



## **AIR MOBILITY COMMAND**

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### **SQUADRON OPERATIONS / MAINTENANCE SQUADRON (SQ OPS / MXS) FACILITY DESIGN GUIDE**

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**AMC Squadron Operations / Maintenance Squadron**

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## Chapter 1-Introduction

### A. Purpose

This design guide is a revision to the Consolidated Squadron Operations / Maintenance Squadron (Sq Ops / MXS) Design Guide published in 1993. This revision reflects the organizational and facility requirement changes since completion of the initial design guide. The major changes include:

- Removing the life support function from the strategic airlifter (C-5 and C-17) facility.
- Addition of the Aircraft Maintenance Squadron MXS space requirements.
- Associated Reserve Unit life support space requirements.

This design guide provides the basic criteria to organize, evaluate, plan, program and design Air Mobility Command (AMC) Consolidated Squadron Operations / Aircraft Maintenance Squadron (Sq Ops / MXS) facilities for strategic airlift and tanker squadrons. Facility criteria for the airlift squadron life support function are contained in the AMC Centralized Life Support Facility Design Guide, March 1995.

The information presented is intended to make commanders and their staffs aware of important design considerations and to aid them in project development. This document is for use by commanders, base civil engineers, and other involved personnel. It is intended to help all participants better understand Sq Ops / MXS facility requirements and design criteria so they can effectively participate in the project development

process. Use this guide to supplement other Air Force and Department of Defense (DoD) policies and instructions.

### B. Project Development

This design guide is applicable to all design projects for AMC Sq Ops / MXS facilities. It provides standards and criteria for determining facility requirements, evaluation of existing facilities, programming, and overall facility design. The designer should use it in conjunction with other Air Force and Department of Defense (DoD) documents. Additional information is available at each base regarding the unique program and design requirements.

The elements to successful facility delivery are planning, programming, design, and construction.

#### 1. Planning

Good planning establishes the objectives for an effective program and provides the means to help meet the objectives of the Sq Ops / MXS organization. It should also lead to a timetable for project completion. Planning must be long term. When planning a new facility, complete the site selection prior to preparing a DD Form 1391, Military Construction Project Data.

#### 2. Programming

Programming includes determining user requirements, developing solutions, identifying funding sources, and forwarding programming documents to the appropriate review and approval authorities. Each programmed project should be consistent with the base general plan.



This guide details information required during preparation of the DD Form 1391, which initiates project development. Included are considerations of space criteria, overall facility size, site evaluation, and special factors for use in estimating costs. Projects for which scope and cost exceed statutory limits for base of command funding require Congressional approval and funding through the Military Construction Program (MCP).

### 3. Design

Design includes concept development, design reviews, and construction documents. It is important for civil engineering and the user to actively communicate throughout the design process to bring about a successful project.

The designer should complete a Comprehensive Interior Design (CID) standard for your facility before beginning a major facility project. The standard CID addresses interior finishes, artwork, signs, and furnishings. Refer to the AMC Interior Design Guide for an expanded discussion of interior design. All areas of the Sq Ops / MXS should be barrier-free and accessible to the disabled in accordance with the Americans with Disabilities Act (ADA) and Uniform Federal Accessibility Standards (UFAS).

### 4. Construction

Quality reviews of the contractor's submittals by project engineers and users with frequent on-site inspections by civil engineering construction management personnel and the user will help ensure design goals are met.

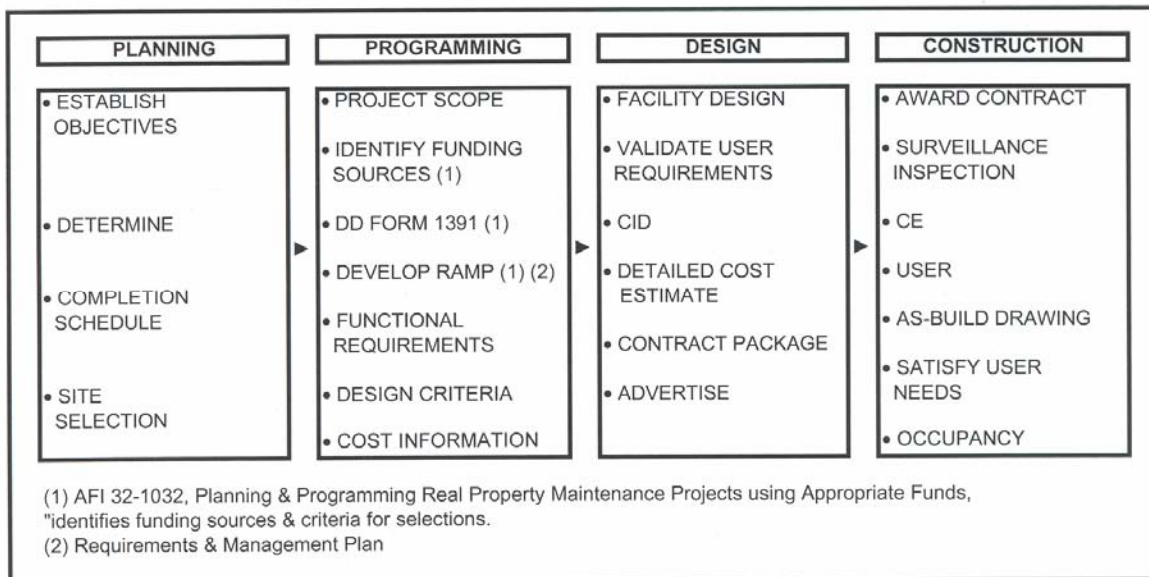


Figure 1.1 Project Process



## Chapter 2 – Exterior Elements

### A. General

The Sq Ops / MXS exterior elements provide the first impression visitors have of the facility and the quality of service and training provided. This chapter addresses the concept site plan, signs, landscaping, parking areas, entries, and entry paths. The architectural compatibility guide for each base will help in the design of these elements

### B. Site

#### 1. Location

**a.** Whenever possible, locate the Sq Ops / MXS facilities with direct flight access. (See Figure 2.1). If located on the flight line, ensure the building complies with UFC 3-260-01 Aircraft and Heliport Planning and Design, and other site criteria, (i.e., explosives, environmental, force protection, etc.).

**b.** The building should be easily identifiable and be either within walking distance, or en-route to the aircraft. Provide a covered vehicular access at the main entrance and at the rear (flight line) ready room entrance. Include separate government owned vehicles and privately owned vehicles parking area. Complete an environmental evaluation on each proposed building site before finalizing the DD Form 1391. Each building site must be free of all known environmental hazards.

**c.** Unified Facilities Criteria (UFC) 4-010-02, DoD min-Anti terrorism STDS for buildings.

### 2. Size

Select a site large enough to provide adequate space for vehicle access and parking.

### C. Signs

Signs include the facility, directional, and parking signs. They should follow the AMC and Americans with Disabilities (ADAAG) sign standards. Provide building entry signs on site to clearly direct visitors to the main entrance.

### D. Landscaping

Landscaping elements help create a quality appearance for the Sq Ops / MXS. These elements screen parking areas and define the building entries. Landscaping elements include earth berms, shrubs, trees, and flowers. Consideration shall be given to ensure plant selection include minimal “shed” or liter due to concern of foreign object debris (FOD) on the airfield. Refer to the AMC Landscape Design Guide, and base standards, for specific information.

### E. Parking Areas

Include designated spaces for visitors and employees. Locate handicapped parking near building entries that comply with ADA parking criteria. Parking requirements will depend on the number of people assigned to the Sq Ops / AMC facility. Provide lighting in the parking areas and at building entries. Include landscaping in the parking islands and perimeter of the parking lots.

### F. Entries and Entry Paths

The facility entries and entry paths should be easily identifiable to first time visitors and must also comply with ADA



standards. Provide large roof overhangs for weather protection at the main entrance (one-vehicle wide) and rear

entrance (two-vehicles wide) for pick-up and drop-off. All entries should have vestibules.

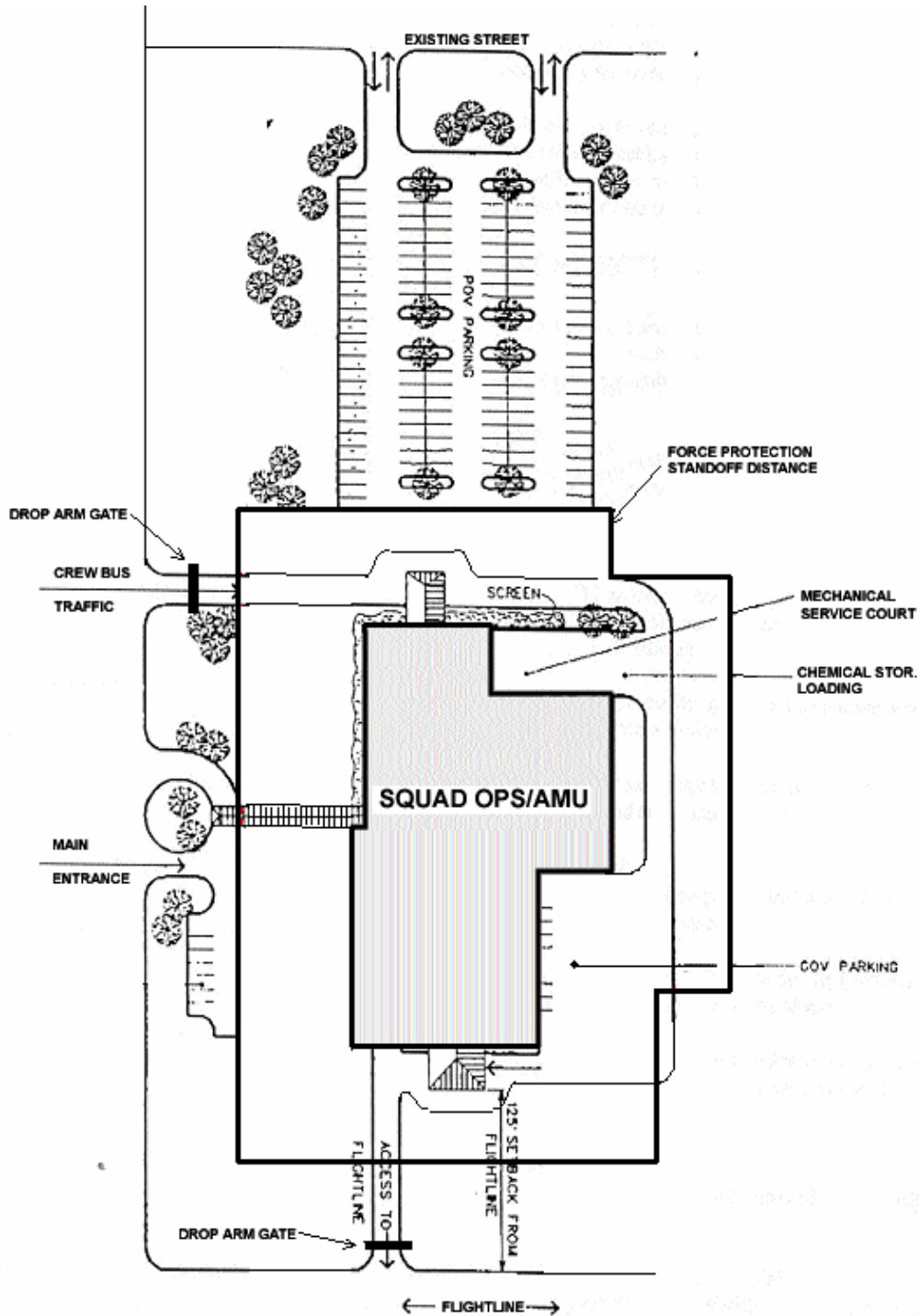


Figure 2.1 Concept Site Plan



## Chapter 3- Functional Areas

### A. General

This chapter presents criteria applicable to the design of each functional area and space for a Sq Ops / MXS facility. The criteria in this chapter apply to C-5, C-17, C-130, KC-10, and KC-135 squadrons.

For each functional area, primary design considerations are presented indicating the use, performance, organization, character, and relationship between its component spaces. Then, for each space included in the functional area, specific size criteria is for each functional space.

Organizations involved in Sq Ops / MXS facilities are similar for each weapon system. Unit involvement must occur early in the planning, programming, and design process. The following organizations and personnel, as a minimum, must be involved in this cradle-to-grave process:

- Wing Commander
- Operations Group
- Operational Squadron
- Logistics Group
- Maintenance Squadron (AGS)
- Sortie Generation Flight (SGF)
- Base Civil Engineer Squadron
- Base Communications Squadron

### B. Functions

#### 1. Command

**a. Command Section** - Area for Squadron Commander, Executive Officer, and First Sergeant. Each will have a private office. The secretary's office will be open to the waiting area.

Locate this area with identifiable access from the main entrance.

**b. Conference Room** - Room adjacent to the command section for daily meetings of less than twenty people.

**c. Orderly Room** - A centrally located office that handles most of the operations squadron's administrative and personnel actions. It includes the Squadron Section Commander's Office.

#### 2. Operations

**a. Flight Commander's Office** - Office for each flight commander. Locate adjacent to the flight commander's staff and flight planning area.

**b. Flight Commander's Staff** - Area for the administrative personnel in the operations function. Locate adjacent to the flight commander's offices and flight planning area.

**c. Data Management** - Area for management of database for tracking crew-training requirements. Locate in the vicinity of the training office.

**d. Manuals Control** - Area for aircrews to obtain the latest publication updates. This area will contain files and shelving for publication storage and checkout.

**e. Standardization / Evaluation** - Area for aircrews providing check rides, etc. Locate this office close to training office and testing room.

**f. Career Advisor** - Office for the Operations Squadron Career Advisor.



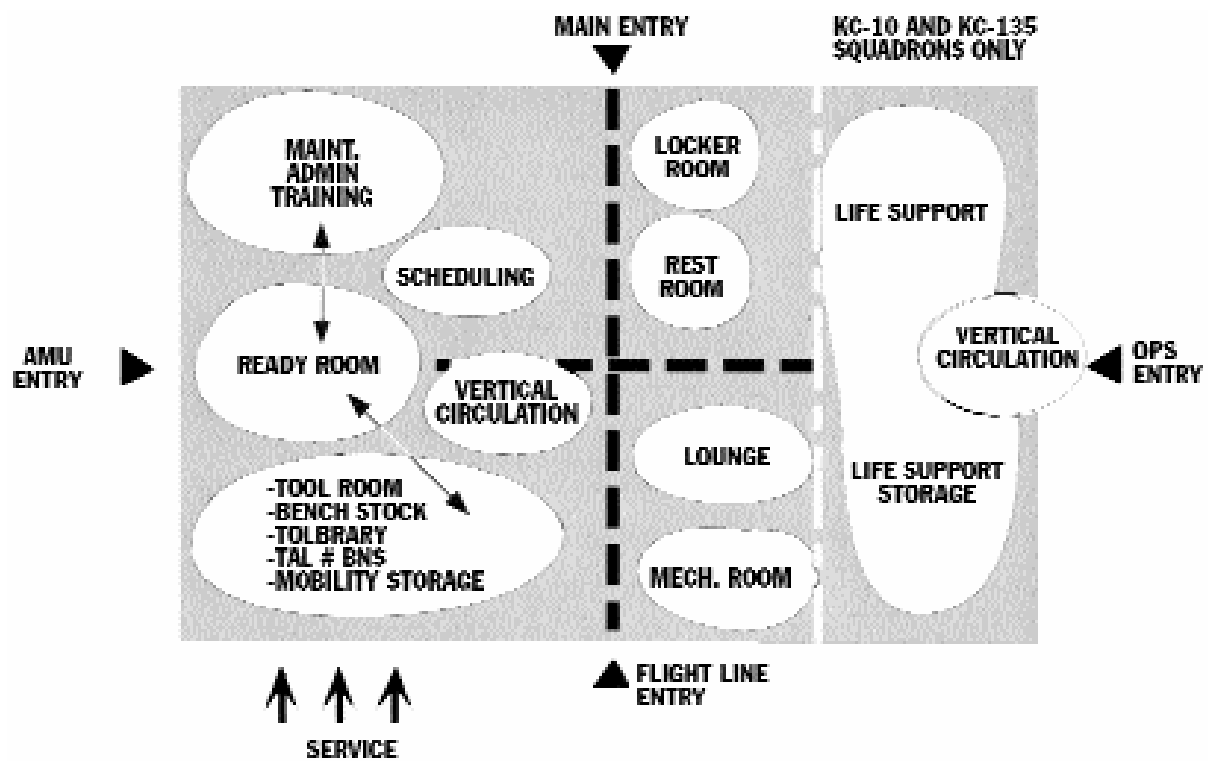
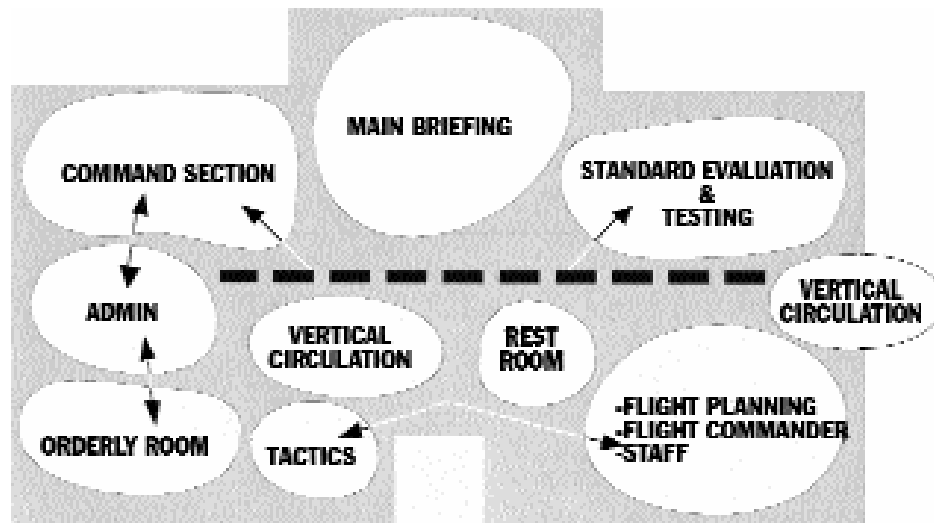


Figure 3.1: Functional Area Relationships of SQ Ops / MXS



**g. Tactics** - A secure area adjacent to the flight planning, with two 5' x 10' flight planning tables for mission preparation.

**h. Flight Planning** - Central area for the operations function where aircrews plan missions. Include four 5' x 10' flight planning tables and shelving for flight map displays and storage of reference material. Area should be divided into four separate planning rooms.



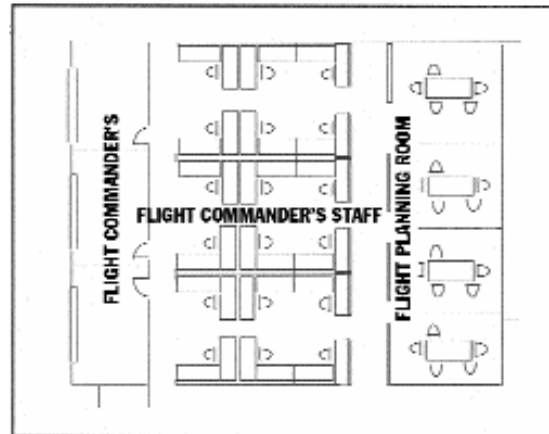
**Facility Offices**

**i. Operations Training Office** - Area for personnel who manage the day-to-day flight training and management of the squadron.

**j. Testing Room** - Area for crew testing - usually adjacent to the Standardization / Evaluation function.

**k. Operations Training Classroom** - Area for operation training classes, which can be divided into four semi-private areas for training and aircrew debriefing.

**l. Small Computer Storage** - Area for computer storage.



**Figure 3.2: Flight Commanders Staff and Flight Planning**

**m. Companion Trainer Program (CTP)** - Area to manage the wing CTP. Open office with systems furniture and scheduling desk.

**n. Flight Debrief Rooms** - Area for crews to debrief mission activities. Space dividable into four areas.

**o. Mobility Office** - Area for the operations mobility officer and files.

**p. Mobility Storage** - Area to store mobility equipment and gear for operations personnel. Provide overhead, roll-up door for outside access.

### **3. Maintenance**

**a. Maintenance OIC / NCOIC Offices** - Office areas for the maintenance OIC and NCOIC. Locate adjacent to the ready room.

**b. Conference Room** - Room adjacent to the maintenance officer for daily meetings of less than twenty people.



**c. Maintenance Debrief** - Area set aside for crews to brief aircraft problems from recently completed missions. Locate with maintenance information control.

**d. Maintenance A and B Flight Offices** - Area for offices used to track all maintenance personnel. Locate adjacent to the ready room and shift chiefs.

**e. Maintenance Training Classroom** - Room for maintenance personnel to do group teaching using films and slides. Dividable into four separate rooms.

**f. Technical Representative** - Office area for a technical representative from aircraft company. The representative provides technical expertise to help operate and maintain the squadron's aircraft.

**g. Maintenance Administration** - Area for administrative personnel supporting the maintenance function.

**h. Tool Room/Bench Stock** - Area for storing aircraft parts and tools. Locate adjacent to the ready room. Include an exterior delivery access via overhead, roll-up door. Bench stock area will have an issue counter from the tool function area.

**i. Technical Order (TO) Library** - Room adjacent to the tool room for maintenance staff personnel to access manuals.

**j. Mobility Office** - Area for the maintenance mobility officer and files.



**Facility Corridor**

**k. Mobility Storage** - Warehouse area to palletize and store mobility equipment and gear for maintenance personnel. Provide overhead, roll-up door for outside access.

**l. Tail Number (#) Bins / Direct Support Unit (DSU) Depot Level Repairables (DLR)** - Area for storing parts for a specific aircraft, and parts to be sent back to supply or depot for repair. Provide overhead, roll up door for exterior access.

**m. Ready Room** - Central assembly area for maintenance personnel.

**n. Production Supervisor** - Area for person in charge of tracking maintenance problems.

**o. Production Scheduling** - Office area for maintenance personnel to track work being done on each aircraft by shift.



**p. Shift Chiefs** - Offices for shift chiefs to manage and track maintenance personnel for each shift. Locate adjacent to flight offices.

**q. Hazardous Material Storage** - Storage area for hazardous materials.

**r. Maintenance Information Control** - Area for personnel who track the status of maintenance activities.

**s. Maintenance Training NCOIC** - Space for person in charge of maintenance training requirements.

**t. Unit Level Learning Center** - Area for maintenance personnel to do group and individual lessons using films and slides.

**u. Reserve Associate Area** - Area for reserve maintenance personnel and records.

#### **4. Common Use**

**a. Locker Room** - Centrally located room for use by operations and maintenance personnel. Locker size should meet individual requirements to accommodate cold weather clothing, etc. Not to be considered a changing room for design purposes.

**b. Mobility Storage** - Warehouse area to palletize and store all mobility equipment and gear for operations and maintenance personnel. Provide overhead, roll-up door for outside access.

**c. Storage/Miscellaneous** - Area for storing miscellaneous items.

**d. Outside Storage** - Secure storage area for grounds maintenance equipment.

**e. Physical Fitness Room** - Areas for physical fitness equipment and use. Locate near locker and shower room.

**f. Main briefing Room** - Main-briefing room with theater seating with attached table tops (tablets) for a minimum of 74 people. Include all appropriate equipment, such as, micro-phones, audiovisual equipment, remote computer display, lighting, etc.



**Main Briefing Room**

**g. AV Room** -AV Support room for audiovisual and computer equipment used to support the main briefing room.

**h. Lounge** - Area for personnel to meet in a relaxed environment.

**i. Budget Office** - Office near the command suite. This function manages all funds for the squadron.

**j. Vending Area** - Area for vending machines.

**k. Mobility Office** - Area for the mobility officer along with required records.

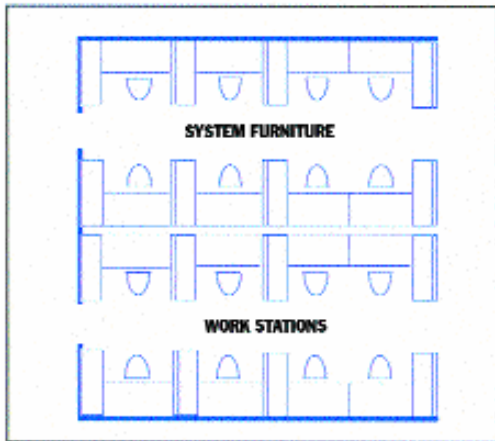
**l. Operations / Scheduling** - Consolidated area where both operations



and maintenance staff schedule missions and maintenance for each assigned weapon system. Area should be adjacent to ready room.

**m.** Flying / Ground Safety - Area for processing flying / ground safety actions.

**n.** Central Administration - Area for sixteen workstations for the Hazardous Materials Manager, On-the-Job Training Manager, Historian, Disaster Preparedness, Total Quality Manager, Security, Career Advisor, Awards and Decorations Manager, etc.



**Figure 3.3: Central Administration**

**o.** Reserve OIC / NCOIC Administration / Record - Area for the reserve activities.

**5. Life Support (only for C-130, KC-10 and, KC-135 Squadrons)**

**a.** OIC / NCOIC Offices - Area for the OIC / NCOIC, each will have a private office. Locate offices near the main entrance of life support. Manages the life support function of the squadron.

**b.** Survival Training Room - Room for conducting survival-training techniques.

Requires outside access and loading dock.

**c.** AV Support Room - Area required between classrooms to assist in training functions.

**d.** Mock-Up Decontamination (DECON) Room - Area for aircrew and technicians DECON training.

**e.** Staging Area - This area is used for pick-up, delivery, and readying aircraft installed life support equipment (LSE). Locate equipment for the Command and Control Information Processing Systems (C2IPS), computer hook-ups, and the mobile-based radio in this area.



**Facility Casework**

**f.** Helmet/Chemical Storage/Issue - This area is a technician work space for storage and issue of helmets, oxygen masks, and aircrew chemical defense ensembles (ACDEs). Locate this area near aircrew training area adjacent to and with access to helmet and mask repair. Provide 24"H x 27"W x 40"L individual lockers for helmet storage and ACDE. Consider a mechanized material storage and handling system (MMSHS) to maximize space. Include a counter



space for customer service and computer hook-up.

**g. Night Vision Goggle (NVG) Test Center Area** - Locate a 10' x 13' room near the helmet and ACDE area to test and calibrate individual aircrew NVG's. Design openings into this room so that it is completely dark when the lights are off.

**h. Equipment Storage** - This area is for storage of mobility equipment and life support equipment (LSE) items installed on aircraft. Design for access to a covered loading dock through overhead, roll up doors. Orient the loading dock on the flight line side of the facility and construct it to accommodate a 48' truck bed for pick-up and delivery of equipment. To maximize floor space, consider using MMSHS which is capable of storing items such as oxygen masks, life rafts, life preservers, and parachutes. Include hot and cold water to clean field-training equipment.

**i. Flight Line Inspection** - Provide a work area with computer hook-ups for technicians to inspect and maintain aircraft installed LSE. Locate with exterior access to covered loading dock.

**j. Explosives Storage / Flares** - Include storage for explosive survival signaling devices and ballistics charges. Locate this room with direct access to flight line inspection. Design as a secure room in compliance with AFM 91-201, Explosives Safety Standard for "Class 3" munitions storage.

**k. Oxygen Bottle Maintenance** - Include a workroom for maintenance and overhaul of emergency high-pressure

oxygen free cylinders. This room must be oil and lint free with explosion proof fixtures and receptacles. Include an area for equipment inspection.

**l. Associate Reserve Storage** - Area for storing life support equipment (flak-vests, helmets, chemical warfare defense bags, etc.). Additional square footage requirements authorized to support associate reserve aircrew helmets, oxygen masks, and chemical defense equipment.

## **6. General Support**

**a. Restrooms** - Centrally locate rest rooms for men and women on each floor.

**b. Mechanical Room** - Provide sound insulation in this room to prevent the noises of the equipment from disrupting the facility's operation. This room should be in an area away from administration areas, especially training and conference rooms. Include a double service door to the exterior and a concrete ramp to conveniently move large equipment parts into the room.

**c. Communications / Electrical Room** - Wall mount the power and telephone distribution equipment, and floor mount the Local Area Network computer file server in this room. Locate this room adjacent to the mechanical room and allow for inside access when repairing or replacing equipment. Separate this room from the mechanical equipment as the humidity and steam (depending on the type of heating system) are detrimental to this equipment. This room also needs to be climate controlled.



**d. Storage Room** - In addition to primary storage for organizational equipment, provide walk-in storage for publications and miscellaneous supplies and equipment.

**e. Break Room** - Centrally located room for both operations and maintenance personnel to relax. This room maybe collocated with an area for the vending room.



**Facility Vestibule**

**f. Janitor's Closets** - Include one on each floor with a work sink and storage shelves for cleaning supplies and equipment.

## **7. Aircraft Maintenance Squadron**

**a. General** - The Aircraft Maintenance Squadron (AGS) function is added into only one mission design series (MDS) building. For example, if a base has three MDS buildings, then only one building will house this function.

**b. Squadron Commander Section** - Area for the Squadron Commander, Section Commander, First Sergeant, Maintenance Supervisor, Maintenance Superintendent and Resource Manager. Each will have a private office. The secretary's office will be open to the waiting area.

**c. Conference Room** - Room adjacent to the command section for meetings of less than twenty people.

**d. Orderly Room** - Office for the maintenance squadron's administrative records.

**e. Process Improvement and Control** - Room for squadron's quality team program office.



<b>Functional Space Guidelines By Weapon System</b>					
(listed in square feet)					
<b>Area Names</b>	<b>C-5</b>	<b>C-17</b>	<b>C-130</b>	<b>KC-10</b>	<b>KC-135</b>
<b>Command</b>					
Operations Squadron Commander	200	200	200	200	200
Executive Officer	100	100	100	100	100
Secretary / Waiting	150	150	150	150	150
First Sergeant	150	150	150	150	150
Orderly Room	600	600	600	600	600
Conference Room	180	180	180	180	180
<b>Subtotal Command (in square feet)</b>	<b>1,380</b>	<b>1,380</b>	<b>1,380</b>	<b>1,380</b>	<b>1,380</b>

<b>Operations</b>					
Operations Officer	200	200	200	200	200
Flight Commanders (3 @ 125 sf each)	375	375	375	375	375
Flight Commanders' staff	1,350	1,350	1,350	1,350	1,350
Data Management	400	320	400	400	300
Manuals Control	200	200	200	200	200
Standardization / Evaluation	725	500	1,050	1,500	725
Career Advisor (2 @ 125 sf each)	250	250	250	250	250
Tactics	300	500	600	400	400
Flight Planning	800	800	1,000	800	800
Operations Training Office	400	400	400	400	400
Testing Room	200	200	200	200	200
Operations Training Classroom	500	500	500	500	500
Small Computer Storage	350	350	350	350	350
Conference Room	200	200	200	200	200
Flight Debrief Rooms	400	400	400	400	400
Mobility Storage (Air Crew)	500	500	1,000	1,000	1,000
Budget Office	100	100	100	100	100
Mobility Office	250	250	250	250	250
Operations / Scheduling	500	500	925	500	500
Flying / Ground Safety	250	250	250	250	250
Central Administration (16 workstations)	1,150	1,150	1,150	1,150	1,150
CCTS	n/a	n/a	n/a	1,800	n/a
Locker Room	1,890	1,890	900	1,280	860
Fitness Room	360	360	360	360	360
Main Briefing Room (74 seats) w/ projection room	1,800	1,800	1,800	1,800	1,800
Lounge	750	750	750	750	750
<b>Subtotal Operations</b>	<b>14,200</b>	<b>14,095</b>	<b>14,960</b>	<b>16,765</b>	<b>13,670</b>

**Figure 3.4: Functional Space Guidelines by Weapon System**





<b>Functional Space Guidelines By Weapon System (Continued)</b>					
<b>(listed in square feet)</b>					
<b>Area Names</b>	<b>C-5</b>	<b>C-17</b>	<b>C-130</b>	<b>KC-10</b>	<b>KC-135</b>
<b>MXS Command (note 1)</b>					
Commander	200	200	200	200	200
Secretary / Waiting Room	200	200	200	200	200
Section Commander (2 @ 150 sf each)	300	300	300	300	300
First Sergeant (2 @ 125 sf each)	250	250	125	125	250
Resource Manager / Budget Office	125	125	125	450	125
Process Improvement & Control	450	450	450	550	450
Orderly Room / Tech Admin.	550	550	550	300	550
Maintenance Supervisor & Superintendent (2 @ 150 sf each)	300	300	300	200	300
Conference Room	200	200	200	200	200
<b>Subtotal AGS Command</b>	<b>2,575</b>	<b>2,575</b>	<b>2,450</b>	<b>2,525</b>	<b>2,575</b>

<b>Maintenance</b>					
Maintenance OIC	150	150	150	150	150
Maintenance NCOIC	150	150	150	150	150
A Office	180	180	180	180	180
B Office	180	180	180	180	180
Conference Room	200	200	200	200	200
Maintenance Training Classroom	500	500	500	500	500
Tool Room / Bench Stock	1,600	1,600	1600	1,600	1,600
Technical Order Library	150	150	150	150	150
Tail # Bins / DSU / DLR	800	800	800	n/a	800
Technical Representative	125	125	125	125	125
Mobility Storage (Aircraft Maintenance)	1,600	1,600	1,600	1,600	1,600
Maintenance Administration	300	300	300	300	300
Ready Room	1,200	1,200	1,200	1,200	1,200
Production Supervisor	150	150	150	150	150
Shift Chiefs	220	220	220	220	220
Hazardous Materials	100	100	100	100	100
Maintenance Information Control	800	800	800	800	800
Maintenance Training NCOIC	100	100	100	100	100
Unit Level Learning Center	300	300	300	300	300
Maintenance Debrief	200	200	200	200	200
Lockers	3,200	2,500	2,500	1,600	1,400
<b>Subtotal Maintenance</b>	<b>12,205</b>	<b>11,505</b>	<b>11,505</b>	<b>9,805</b>	<b>10,405</b>
Reserve OIC / NCOIC / Admin / Records (Note 1)	800	800	800	800	800
<b>Subtotal Maintenance</b>	<b>13,005</b>	<b>12,305</b>	<b>12,305</b>	<b>10,605</b>	<b>11,205</b>

**Figure 3.5: Functional Space Guidelines by Weapon System (cont'd)**



<b>Functional Space Guidelines By Weapon System (Continued)</b>					
(listed in square feet)					
<b>Area Names</b>	<b>C-5</b>	<b>C-17</b>	<b>C-130</b>	<b>KC-10</b>	<b>KC-135</b>
<b>Life Support</b>					
OIC / NCOIC	-	-	150	200	200
Survival Training Room w/ rear projection screen	-	-	660	800	800
Oxygen Mask Repair	-	-	300	300	300
Mock up Decontamination Room	-	-	365	500	500
Staging Area	-	-	150	300	1,650
Helmet / Chemical Storage / Issue	-	-	750	750	750
Night Vision Goggle Test Center Area	-	-	250	250	250
Equipment Storage	-	-	2,500	1,375	2,775
Explosive Storage / Flares	-	-	80	80	80
Oxygen Bottle Maintenance	-	-	180	n/a	350
Flight Line Inspection	-	-	385	475	475
<b>Subtotal Life Support</b>	<b>-</b>	<b>-</b>	<b>5,770</b>	<b>5,030</b>	<b>8,130</b>
Associate Reserve Storage (Note 2)	-	-	n/a	2,000	2,500
Subtotal Life Support	-	-	-	-	-
Helmet Storage	-	-	-	-	650
<b>Common Use</b>					
Mechanical Room	1,200	1,200	1,200	1,200	1,200
Communication / Electrical Room	250	250	250	250	250
Bathrooms	850	850	850	850	850
Janitor's Closet	50	50	50	50	50
Storage, Miscellaneous	400	400	400	400	400
Outside Storage	200	200	200	200	200
Vending	200	200	200	200	200
<b>Subtotal Common Use</b>	<b>3,150</b>	<b>3,150</b>	<b>3,150</b>	<b>3,150</b>	<b>3,150</b>
<b>Net Total (square feet)</b>	<b>34,310</b>	<b>33,505</b>	<b>40,015</b>	<b>41,455</b>	<b>43,260</b>
<b>Circulation / Walls / Canopy (20%)</b>	<b>6,862</b>	<b>6,071</b>	<b>8,003</b>	<b>8,291</b>	<b>8,652</b>
<b>Gross Total (square feet)</b>	<b>41,172</b>	<b>40,206</b>	<b>48,018</b>	<b>49,746</b>	<b>51,912</b>

**Figure 3.6: Functional Space Guidelines by Weapon System (cont'd)**

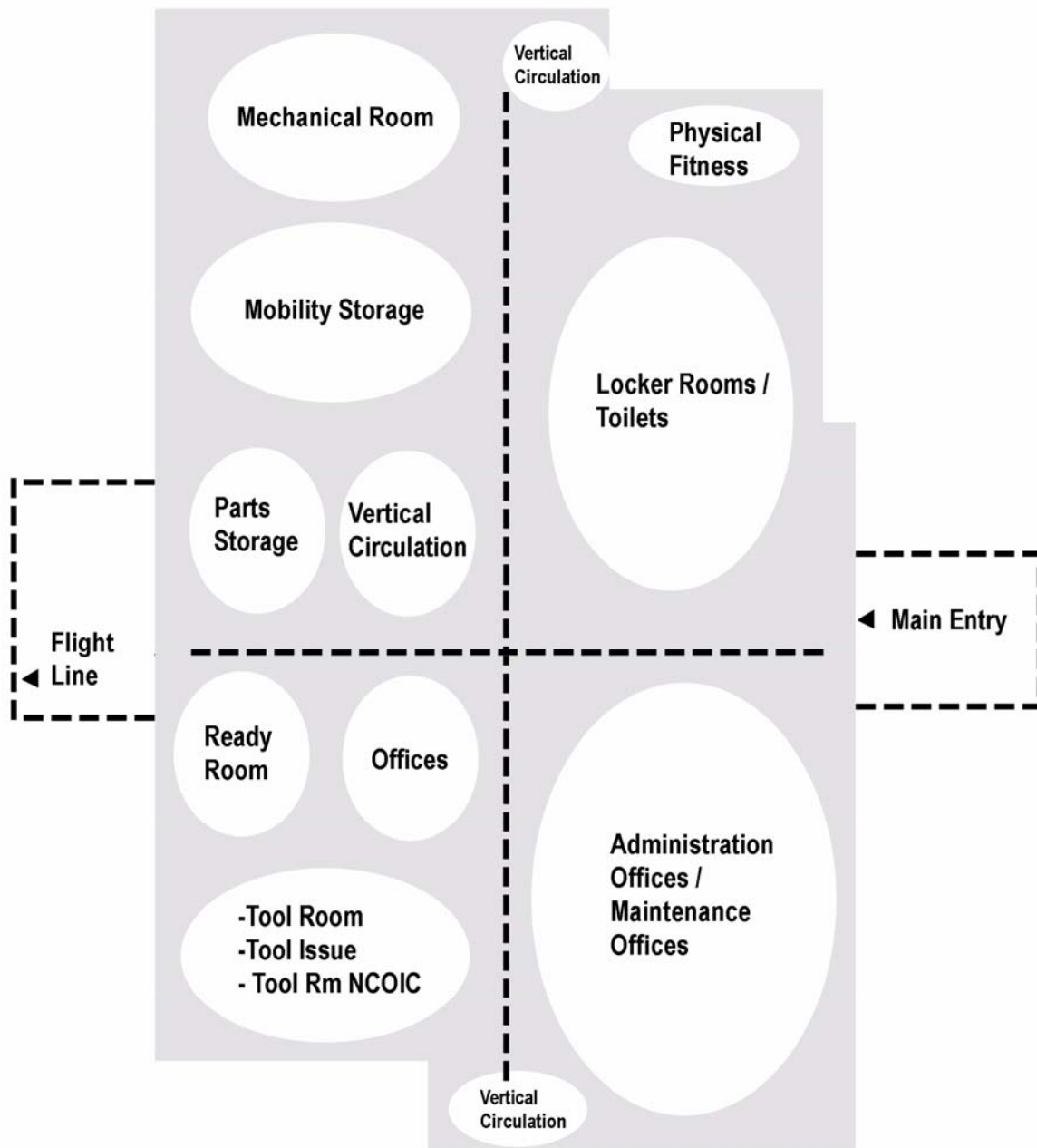


Figure 3.7: Concept Floor Plan C-5 and C-17 (First Floor)

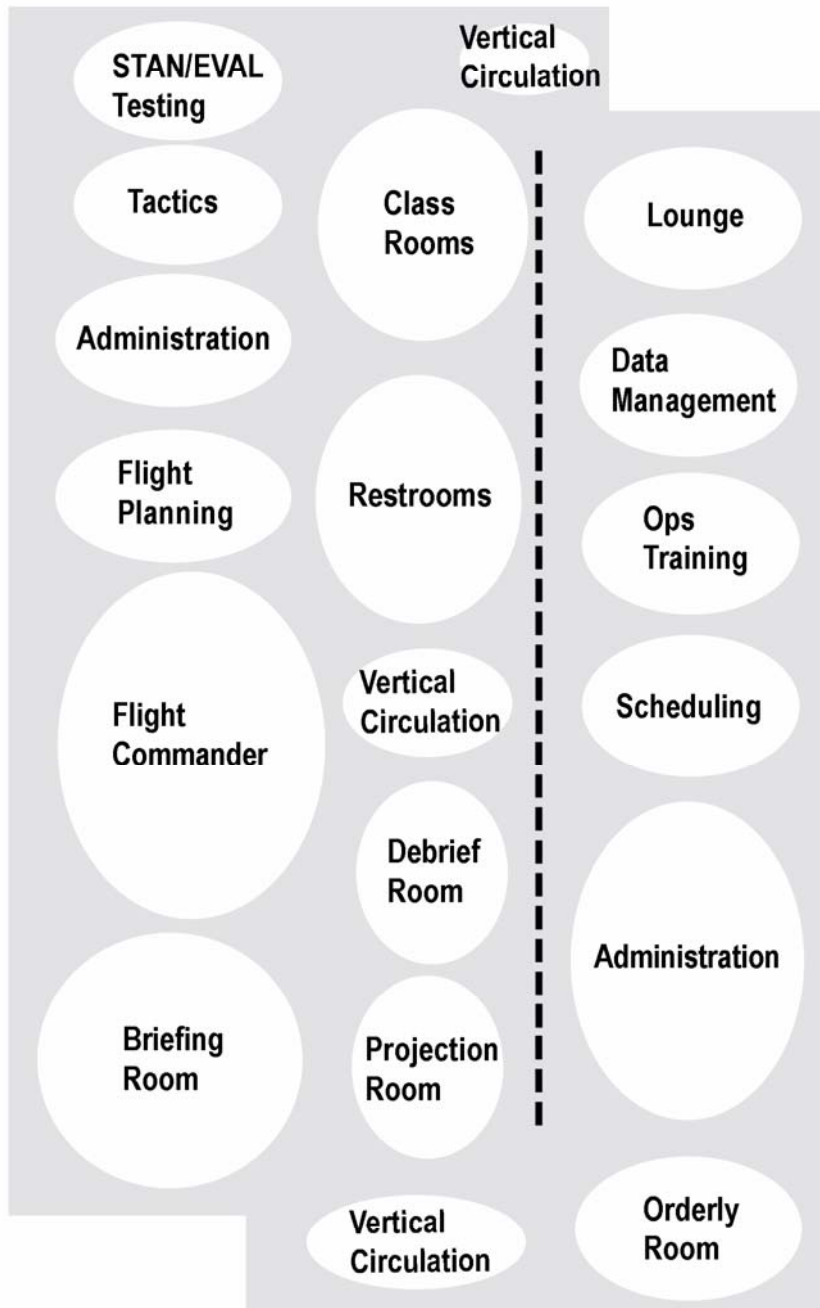
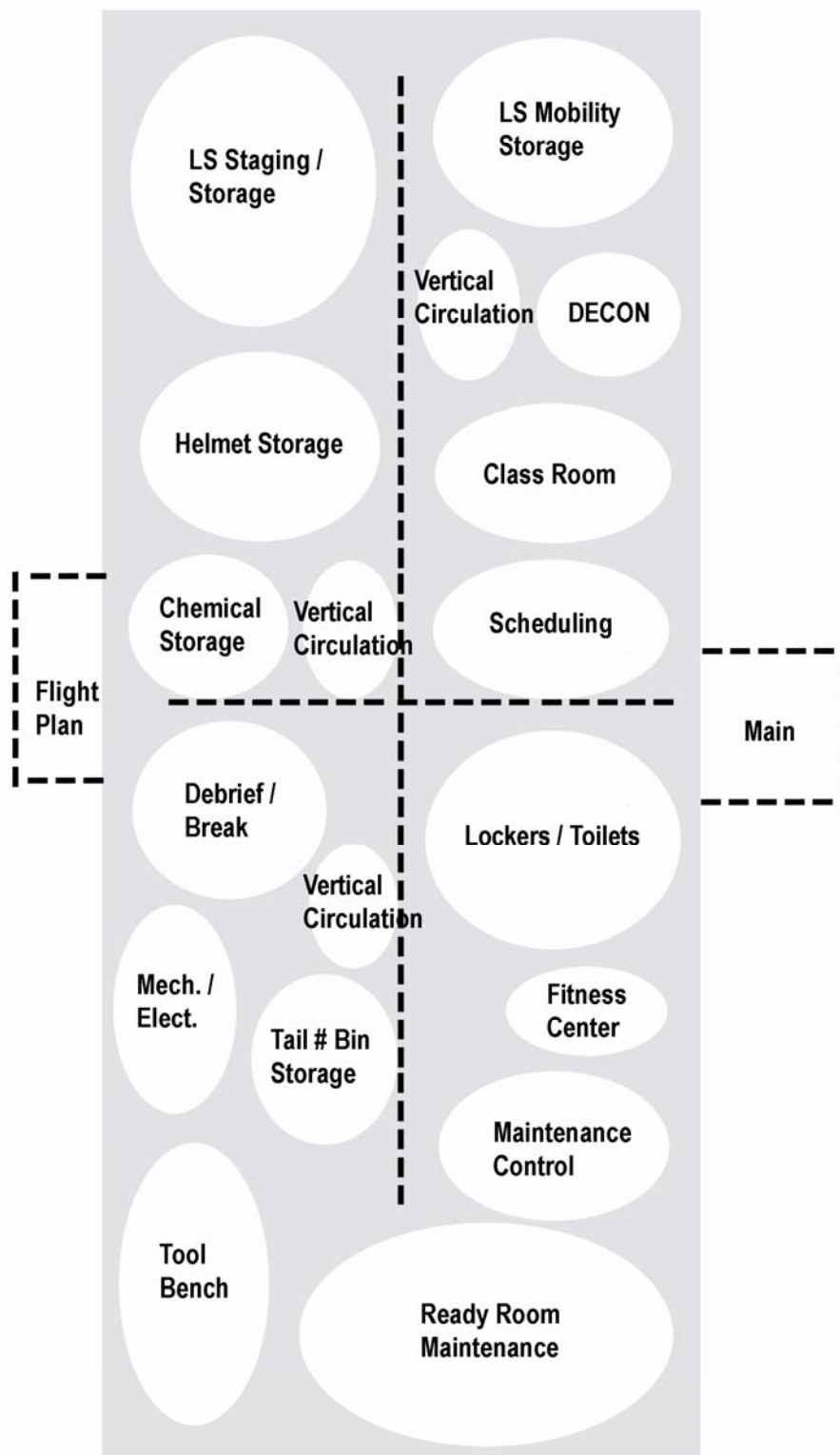
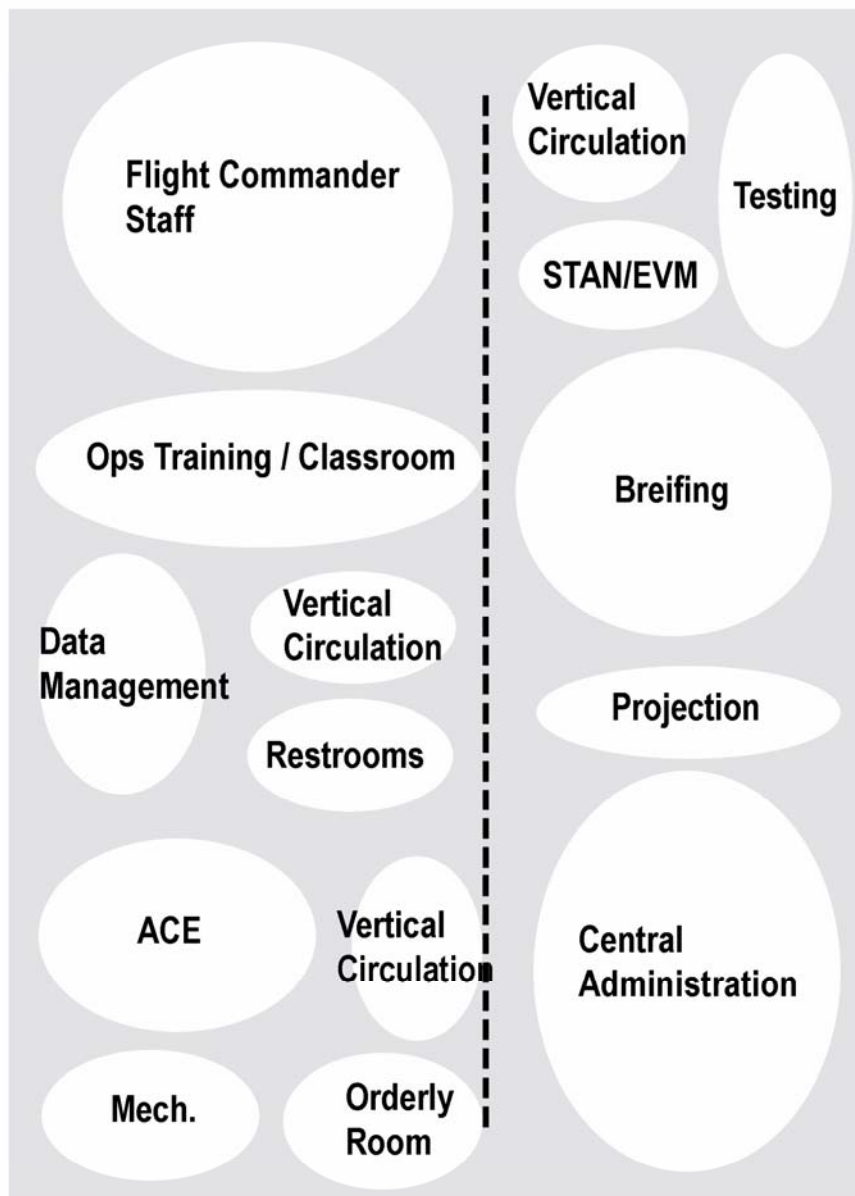


Figure 3.8: Concept Floor Plan C-5 and C-17 (Second Floor)



**Figure 3.9: Concept Floor Plan  
KC-10, KC 135 and C-130  
(First Floor)**



**Figure 3.10: Concept Floor Plan  
KC-10, KC 135 and C-130  
(Second Floor)**



## Chapter 4- Interior Standards

### A. Purpose

#### 1. General

A quality SQ Ops / MXS reflects the AMC standard of "understated excellence" and creates an environment where professionals can provide quality service and training in a comfortable environment. Select facility finishes for cost-effective, life cycle maintenance, as well as appearance. Interior finishes that are durable, easy to maintain and are essential to user satisfaction. Coordinate materials, finish, color, and texture to complement the overall building function, design, and image. Select colors and finishes to express professionalism, warmth, and a strong, positive image. Quality interiors provide an environment which improves job performance and customer satisfaction. The AMC Interior Design Guide offers additional guidance on interior finishes.

#### 2. Color Concepts

Designers should give special attention to color selection. Provide a timeless color scheme, use colors to highlight and differentiate spaces designed to accommodate different types and levels of activity.

Select accent colors for carpets, wall coverings, upholstery, and systems furniture wall panels that are subject to periodic change, but apply them sparingly to complement a neutral color scheme. Incorporate accent colors in graphics, borders, accessories, and artwork for the design scheme consistency.

#### 3. Floor Coverings

Consider patterned carpet tile for high use areas such as hallways, waiting areas, and briefing rooms. Avoid stripes and linear designs that are hard to line up with walls in corridors, vestibules, and irregularly shaped

areas. Select neutral colored carpet for offices to create lighter rooms which appear large. Use vinyl composition tile in smaller storage areas and maintenance rooms where there is a higher potential for spills and dirt that would permanently stain or damage carpet. Provide ceramic tile in rest rooms, where frequent spills occur. For durability, select a sealed concrete finish in storage rooms, janitor's closets, mechanical, electrical, and communications rooms.

#### 4. Wall Coverings

Use quality wall coverings, acoustic wall coverings, ceramic tiles, and paint finishes for ease of maintenance and to prevent a less institutional appearance. Bare concrete or concrete block walls (painted or unpainted) are acceptable in storage areas.

#### 5. Ceilings

Use suspended acoustical ceiling tile with a concealed grid or revealed edge finish. A standardized 2'x 2' tile is recommended as the consistent module in the areas designated on the Interior Finish Schedule for acoustical ceiling tile. A gypsum board ceiling works well with water and resistant paint finishes, as in rest rooms and janitor closets.

#### 6. Window Coverings

Decorative window coverings add to the overall décor of a facility and can effectively aid energy conservation efficiency. Use lined draperies to block daylight in the conference and briefing rooms for visual presentations. Draperies also create a homelike, warm environment for visitors. Vertical blinds and mini-blinds in administrative areas filter daylight and allow outdoor views.

#### 7. Accessories

Framed artwork, wall murals, and plants complement the interior finish and reinforce the design scheme. Choose only professionally framed pictures, paintings, and awards with color schemes and images that



contribute to the facility's décor and reinforce the facility's environment. Live plants or professional quality silk plants are optional.

### **8. Signs**

Develop an interior sign plan as part of the comprehensive interior design. Use professionally made signs, appropriately sized for viewing distance, and compatible with the facility design scheme. Signs should clearly direct visitors to specific functional areas within the Sq Ops / MXS.

### **9. Systems Furniture**

This furniture includes interchangeable wall panels, desk components, and storage modules which combine to form office workstations. These stations allow for a reconfiguration of office areas as Sq Ops / MXS activities and functions change. Select systems furniture that easily integrates computer hardware. Systems furniture panels should incorporate integrated conduits for electrical and communications service to conceal unsightly wires. Sound absorbent fabric panels will reduce background noise and provide a

quiet work area. Finish work surfaces in plastic laminate or wood. Plastic laminate with a wrapped edge is an easily managed finish. Use systems furniture throughout the facility where applicable.

### **10. Lighting**

Natural and artificial lighting are important factors in creating a quality interior appearance. Lighting affects the perception of space and environment, as well as the color of the interior finishes. Design lighting to enhance the design scheme. The designer should provide natural and accent lighting in administration areas. Include task lighting for desks, and use high efficiency fluorescent lighting in lieu of incandescent lighting.

### **11. Communications**

Provide telephone and computer system wiring to support voice, data, fire alarm, and other equipment. Equip the facility with the capability for phone, fax lines, intercom, Cable Television, Defense Systems Network (DSN), on and off-base lines, mobile-based station radio, Local Area Network (LAN) connections, and any secure communications requirements. Interior wiring shall be Category 6 or current industry standards. The wall outlets shall be in a two by four gang box with covers for voice and data. Where possible locate adjacent to power outlets. The gang box shall have four modular inserts with four RJ-45 outlets (two voice and two data) all fed with a one inch conduit. Fiber optic cable shall be plenum rated single or multi-mode. Fiber optic conductivity will be required for the Command and Control Information Processing System. Telecommunication rooms must be separate from mechanical / electrical rooms and be centrally located, vertically stacked per floor and have limited access. The size requirements for telecommunication rooms shall follow Building Industry Consultants Services International (BICSI) standards. The exterior manhole duct system shall consist of four- 4 inch conduits with 24 gauge copper lines and a 50 percent spare capacity. In addition, provide 12 strand single mode fiber loose tube gel filled with a central strength pulling member. The communication system shall be designed by a Registered Communication Distribution Designer (RCDD) and should contact the base civil engineer and base communications unit for specific communications requirements before planning major building upgrades or modifications. Incorporate these requirements in the building design and modification specifications.





AMC Squadron Operations / Maintenance Squadron

	Floors				Base		Walls			Ceilings		
	Carpet	Vinyl Composition Tile	Ceramic Tile	Sealed Concrete	Vinyl	Ceramic Tile	Paint	Vinyl Wallcovering	Acoustic Wallcovering	Ceramic Tile	Acoustical Ceiling Tile	Painted Gypsum Board
<b>Interior Standards</b>												
<b>Operations Command Area</b>												
Operation Squadron Commander	•				•			•			•	
Executive Officer	•				•		•				•	
Secretary / Waiting	•				•		•				•	
First Sergeant	•				•		•				•	
Orderly Room	•				•		•				•	
Conference Room	•				•			•			•	
<b>Operations</b>												
Operations Officer	•				•			•			•	
Flight Commanders	•				•			•			•	
Flight Commanders' Staff	•				•			•			•	
Data Management	•				•		•				•	
Manuals Control	•				•		•				•	
Standardization / Evaluation	•				•		•				•	
Career Advisor	•				•		•				•	
Tactics	•				•		•				•	
Flight Planning	•				•			•			•	
Operations Training Office	•				•		•				•	
Testing Room	•				•		•				•	
Operations Training Classroom	•				•		•				•	
Small Computer Storage	•				•		•				•	
Conference Room	•				•			•			•	
Flight Debrief Rooms	•				•		•				•	
Mobility Storage (Air Crew)				•	•		•					•
Budget Office	•				•		•				•	
Mobility Office	•				•		•				•	
Operations / Scheduling	•				•		•				•	
Flying / Grounds Safety	•				•		•				•	
Central Administration	•				•		•				•	
CCTS	•				•		•				•	
Locker Room		•			•					•	•	
Fitness Room		•			•		•				•	
Main Briefing Room (74 Seats) w/ projection room	•				•			•			•	
Lounge	•				•		•				•	
<b>MXS Command</b>												
Commander	•				•			•			•	
Secretary / Waiting Room	•				•			•			•	
Section Commander	•				•		•				•	
First Sergeant	•				•		•				•	
Resource Manager - Budget Office	•				•		•				•	
Process Improvement & Control	•				•		•				•	
Orderly Room / Tech Admin	•				•		•				•	
Maintenance Supervisor & Superintendent	•				•		•				•	
Conference Room	•				•		•				•	

Figure 4.1: Interior Finish Schedule



AMC Squadron Operations / Maintenance Squadron

	Floors				Base		Walls			Ceilings		
	Carpet	Vinyl Composition Tile	Ceramic Tile	Sealed Concrete	Vinyl	Ceramic Tile	Paint	Vinyl Wallcovering	Acoustic Wallcovering	Ceramic Tile	Acoustical Ceiling Tile	Painted Gypsum Board
<b>Interior Standards</b>												
<b>Maintenance</b>												
Maintenance OIC	•				•		•				•	
Maintenance NCOIC	•				•		•				•	
A Office	•				•		•				•	
B Office	•				•		•				•	
Conference Room	•				•		•				•	
Maintenance Training Classroom		•			•		•				•	
Tool Room / Bench Stock				•	•		•					•
Technical Order Library		•			•		•					•
Tail # Bins / DSU / DLR				•	•		•					•
Technical Representative	•				•		•				•	
Mobility Storage (Acraft Maint.)				•	•		•					•
Maintenance Administration	•				•		•				•	
Ready Room			•			•	•				•	
Production Supervisor	•				•		•				•	
Shift Chiefs	•				•		•				•	
Hazardous Materials				•	•		•				•	
Maintenance Information Control	•				•		•				•	
Maintenance Training NCOIC	•				•		•				•	
Unit Level Learning Center	•				•		•				•	
Maintenance Debrief	•				•		•				•	
Lockers	•				•		•				•	
Reserve OIC/ NCOIC / Admin / Records		•			•		•				•	
<b>Life Support</b>												
OIC / NCOIC	•				•		•				•	
Survival Training Room / rear projection room		•			•		•				•	
Oxygen Mask Repair		•			•		•					•
Mock-up Decontamination Room		•			•		•				•	
Staging Area		•			•		•				•	
Helmet / Chemical Storage / Issue		•			•		•					•
Night Vision Goggle Test Center Area		•			•		•				•	
Equipment Storage				•	•		•				•	
Explosive Storage / Flares				•	•		•					•
Oxygen Bottle Maintenance		•			•		•				•	
Flight Line Inspection		•			•		•				•	
Associate Reserve Storage (Note 2)		•			•		•				•	
Helmet Storage		•			•		•				•	
<b>Common Use</b>												
Mechanical Room				•	•		•					•
Communication / Electrical Room				•	•		•				•	
Bathrooms			•		•				•		•	
Janitor's Closet				•	•		•				•	
Storage / Miscellaneous		•			•		•				•	
Outside Storage				•	•		•					•
Vending		•			•		•				•	

Figure 4.1: Interior Finish Schedule (Cont'd)



## References

AFI 32-1032	Planning and Programming Real Property Maintenance Projects Using Appropriated Funds
AFI 32-1023	Design and Construction Standards and Execution of Facility Construction
AFI 32-1024	Standard Facility Requirements
AFH 32-1084	Standard Facility Requirements Handbook
AFI 31-209	Air Force Resource Protection Program
AFM 91-201	Explosives Safety Standards
AMCI 11-301	Aircrew Life Support Program
ADA	Americans with Disabilities Act
FED STD. 795	Uniform Federal Accessibility Standards
MIL-HDBK 1190	Facility Planning and Design Guide
NFPA 101	Life Safety Code
NFPA 230	Types of Construction
10 CFR Chapter 11	Energy Conservation Voluntary Performance Standards for New Buildings
UFC 3-600-01	Design: Fire Protection Engineering for Facilities
AMC	Commander's Guide to Facility Excellence
AMC	Base's Architectural Compatibility Guide
AMC	Interior Design Guide
AMC	Landscape Design Guide
AMC	Sign Standards, Engineering Technical Letter 93-02
AMC	Consolidated Squadron Operations/Aircraft Maintenance Unit Design Guide (Sep 93)