum 60 percent relative humidity. Whenever the indoor dry bulb temperature and/or the maximum relative humidity is exceeded, the air conditioning unit shall run, and shall continue to run until the design dry bulb temperature and the relative humidity requirements are satisfied. The air conditioning unit serving the readiness area shall be capable of providing outside air quantities, in accordance with ASHRAE 62.1, for the design people load of the readiness area. Arms vaults shall be cooled to 80 degrees F with room air to be 100% exhausted. Ventilation for Arms Vaults shall be provided in accordance with ASHRAE 62.1 requirements for storage rooms. <BWF\_AC><BWF\_AC\_NO>The readiness module shall be mechanically ventilated and heated. Separate air side equipment (heating, ventilation and air conditioning units) shall be provided for the readiness module. Indoor design temperature for heating shall be 55 degrees F, and for cooling

shall be 10 degrees F above outdoor 1 percent dry bulb design temperature. The ventilation unit serving the readiness area shall be capable of providing outside air quantities, in accordance with ASHRAE 62.1, for the design people load of the readiness area. Independent and dedicated packaged A/C units shall be provided for the Arms Vaults and Storage Areas. Ventilation for Arms Vaults shall be provided in accordance with ASHRAE 62.1 requirements for storage rooms. </BWF\_AC\_NO>

3) **Exhaust:** Provide exhaust ventilation for indoor air quality in accordance with ASHRAE 62.1. Provide exhaust in all toilet and shower rooms.

4) **Ductwork:** Ductwork design shall be in accordance with established Army criteria.

B. **TEMPERATURE CONTROLS:**

1) Provide administrative areas temperature-control by the DDC system. Temperature setpoint adjustment shall be accomplished via DDC System by authorized personnel.

2) Provide HVAC Controls in accordance with paragraph 5.8.3. See Appendix for HVAC Controls for typical control system points schedules. These schedules identify as a minimum points to be monitored and controlled by the building automation system (BAS). See paragraph 6 for any additional installation specific points. The points schedule drawings convey a great deal of information critical to the design, installation, and subsequent performance of the control system. It includes hardware input/output information, device ranges and settings, ANSI 709.1 communication protocol data, and information about data that is to be used at the operator workstation by the Monitoring and Control software. These schedules are available as an excel spread sheet and as AutoCAD drawings on the Engineering Knowledge Online (EKO) website <https://eko.usace.army.mil/fa/bas/>. Contractor shall develop point schedule of system types not addressed in the appendix, with sufficient detail to a level consistent to a similar listed system in the appendix. It is recommended that all of the guidance and instruction documents be reviewed prior to using any of the info, as the documents provide necessary and critical information to the use of the website drawings and other information.

C. **ZONING:** The admin area HVAC system design should include flexibility in zoning to where it can address future changes in occupant densities (e.g., a flight office suite converted to a conference room).

3.12. ENERGY CONSERVATION REQUIREMENTS

A. **GENERAL:** Comply with the current Energy Policy.

B. **ENERGY PERFORMANCE:** Design the building, including the building envelope, HVAC systems, service water heating, power, and lighting systems to achieve a non-plug load energy consumption that is at least 40% below the consumption of a baseline building meeting the minimum requirements of ANSI/ASHRAE/IESNA Standard 90.1. (Note: Plug loads shall be included in building energy modeling but are subtracted in the final calculation of Energy Performance. See section "Design After Award" for additional guidance.)

3.13. FIRE PROTECTION REQUIREMENTS

A. **GENERAL - STANDARDS AND CODES:** All fire protection and life safety features shall be in accordance with UFC 3-600-01 and the criteria referenced therein. BWF shall be classified as mission essential and shall be provided with sprinkler protection.

B. **FIRE PROTECTION - FIRE PROTECTION AND LIFE SAFETY ANALYSIS:** Provide a fire protection and life safety design analysis for all buildings in the project. The analysis shall be submitted with the project (plans) contract documents. The analysis shall include classification of occupancy (both per the IBC and NFPA 101); type of construction; height and area limitations (include calculations for allowable area increases); life safety provisions (exit travel distances, common path distances, dead end distances, exit unit width required and provided); building separation or exposure protection; specific compliance with NFPA codes and the IBC; requirements for fire-rated walls, doors, fire dampers, etc.; analysis of automatic suppression systems and protected areas; water supplies; smoke control systems; fire alarm system, including connection to the base-wide system; fire detection system; standpipe systems; fire extinguishers; interior finish ratings; and other pertinent fire protection data. The submittal shall include a life safety floor plan for all buildings in the project showing occupant loading, occupancy classifications and construction type, egress travel distances, exit capacities, areas with sprinkler protection, fire extinguisher locations, ratings of fire-resistive assemblies, and other data necessary to exhibit compliance with life safety code requirements.

1) **Fire Sprinkler Systems**

- a) **Sprinkler System.** Provide complete sprinkler protection for the BWF, including both Administrative Modules and Readiness Modules, designed in accordance with UFC 3- 600-01 and NFPA 13. Wet pipe sprinkler systems shall be provided in areas that are heated and dry pipe sprinkler systems shall be provided in areas subject to freezing. The Covered Hardstand, if separated by adequate distance per the IBC, Table 602, shall be considered a separate structure and shall not require sprinkler protection. The Covered Hardstand, if not separated by adequate distance per the IBC, Table 602, shall be considered to be part of the BWF and shall require sprinkler protection. The sprinkler system design shall be in accordance with UFC 3-600-01 and NFPA 13. The sprinkler hazard classifications shall be in accordance with UFC 3-600-01, NFPA 13, and other established Army criteria. Design densities, design areas and exterior hose streams shall be in accordance with UFC 3-600-01. The sprinkler systems shall be designed and all piping sized with computer generated hydraulic calculations. The exterior hose stream demand shall be included in the hydraulic calculations. A complete sprinkler system design, including sprinklers, branch lines, floor mains and risers, shall be shown on the drawings. The sprinkler system plans shall include node and pipe identification used in the hydraulic calculations. All sprinkler system drains, including main drains, test drains, and auxiliary drains, shall be routed to a 2-ft by 2-ft splash block at exterior grade.
- b) **Sprinkler Service Main and Riser.** Provide the sprinkler service main a dedicated line from the distribution main. Sprinkler service and domestic service shall not be combined. Provide the sprinkler service main with an exterior post indicator valve with tamper switch reporting to the fire alarm control panel (FACP). The ground floor entry penetration shall be sleeved per NFPA 13 requirements for seismic protection. The sprinkler entry riser shall include a double check backflow preventer, a fire department connection, and a wall hydrant for testing of backflow preventer. The sprinkler system shall include an indicating control valve for each sprinkler system riser, a flow switch reporting to the FACP, and an exterior alarm bell. All control valves shall be OS&Y gate type with tamper switches connected to the FACP. Provide facilities with multiple floors with floor control valves for each floor. The floor control valve assembly shall be in accordance with UFC 3-600-01, Figure 4-1.
- c) **Exterior Hose Stream.** Provide exterior hose stream demand in accordance with UFC 3-600-01. Include exterior hose stream demand in the sprinkler system hydraulic calculations.
- d) **Backflow Preventer.** Provide a double check backflow preventer on the fire water main serving each building. This shall be located within the building. An exterior wall hydrant with dual hose connections with OS&Y valve shall be provided to allow testing of backflow preventer at design flow as required by NFPA 13.
- e) **Fire Department Connection.** Provide a fire department connection for each building with sprinkler protection. These shall be located to be directly accessible to the fire department.
- f) **System Components and Hardware.** Provide materials for the sprinkler system, fire pump system, and hose standpipe system in accordance with NFPA 13 and NFPA 20.
- g) **Protection of Piping Against Earthquake Damage.** Protect sprinkler and fire pump piping systems against damage from earthquakes. Seismic protection shall include flexible and rigid couplings, sway bracing, seismic separation assemblies where piping crosses building seismic separation joints, and other features as required by NFPA 13 for protection of piping against damage from earthquakes.
- h) **Fire Water Supply.** Fire flow test data is provided in Appendix D.
- i) **Fire Pump.** The requirement for a fire pump installation shall be determined by the Contractor based on fire flow test data from the project site and fire protection system design requirements for the project. If required a complete fire pump installation shall be provided for the facility. It shall comply with the requirements of UFC 3-600-01, NFPA 13 and NFPA 20. The Contractor shall submit fire pump design analysis and drawings in the design requirements.

2) **Suppression Systems:** Suppression systems, if required, shall comply with all established Army criteria and codes.

C. **FIRE DETECTION AND ALARM SYSTEMS:** All initiating devices shall be connected, Class A, Style 6, to signal line circuits (SLC). Connect all alarm appliances to notification appliance circuits (NAC), Class A. Provide a looped conduit system so that if the conduit and all conductors within are severed at any point, all NAC and SLC shall remain functional. Breakglass manual fire alarm stations shall not be used. Provide over-voltage and surge protection at the input power of all panels.

1) **Software:**

a) Fire Detection and Alarm Refer to Paragraph 3.9 Communication Systems and 3.10, Electrical Requirements, for requirements.

b) Coordinate software requirements with Authority Having Jurisdiction (AHJ).

2) **Smoke Detectors:**

a) Design to provide upon operation of a manual station or duct mounted smoke detector an alarm initiate, and exhaust and supply fans shut down. Provide a transmitter for a coded alarm signal to the fire station.

b) Provide a fire alarm and detection system for this facility. It shall comply with the requirements of UFC 3-600-01 and NFPA 72. The system shall be addressable and fully compatible with and integrated with the local Installation wide Fire Alarm System.

c) Install smoke detectors in accordance with established Army criteria and codes.

3.14. SEE PARAGRAPHS 6.14 SUSTAINABLE DESIGN – NOT USED

3.15. SEE PARAGRAPH 6.15 ENVIRONMENTAL – NOT USED

3.16. SEE PARAGRAPH 6.16 PERMITS – NOT USED

3.17. SEE PARAGRAPH 6.17 DEMOLITION – NOT USED`

3.18. SEE PARAGRAPH 6.18 ADDITIONAL FACILITIES – NOT USED

3.19. EQUIPMENT AND FURNITURE REQUIREMENTS

3.19.1. FURNISHINGS

A. GENERAL: Provide furniture design for all spaces, including existing furniture and equipment to be re-used. Coordinate with the user to define requirements for furniture systems, movable furniture, equipment, existing items to be re-used, storage systems, etc. Early coordination of furniture schedule is required so the facility is complete and usable at turnover. Furniture procurement is not included in this contract.

B. FURNITURE LIST / CHARTS: Provide furniture as described in furniture list below paragraph 3.19.1.B. 1).

SAMPLE

Table 3, Paragraph 3.19.1.B.1 - Furnishings Chart

Room	Description	Comments	Furniture Required
P3	Commander	PRIVATE OFFICE	<del>U-shaped executive desk with one box/box/file pedestal and one 2-drawer lateral file pedestal. One 4-drawer lateral file and one 2-drawer lateral file/bookcase combination unit. L-shaped executive desk with two pedestals. Two 4-drawer lateral files, one One</del> conference table, four conference chairs, two guest chairs, one executive chair.
P4	Superintendent, Senior Enlisted Advisor, Director of Operations	PRIVATE OFFICES	L-shaped double pedestal desk unit, <del>double pedestal credenza,</del> two 4-drawer lateral files, two guest chairs, one executive chair.
X	Executive Admin	OPEN OFFICE	Systems furniture workstation with work surfaces, file drawers, <del>overhead storage, and personal storage tower, and overhead storage.</del>
RA	Reception Area (SQDN Only)	RECEPTION AREA	Systems furniture open office area for one (1) staff member and six (6) visitors (six guest chairs).
ST	File Storage	FILE STORAGE	Two <del>5-drawer 4-drawer</del> lateral files
CM	Conference Room, Large SQDN Only	CONFERENCE ROOM	Conference Table to accommodate twelve persons, 12 conference chairs with casters, and 12 side chairs with arms.
CS	Conference Room, Small SQDN Only	CONFERENCE ROOM	Conference Table to accommodate eight persons, <del>eight -(8)</del> conference chairs w/casters, and eight (8) side chairs with arms.
SP5	Semi-Private Office	SEMI-PRIVATE OFFICE	Systems furniture double workstation with work surfaces, file drawers, <del>overhead storage, and personal storage towers, and overhead storage.</del>
OR	Open Office	OPEN OFFICE	Systems furniture workstation with work surfaces, file drawers, <del>overhead storage, and personal storage tower, and overhead storage.</del>
ST	General Purpose Storage	STORAGE ROOM	Industrial shelving full width of one wall, 16inches (d); four (4) shelves, wall mounted.
SIPR (including SFC, CCI FC)	SIPR, Secure Files Storage, COMSEC/ CCI File Storage	SIPR Café	Systems furniture double workstation with work surfaces, file drawers, <del>overhead storage, and personal storage towers, and overhead storage.</del> One <del>5-drawer 4-drawer</del> lateral file; and four (4) lockable metal cabinets with shelves.
PC	Printer/Copier Station	PRINTER / COPIER	Eight (8) ft long counter space with built-in shelving below.

BR	Break Room	BREAK ROOM	Min. 12. LF base and wall cabinets, dishwasher and commercial grade refrigerator with ice-maker.
CCL/CLM	Organizational Classroom- Large SQDN Only	CLASSROOM	Desks and chairs for 30 persons.
CCL/CLM	Organizational Classroom	CLASSROOM	Desks and chairs for 15 persons.
LOB	Lobby	LOBBY	Two (2) Side Chairs with one (1) low side table.
ARMS VAULT	Arms Vault	CONSTRUCTED IN ACCORDANCE WITH AR 190-11, APP G.	One (1) desk unit consisting of: <del>double pedestal metal desk w/ one box/box/file pedestal and one file/file pedestal, single pedestal metal desk w/ box, box, file pedestal;</del> one (1) ergonomic task chair; one (1) three shelf bookcase for manuals; one <del>5-drawer 4-drawer</del> file cabinet, and one (1) work bench.
MP-W (with RADIO MAINT.)- LG SQDN, LG DET	Multi-Purpose Room with Radio Maintenance Area	MULTI-PURPOSE ROOM WITH BENCH	Bench Maintenance workstation
MP-W (with RADIO MAINT.) SMALL SQDN, SMALL DET	Multi-Purpose Room with Radio Maintenance Area	MULTI-PURPOSE ROOM WITH BENCH	Bench Maintenance workstation
COMMST	Communications Storage	STORAGE ROOM	Industrial shelving full length of one wall x16inches (d); four (4) shelves, wall mounted.
NBC	NBC Storage	STORAGE ROOM	Four (4) lockable metal cabinets with shelves
NSSS	Non-Sensitive Secure Storage	STORAGE ROOM	Four (4) lockable metal cabinet with shelves and industrial shelving approximately five (5) ft (w) x four (4) ft (d) x six (6) ft (h) each – two (2) EA.
UNITST	Unit Storage	STORAGE ROOM	Industrial shelving approximately five (5) ft (w) x four (4) ft (d) x six (6) ft (h) each – two (2) EA.
BAMS	TA-50 Storage	STORAGE ROOM	42 -inches (w) x one 24 inches (d) x 78inches (h) <del>metal wire</del> locker; one (1) per each authorized military personnel.

SHWR-M	Shower Rooms- Men	SHOWER ROOM	12 inches (w) x 18 inches (d) x 36" (h) locker; three (3) per each shower. Include fixed bench, one (1) LF of bench per every three (3) authorized military personnel.
SHWR-W	Shower Rooms- Women	SHOWER ROOM	12 inches (w) x 18 inches (d) x 36 inches (h) locker; three (3) per each shower. Include fixed bench, 1 LF of bench per every (3) authorized military personnel.

SAMPLE

C. WINDOW TREATMENT: Provide and install horizontal aluminum window blinds in all windows.

### 3.19.2. EQUIPMENT

A. AUDIO/VISUAL EQUIPMENT:

1) **Projectors**

a) **Audio/Visual Systems**. Provide a power receptacle and conduit for signal wiring for a Government-furnished Government-installed projector in conference room.

b) Coordinate with Government on GFGI item requirements and provide suitable structural support, brackets for projectors/VCRs/TVs, all utility connections and space with required clearances for all GFGI items. All computers and related hardware, copiers, faxes, printers, video projectors, VCRs and TVs are GFGI.

B. PROCESSING AND HANDLING EQUIPMENT:

1) **Cranes & Lifts**: Cranes and lifts are not required.

2) **Loading Dock Equipment**: A Loading Dock is not required.

### 3.20. FACILITY SPECIFIC REFERENCES:

A. Reference Acronyms:

1) Air Movement and Control Association (AMCA)

2) American National Standards Institute (ANSI)

3) Army Regulation (AR)

4) National Fire Protection Association (NFPA)

5) Unified Facilities Criteria (UFC)

B. AA-D-600D Federal Spec Door, Vault, Security

C. AMCA 500-D Laboratory Methods of Testing Dampers for Rating

D. AMCA 511 Certified Ratings Program - Product Rating Manual for Air Control Devices

E. ANSI / SDI A 250.8 Recommended Specifications for Standard Steel Doors and Frames

F. AR 115-10 Weather Support for the US Army

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

H. AR 190-13 The Army Physical Security Program

I. AR 190-51, Security of Unclassified Army Property (Sensitive and Non-sensitive)

J. AR 380-19 Information Systems Security

K. AR 380-40 Safeguarding and Controlling Communications Security Material

L. AR 380-5 Information Security Program

M. Fed Spec AA-V-2737, Modular Vault Systems

N. UFC 3-301-01 Structural Engineering.

O. UFC 3-580-01 Telecommunications Building Cabling Systems Planning and Design

**ATTACHMENT A**  
**BWF SPACE PROGRAM**  
**and LAYOUTS**

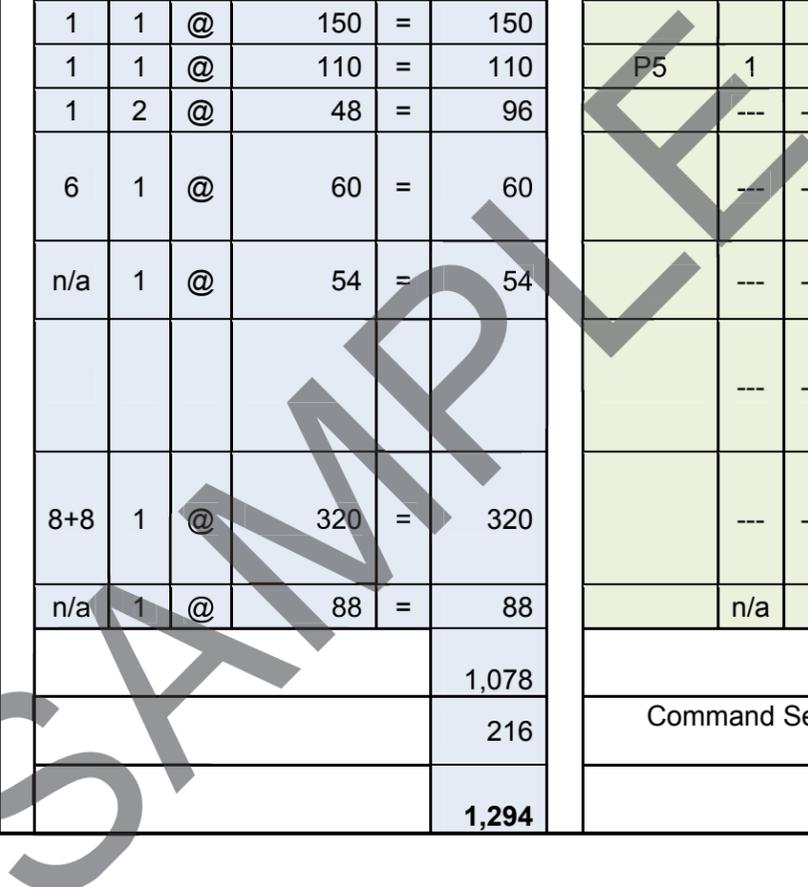
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SAMPLE

**SPACE PROGRAMS**

Functional Area	SQUADRON COMMAND GROUP												DETACHMENT COMMAND OFFICES													
	Program Code <sup>1</sup>	85 PN SQUADRON						50 PN SQUADRON						Program Code <sup>1</sup>	60 PN DETACHMENT						40 PN DETACHMENT					
		Capacity (PN)	No. of Spaces		Space/PN		Total Space	Capacity (PN)	No. of Spaces		Space/PN		Total Space		Capacity (PN)	No. of Spaces		Space/PN		Total Space	Capacity (PN)	No. of Spaces		Space/PN		Total Space
Commander	P3	1	1	@	200	=	200	1	1	@	200	=	200	P4	1	1	@	150	=	150	1	1	@	150	=	150
Superintendent	P4	1	1	@	150	=	150	1	1	@	150	=	150													
First Sergeant	P5	1	1	@	110	=	110	1	1	@	110	=	110	P5	1	1	@	110	=	110	1	1	@	110	=	110
Executive Admin	X	1	2	@	48	=	96	1	2	@	48	=	96													
Command Group Reception Area, SQDN only	RA	6	1	@	60	=	60	6	1	@	60	=	60													
Private Restroom (SQDN only)	PRI-BATH	n/a	1	@	54	=	54	n/a	1	@	54	=	54													
Command Conference Room, Large SQDN only	CM	12+12	1	@	480	=	480																			
Command Conference Room, Small SQDN only	CS							8+8	1	@	320	=	320													
File Storage	ST	n/a	1	@	88	=	88	n/a	1	@	88	=	88		n/a	1	@	88	=	88	n/a	1	@	88	=	88
Command Group, SF Area Subtotal							1,238								Area Subtotal							348				
Command Group, Internal Circulation at 20%							248								Command Section Internal Circ'n @ 20%							70				
Command Group, Total SF Area							<b>1,486</b>								Command Area Total							<b>418</b>				

Command Group (certain spaces SQDN ONLY)



**FLIGHT ADMINISTRATION BAY**

		SQUADRON										DETACHMENT															
		85 PN SQUADRON					50 PN SQUADRON					60 PN DETACHMENT					40 PN DETACHMENT										
		CODE	PN	SPACES	SF	= TOTAL SF	PN	SPACES	SF	= TOTAL SF	CODE	PN	SPACES	SF	= TOTAL SF	PN	SPACES	SF	= TOTAL SF								
Directors	Director of Flight Operations	P4	1	1	@	150	=	150	1	1	@	150	=	150	P4	1	1	@	150	=	150	1	1	@	150	=	150
	Assistant Dir. Of Flight Ops (SQDN only)	P5	1	1	@	110	=	110	1	1	@	110	=	110	---	---	---					---	---				
Semi-Private Offices	Operations Support Flight	SP4	2	1	@	150	=	150	2	1	@	150	=	150	---	---	---					---	---				
	Flight A	SP4	2	1	@	150	=	150	2	1	@	150	=	150	SP4	2	1	@	150	=	150	2	1	@	150	=	150
	Flight B	SP4	2	1	@	150	=	150	2	1	@	150	=	150	SP4	2	1	@	150	=	150	2	1	@	150	=	150
	Flight C	SP4	2	1	@	150	=	150	---	---					SP4	2	1	@	150	=	150	---	---				
	Flight D	SP4	2	1	@	150	=	150	---	---					---	---	---					---	---				
Open Office Space <sup>2</sup>	Operations Support Flight	OR	1	13	@	48	=	624	1	10	@	48	=	480	OR	1	5	@	48	=	240	1	4	@	48	=	192
	Standardization/Eval	OR	1	2	@	48	=	96	---	---					---	---	---					---	---				
	Flight A	OR	1	13	@	48	=	624	1	13	@	48	=	624	OR	1	15	@	48	=	720	1	14	@	48	=	672
	Flight B	OR	1	13	@	48	=	624	1	13	@	48	=	624	OR	1	15	@	48	=	720	1	14	@	48	=	672
	Flight C	OR	1	13	@	48	=	624	---	---					OR	1	15	@	48	=	720	---	---				
	Flight D	OR	1	13	@	48	=	624	---	---					---	---	---					---	---				
	Open Office Circulation (60%)						1,930						1,037						1,440						922		
Flight Admin, SF Area Subtotal					6,156						3,475	Area Subtotal					4,440						2,908				
Flight Admin, (additional) Internal Circulation at 20%					123 1						695	Internal Circulation @ 20%					888						582				
Flight Admin, Total SF Area					<b>7,387</b>						<b>4,170</b>	Area Total					<b>5,328</b>						<b>3,489</b>				

### ADMIN SUPPORT AREAS

		SQUADRON											DETACHMENT														
		85 PN SQUADRON						50 PN SQUADRON					60 PN DETACHMENT						40 PN DETACHMENT								
		CODE	PN	SPACES		SF	= TOTAL SF	PN	SPACES		SF	= TOTAL SF	CODE	PN	SPACES		SF	= TOTAL SF	PN	SPACES		SF	= TOTAL SF				
Admin Support Areas	General Purpose Storage	ST	n/a	1	@	96	=	96	n/a	1	@	96	=	96	ST	n/a	1	@	96	=	96	n/a	1	@	96	=	96
	File Storage	FC	n/a	1	@	88		88	n/a	1	@	88		88	FC	n/a	1	@	88		88	n/a	1	@	88		88
	SIPR Café	SIPR	4	1	@	200	=	200	4	1	@	200	=	200	SIPR	4	1	@	200	=	200	4	1	@	200	=	200
	Secure Files Storage	n/a						in SIPR						in SIPR	n/a						in SIPR						in SIPR
	COMSEC / CCI File Storage	n/a						in SIPR						in SIPR	n/a						in SIPR						in SIPR
	Printer / Copier Station	PC	n/a	3	@	96	=	288	n/a	2	@	96	=	192	PC	n/a	2	@	96	=	192	n/a	1	@	96	=	96
	Break Room	BR	n/a	1	@	108	=	108	n/a	1	@	108	=	108	BR	n/a	1	@	108	=	108	n/a	1	@	108	=	108
	Organizational Classroom	CLM / CLS	30	1	@	800	=	800	30	1	@	800	=	800	TRN	30	1	@	600	=	600	30	1	@	600	=	600
	Common Areas, Total SF Area											Area Total															
							1,580											1,284									
	Admin Support Areas Internal Circulation at 20%											Internal Circulation @ 20%															
							316											257									
Admin Support, Total											Admin Support, Total																
						<b>1,896</b>											<b>1,781</b>										
<b>Total ADMIN AREA: includes Command Group, Flight Admin and Admin Support</b>											<b>Total ADMIN AREA: includes Command Group, Flight Admin and Admin Support</b>																
						<b>10,768</b>											<b>7,244</b>										
Total ADMIN NSF per PN											Total ADMIN NSF per PN																
						<b>127</b>											<b>145</b>										
											Total ADMIN NSF per PN																
																	<b>121</b>										
																	<b>133</b>										

**READINESS MODULE**

**Personnel Support Bay**

		SQUADRON										DETACHMENT															
		85 PN SQUADRON					50 PN SQUADRON					60 PN DETACHMENT					40 PN DETACHMENT										
Personnel Support Bay	BAMS Locker Space	TA-50	n/a	84	@	18	=	1,512	n/a	49	@	18	=	882	TA-50	n/a	59	@	18	=	106 2	n/a	39	@	18	=	702
	Shower Rooms-Men <sup>4</sup>	SHWR	n/a	1	@	551	=	551	n/a	1	@	351	=	351	SHWR	n/a	1	@	<REV> 414	=	414	n/a	1	@	<REV> 293	=	293
	Shower Rooms-Women <sup>4</sup>	SHWR	n/a	1	@	260	=	260	n/a	1	@	141	=	141	SHWR	n/a	1	@	197	=	197	n/a	1	@	156	=	156
	Readiness and Personnel Support Bay, SF Area Subtotal								2,322						1,374	Area Subtotal					1,673						1,151
	Readiness and Personnel Support Bay Internal Circulation at 20%								464						275	Internal Circ'n @ 20%					335						231
	Readiness and Personnel Support Bay, Total SF Area								<b>2,786</b>						<b>1,649</b>	Area Total					<b>2,008</b> </REV>						<b>1,382</b> </REV>

**Unit Equipment Bay**

		SQUADRON										DETACHMENT														
		85 PN SQUADRON					50 PN SQUADRON					60 PN DETACHMENT					40 PN DETACHMENT									
Functional Area	Program Code <sup>1</sup>	Capacity (PN)	No. of Spaces		Space / PN	Total Space	Capacity (PN)	No. of Spaces		Space / PN	Total Space	Program Code <sup>1</sup>	Capacity (PN)	No. of Spaces		Space / PN	Total Space	Capacity (PN)	No. of Spaces		Space / PN	Total Space				
Arms Vault	ARMS	n/a	1	@	400	=	400	n/a	1	@	300	=	300	ARMS	n/a	1	@	400	=	400	n/a	1	@	300	=	300
Radio Maintenance	Include NSF in Multi-Purpose Area	n/a	1	@	48	=	48	n/a	1	@	48	=	48	Include in Multi-Purpose Area	n/a	1	@	48	=	48	n/a	1	@	48	=	48
Multi-Purpose Area (with space for Radio Maint.)	MP-W	n/a	2	@	256	=	512	n/a	1	@	256	=	256	MP-W	n/a	1	@	256	=	256	n/a	1	@	256	=	256
Communications Storage	COMMST	n/a	1	@	94	=	94	n/a	1	@	94	=	94	COMMST	n/a	1	@	94	=	94	n/a	1	@	94	=	94
NBC Storage	NBC	n/a	1	@	94	=	94	n/a	1	@	94	=	94	NBC	n/a	1	@	94	=	94	n/a	1	@	94	=	94
Secure Storage for Non-Sensitive Items <sup>3</sup>	NSSS	n/a	1	@	525	=	525	n/a	1	@	400	=	400	NSSS	n/a	1	@	400	=	400	n/a	1	@	325	=	325
Unit Storage	UNITST	n/a	1	@	500	=	500	n/a	1	@	250	=	250	UNITST	n/a	1	@	300	=	300	n/a	1	@	200	=	200
Readiness Module, SF Area Subtotal								2,173						1,442	Area Subtotal					1,592						1,317
Readiness Module, (additional) Internal Circulation at 20%								435						288	Internal Circ'n @ 20%					318						263
Readiness Module, Total SF Area								<b>2,608</b>						<b>1,730</b>	Area Total					<b>1,910</b>						<b>1,580</b>

### BUILDING SUPPORT AREAS

		SQUADRON										DETACHMENT												
		85 PN SQUADRON					50 PN SQUADRON					60 PN DETACHMENT					40 PN DETACHMENT							
		CODE	PN	SPACES	SF	= TOTAL SF	PN	SPACES	SF	= TOTAL SF	CODE	PN	SPACES	SF	= TOTAL SF	PN	SPACES	SF	= TOTAL SF					
Building Support	Mechanical		n/a	1 @	1000	=	1000	n/a	1 @	590	=	590		n/a	1 @	590	=	590	n/a	1 @	590	=	590	
	Electrical Room(s)		n/a	2 @	96	=	192	n/a	2 @	96	=	192		n/a	2 @	96	=	192	n/a	2 @	96	=	192	
	2nd Floor Public Restrooms	PUBREST-M	n/a	1 @	143	=	143	n/a	1 @	143	=	143		n/a	1 @	143	=	143	n/a	1 @	143	=	143	
	2nd Floor Public Restrooms	PUBREST-W	n/a	1 @	135	=	135	n/a	1 @	113	=	113		n/a	1 @	135	=	135	n/a	1 @	113	=	113	
	Communication Rooms		n/a	2 @	96	=	192	n/a	2 @	96	=	192		n/a	2 @	96	=	192	n/a	2 @	96	=	192	
	Lobby or Entry Area	LOB	n/a	1 @	144	=	144	n/a	1 @	144	=	144		LOB	n/a	1 @	144	=	144	n/a	1 @	144	=	144
	Common Areas, Total SF Area					<b>1,806</b>						<b>1,373</b>	Area Total					<b>1,396</b>						<b>1,373</b>

### TOTAL BUILDING AREAS

		85 PN SQUADRON		50 PN SQUADRON		60 PN DETACHMENT		40 PN DETACHMENT	
Total Building Area	Administration Module:		1,486	Administration Module:	1,294	Administration:	418	Administration:	418
	Flight Admin Bay:		7,387	Fight Admin Bay:	4,170	Fight Admin Bay:	5,328	Fight Admin Bay:	3,489
	Admin Support Areas:		1,896	Admin Support Areas:	1,781	Admin Support Areas:	1,541	Admin Support Areas:	1,426
	Unit Equipment Support Bay:		2,608	Equipment Support Bay:	1,730	Equipment Support Bay:	1,910	Equipment Support Bay:	1,580
	Personnel Support Bay:		2,786	Personnel Support Bay:	1,649	Personnel Support Bay:	<REV> 2,008 </REV>	Personnel Support Bay:	<REV> 1,382 </REV>
	Common Areas (Building Support):		1,806	Common Areas:	1,373	Common Areas:	1,396	Common Areas:	1,373
	Building Subtotal:		17,968	Subtotal	11,551	Subtotal	<REV> 12,600 </REV>	Subtotal	<REV> 9,667 </REV>
	10% Grossing Factor (wall thickness, Intra-Office Circulation, structure):		1,797	10% Circ/ext. wall, etc.	1,202	10% Circ/ext. wall, etc.	1,260	10% Circ/ext. wall, etc.	967
	Total <REV> Gross </REV> Building Area:		<b>19,765</b>	Total <REV> Gross </REV> Building Area	<b>13,226</b>	Total <REV> Gross </REV> Building Area	<REV> 13,860 </REV>	Total <REV> Gross </REV> Building Area	<REV> 10,634 </REV>
	<REV> Total Maximum Allowable Gross Area:		<b>19,800</b>		<b>13,300</b>		<b>13,900</b>		<b>10,700</b> </REV>

**Numbered Notes:**

- 1 See following BWF Space Allocation Table for explanation of Program Codes.
- 2 Open Office space for Flights is calculated at 48 SF/person (6' X 8' cubicles). The Open Office Circulation number that appears below adds a 60% circulation factor for the cubicle space. The additional Inter-office circulation number of 20% is added below to accommodate circulation between the Open Office area and adjacent office spaces.
- 3 This assumes 14 TMQ-53s for SQDNs, 8 for DETs
- 4 Lavatory, Urinal and Water Closet fixture counts based on the International Plumbing Code, Table 403.1. Shower stall fixture counts based on the Army Standard requirement that all personnel must shower within a 45 min. period. Male to Female ratios are also defined by the Army Standard. Per Army Standard, population for SQDN and DET is at a ratio of 75:25, men to women. The Large SQDN has 64 Men (11 shower stalls, 2 WC, 1 Urinal, 2 Lav) and 21 Women (4 shower stalls, 2 WC, 2 Lav). The Small SQDN has 38 Men (7 shower stalls, 1 WC, 1 Urinal, 2 Lav) and 12 Women (2 shower stalls, 1 WC, 1 Lav). The Large DET has 45 Men (8 showers stalls, 2 WC, 1 Urinal, 2 Lav) and 15 Women (3 shower stalls, 2 WC, 2 Lav). The Small DET has 30 Men (5 shower stalls, 1 WC, 1 Urinal, 1 Lav) and 10 Women (2 shower stalls, 2 WC, 2 Lav).

		85 PN SQUADRON				50 PN SQUADRON				60 PN DETACHMENT				40 PN DETACHMENT													
		CODE	PN	SPACES	NSF	= TOTAL SF	PN	SPACES	NSF	= TOTAL SF	CODE	PN	SPACES	NSF	= TOTAL SF	PN	SPACES	NSF	= TOTAL SF								
Shower Room Calculations	Men's Shower Room	Showers	64	11 @	15 =	165	38	7 @	15 =	105	45	8 @	15 =	120	30	5 @	15 =	75									
		WC		2 @	15 =	30		1 @	15 =	15		2 @	15 =	30		2 @	15 =	30									
		Urinal		2 @	10 =	20		1 @	10 =	10		1 @	10 =	10		1 @	10 =	10									
		Lav		2 @	10 =	20		2 @	10 =	20		2 @	10 =	20		2 @	10 =	20									
		Lockers		33 @	4 =	132		21 @	4 =	84		24 @	4 =	96		15 @	4 =	60									
		Subtotal						367					234					276									195
					Internal Circulation (50%)				183.5				138							98							
					Restroom Total:				<b>550.5</b>				<b>414</b>							<b>293</b>							
	Women's Shower Room	Showers	21	4 @	15 =	60	12	2 @	15 =	30	15	3 @	15 =	45	10	2 @	15 =	30									
		WC		3 @	15 =	45		2 @	15 =	30		2 @	15 =	30		2 @	15 =	30									
Lav		2 @		10 =	20	1 @		10 =	10	2 @		10 =	20	2 @		10 =	20										
Lockers		12 @		4 =	48	6 @		4 =	24	9 @		4 =	36	6 @		4 =	24										
Subtotal						173						94					131								104		
						Internal Circulation (50%)						87					66									52	
				Restroom Total:				<b>260</b>				<b>197</b>							<b>156</b>								
2nd Floor Restroom Calculations	Men's 2nd Floor Public Restrooms	WC		3 @	15 SF	45		3 @	15 SF	45		3 @	15 SF	45		3 @	15 SF	45									
		Urinal		2 @	10 SF	20		2 @	10 SF	20		2 @	10 SF	20		2 @	10 SF	20									
		Lav		3 @	10 SF	30		3 @	10 SF	30		3 @	10 SF	30		3 @	10 SF	30									
		Subtotal						95					95					95								95	
								Internal Circulation (50%)					48					48									48
								Restroom Total:					<b>143</b>					<b>143</b>									<b>143</b>
	Women's 2nd				85 PN SQUADRON				50 PN SQUADRON				60 PN DETACHMENT							40 PN DETACHMENT							

Floor Public Restrooms	WC	4	@	15	SF	60	3	@	15	SF	45	WC	4	@	15	SF	60	3	@	15	SF	45		
	Lav	3	@	10	SF	30	3	@	10	SF	30	Lav	3	@	10	SF	30	3	@	10	SF	30		
	Subtotal					90	Subtotal					90	Subtotal					90	Subtotal					75
	Internal Circulation (50%)					45	Internal Circulation (50%)					45	Internal Circulation (50%)					45	Internal Circulation (50%)					38
	Restroom Total:					<b>135</b>	Restroom Total:					<b>113</b>	Restroom Total:					<b>135</b>	Restroom Total:					<b>113</b>

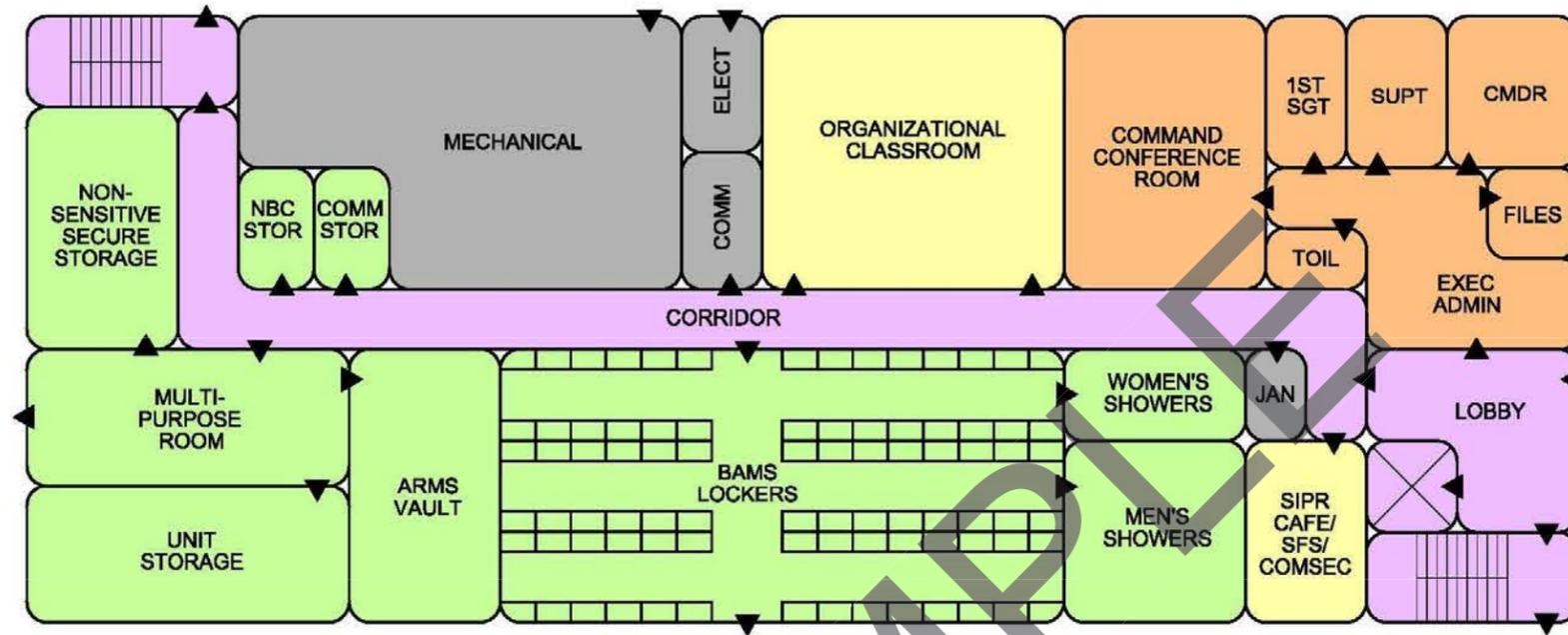
SAMPLE

EXTERNAL FUNCTIONAL ELEMENTS																
External	Functional Element	Code	85 PN SQUADRON			50 PN SQUADRON			60 PN DETACHMENT				40 PN DETACHMENT			
			Item	RQMT	Unit	Item	RQMT	Unit	Code	Item	RQMT	Unit	Item	RQMT	Unit	
	Exterior TMQ-53 Training Area on grass or dirt, no concrete or asphalt	XTA		3 TQM-53's, 16 feet by 16 feet each	768	NSF	3 TQM-53's	768	NSF	XTA	3 TQM-53's	768	NSF	3 TQM-53's	768	NSF
	Privately Owned Vehicle (POV) Parking	POV		90% POV	2,678	Sq. Yds.	90% POV	1,575	Sq. Yds.	POV	90% POV	1,890	Sq. Yds.	90% POV	1,260	Sq. Yds.
	Organizational Vehicle Parking	ORGP		20 HWMMVs & Trailers	2,524	Sq. Yds.	15 HWMMVs & Trailers	1,607	Sq. Yds.	ORGP	20 HWMMVs & Trailers	2,330	Sq. Yds.	10 HWMMVs & Trailers	1,337	Sq. Yds.
Organizational Vehicle Parking Apron	PKAPRN			126	Sq. Yds.		126	Sq. Yds.	PKAPRN		126	Sq. Yds.		126	Sq. Yds.	

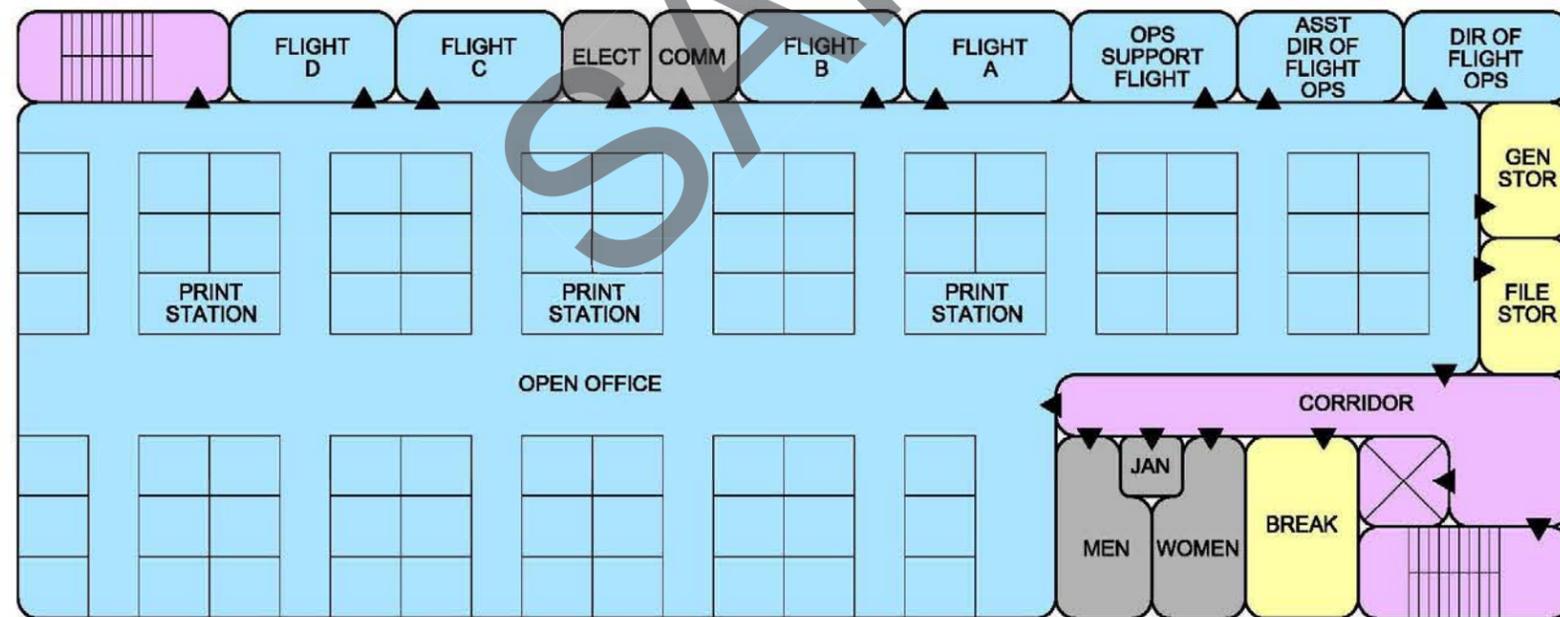
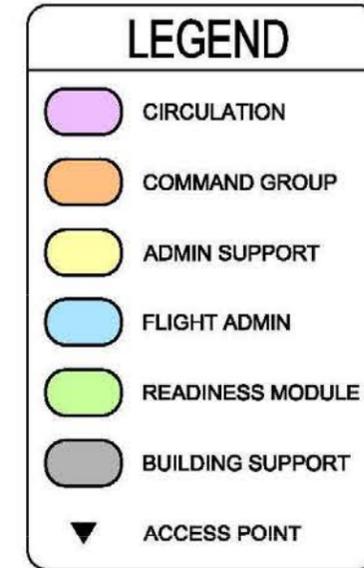
SAMPLE

# LAYOUTS

## 85 PN SQUADRON

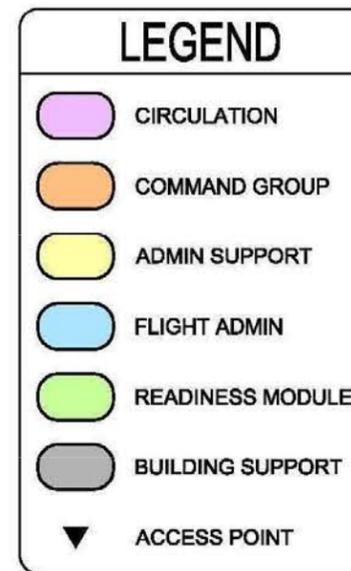
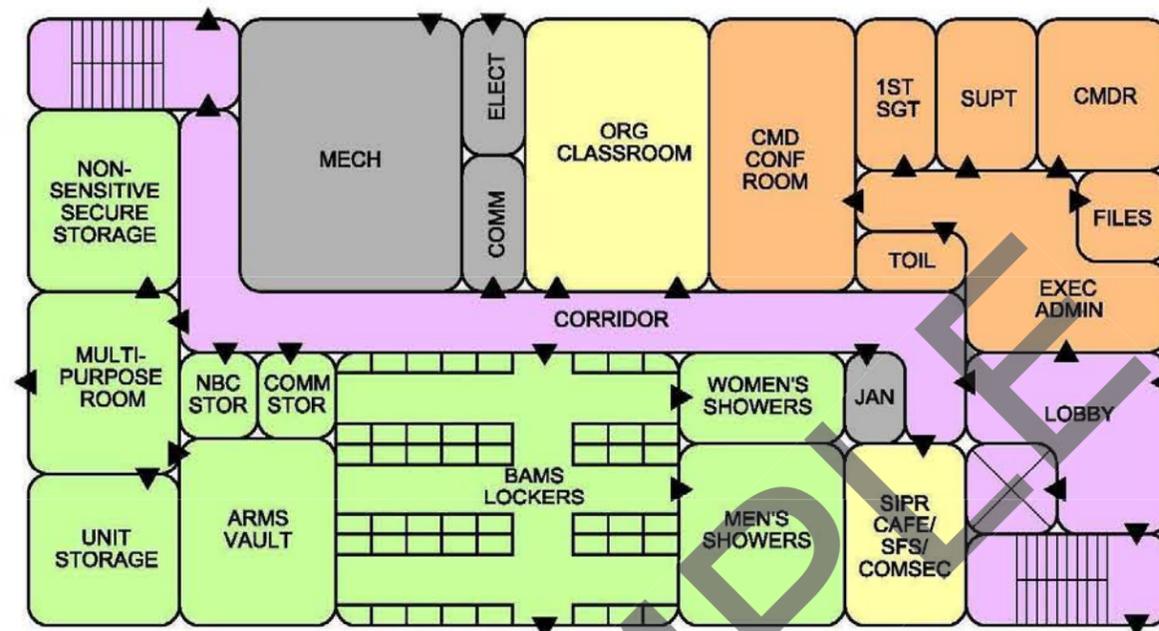


LOWER LAYOUT

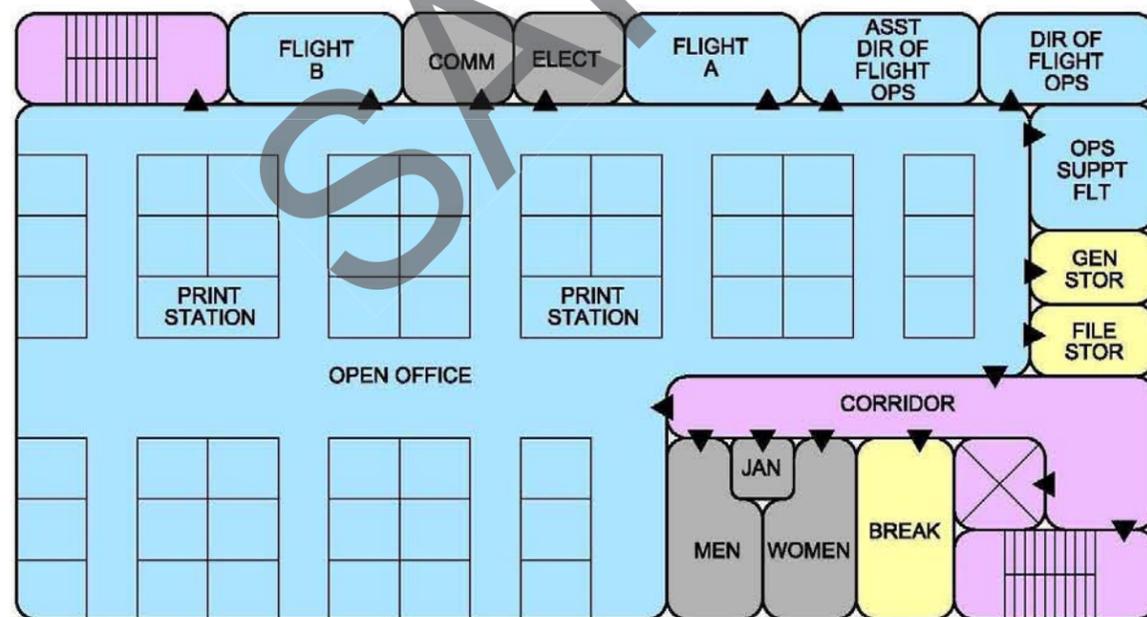


UPPER LAYOUT

# 50 PN SQUADRON

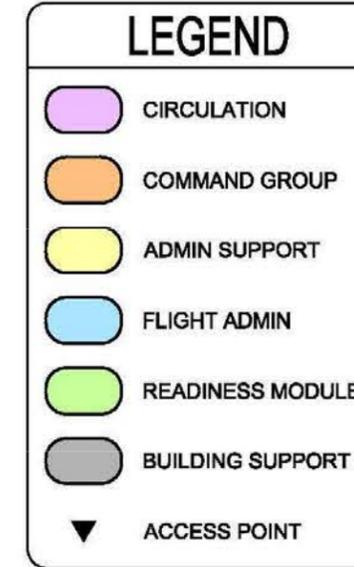
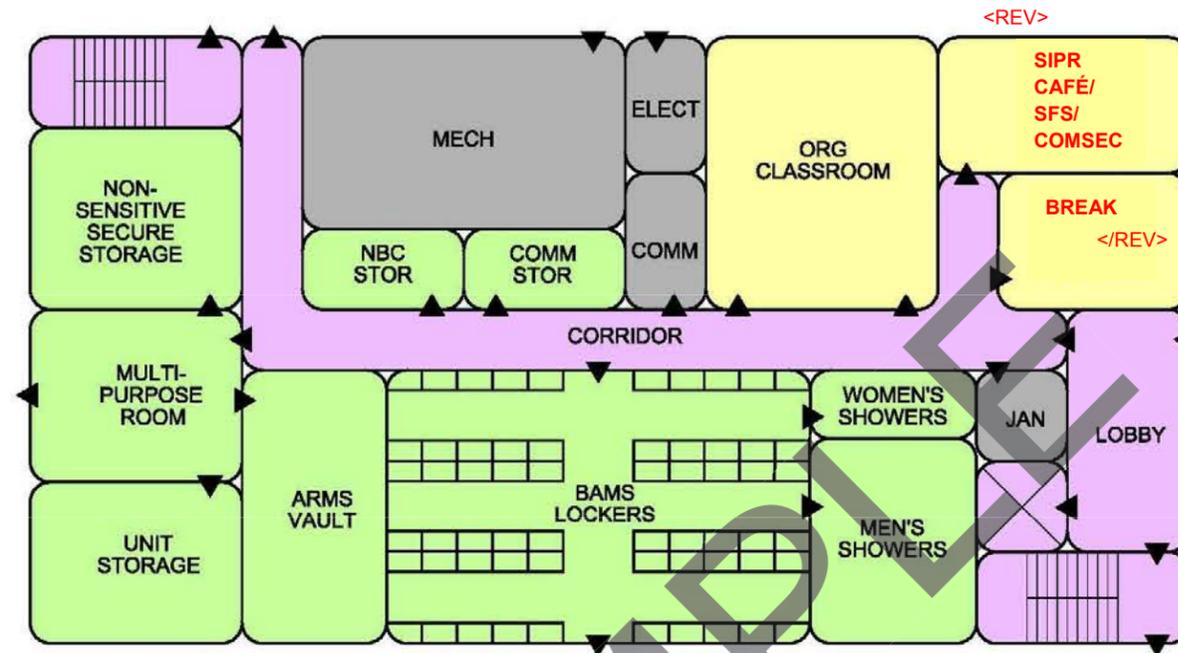


LOWER LAYOUT

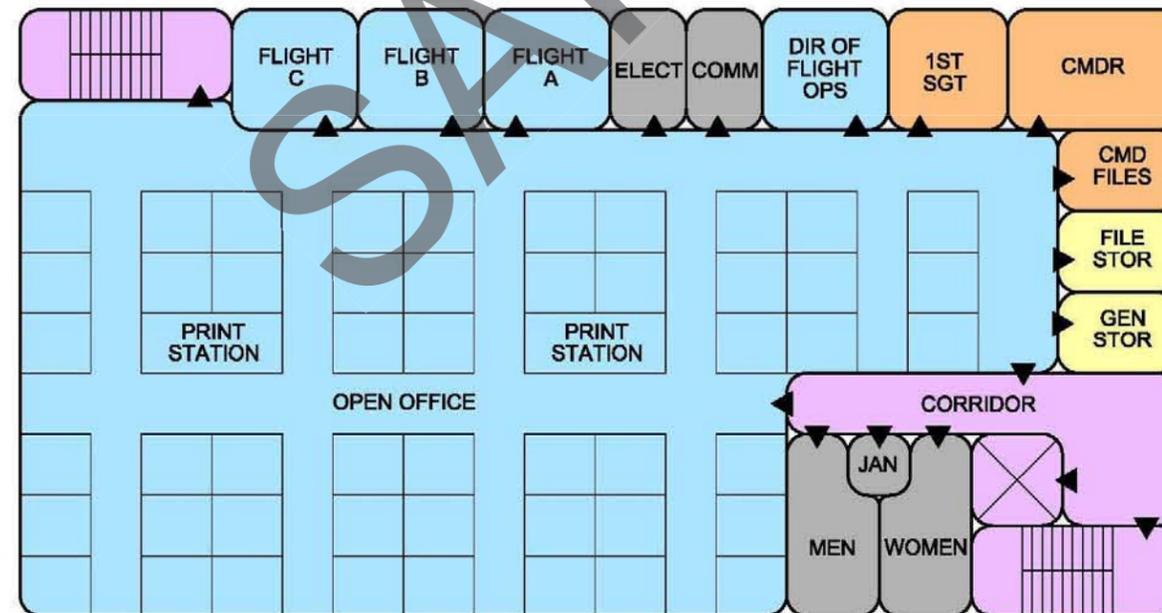


UPPER LAYOUT

# 60 PN DETACHMENT

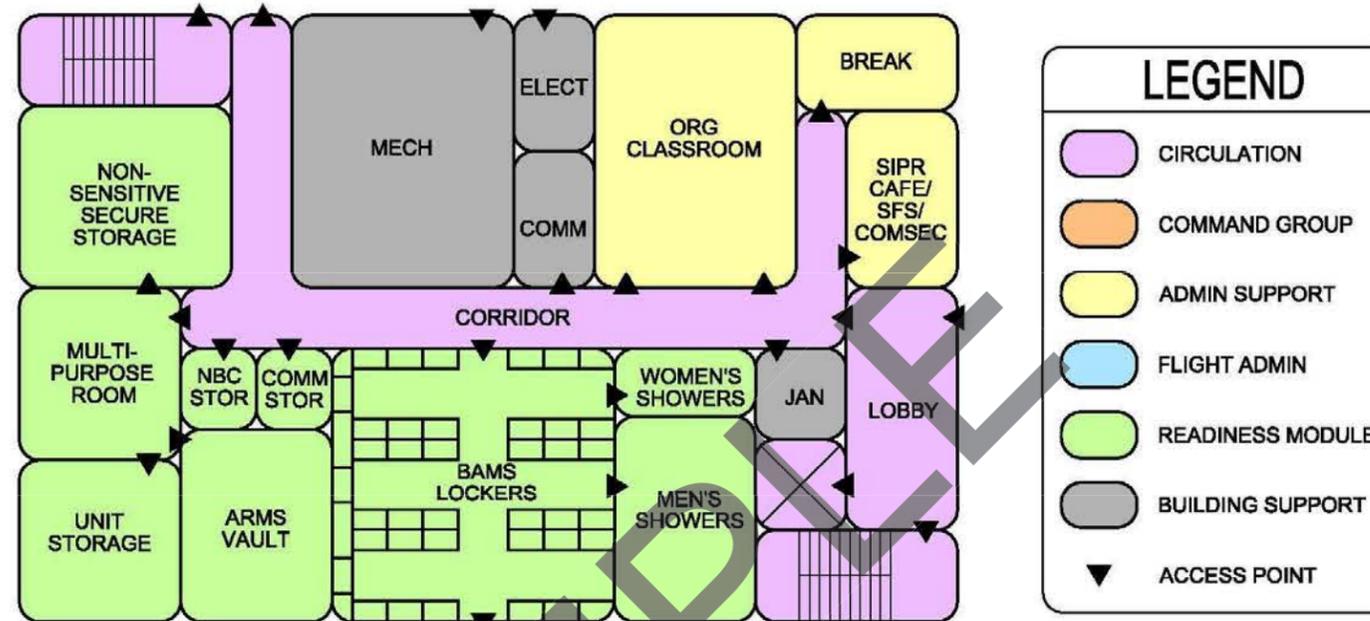


LOWER LAYOUT

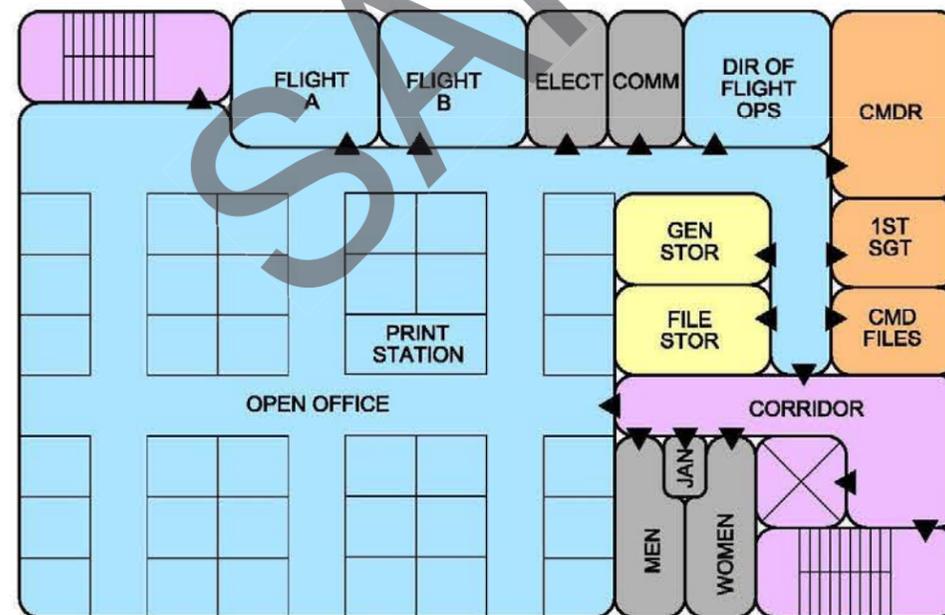


UPPER LAYOUT

# 40 PN DETACHMENT



LOWER LAYOUT



UPPER LAYOUT