# AIR MOBILITY COMMAND

# AIRCRAFT MAINTENANCE
# TRAINING FACILITY
# DESIGN GUIDE

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# Chapter 1- Introduction

## A. Purpose

This guide provides the basic criteria to evaluate, plan, program, and design maintenance training facilities to house all AMC maintenance training functions, including AETC resources.  It is intended to ensure personnel are aware of important design considerations and to aid in project development.

Planning and programming for maintenance training facilities should consider all aspects of aircraft maintenance training.  Additionally, a quality design will maximize effective use of available space and provide efficient maintenance training facilities.

## B. Design Guide Scope and Use

This guide applies to the design of all new construction and renovation projects for aircraft maintenance training facilities.  It provides the overall criteria for determining requirements, site evaluation and planning, and design of exterior and interior areas.

Use this guide to supplement other Air Force, Department of Defense (DoD), and MAJCOM policies and instructions to identify individual construction project requirements.  The Requirements Document (RD) defines the program for design of an individual Military construction (MILCON) project.  It includes functional requirements, design criteria, and cost information.  The material in this guide provides the basis for preparing the RD's.



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### 1. Project Initiation

Information required for preparation of the DD Form 1391, Military Construction Project Data, which initiates project development, is found in Chapter 2.  This includes considerations of space criteria to determine overall building size, site evaluation, and special factors to be used in cost estimates.

### 2. Site Selection

Site selection is generally part of the installation's master planning process.  It is completed prior to preparing a DD Form 1391 for an individual project.  However, project-programming requirements developed in the DD Form 1391 phase may require a re-evaluation of the sites for a project, see Site Evaluation.

### 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 this facility before beginning a major facility project.  The standard CID addresses interior finishes, artwork, signs, and furnishings.  Refer to

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the AMC Interior Design Guide for an expanded discussion of interior design.

All areas of the Maintenance Training Facility should be barrier-free and accessible to the disabled in accordance with the Americans with Disabilities Act (ADA) and Uniform Federal Accessibility Standards and Uniform Federal Accessibility Standards (UFAS).

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.

The design of a project is developed in progressive phases, i.e., planning and programming, concept and preliminary drawings, and final construction drawings.  Design guidance for all of these design phases are covered in Chapters 2 through 4.

Chapter 2 provides basic planning and programming criteria, along with tables for determining square footage requirements.

Chapter 3 addresses specific design issues concerning individual functional areas, which are important for preliminary and working drawings.  In this chapter, illustrative designs and photographs help clarify the design guidance of the preceding chapters.

**4. Interior Finishes and Furnishings**
Chapter 4 provides recommendations for selection of interior materials, finishes, and colors.  Carefully selected interior finishes and furnishings are essential for a quality design.
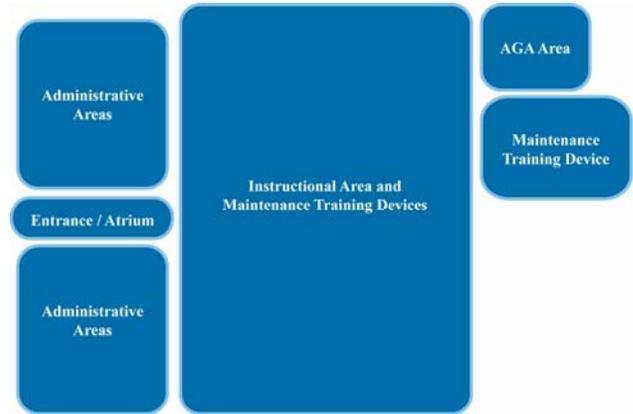


**Figure 1.1**
**Functional Area Relationships for the Maintenance Training Facility**

## C. Maintenance Training Facilities
Three components comprise Maintenance Training Facilities:

**a.** Administration and Common Areas normally include instructional areas and maintenance training devices. Administrative space requirements normally include private supervisory offices, conference space, open office areas, administrative support, rest rooms, break rooms, and utility space.  In addition, the Training Detachment requires space for instructor offices, classrooms, technical order library, student and instructor lounges, break area, and storage/supply area.

**b.** The Maintenance Training Flight requires space for Flight Chief, MTF Superintendent, administration offices, curriculum developer offices, scheduling offices, instructor and student offices, classrooms, computers, servers, student and instructor break areas, technical order library, support equipment, and storage / supply / facility maintenance areas.

**c.** Maintenance Training Device areas require space for instruction tools and display areas.

## D. Programming

Planning, programming, and designing a maintenance training facility requires extensive coordination.  This coordination is important because of the different organizations involved in defining facility requirements.

Organizations and Personnel likely to have facility planning and design inputs are:
• HQ Air Mobility Command Maintenance training personnel
• HQ Air Education and Training Command Maintenance training personnel
• Wing Commander
• Wing Safety Officer
• Support Group Commander
• Maintenance Group Commander
• Maintenance Support Squadron Commander
• Maintenance Training Flight Superintendent
• Training Detachment Commander / Superintendent
• Communications Squadron Commander
• Civil Engineering Squadron Commander
• Security Police Squadron Commander

## E. Administration Functions

The following identifies typical administrative functions in an aircraft Maintenance Training Facility.

**1. Command Activities**
**a. Flight Commander** - An individual office for the person in charge of the training flight and works directly for the

MOS/CC (as required by AMCI 21-104, Aircraft Maintenance Training).

**b. Flight Chief** - An individual office for an authorized Education and Training Manager or civilian equivalent who works directly for Commander MOS/CC (as required by AMCI 21-104, Aircraft Maintenance Training)

**c. Officer-in-Charge (OIC)** - Individual office for officers in charge of training functions. A MTF and/or TD OIC maybe assigned based on the size of the flight or detachment.

**d. MFT Superintendent** - Individual office for enlisted person in charge of maintenance training facility functions.

**e. TD Superintendent** - Individual office for enlisted person in charge of training device functions.

**f. Information Manager/Waiting Area** - An open office adjacent to the OIC/Superintendent's offices, used for guest waiting and secretarial functions.

**2. Central Administration / Elements**

**a. Training Management Element** - An open office with modular workstations to accommodate the personnel who perform various unit-training functions.

**b. AFETS Section** - An open office with modular workstations for the personnel, if assigned, who provide on-site field engineering support and specialized technical training.

**Figure 1.2**
**Functional Area Relationships for the Administrative Area**

**3. Support Space**
**a. Atrium/Lobby** - an area for access and orientation to public areas for visitors and students.

**b. Conference Rooms** - These rooms are fully equipped with audiovisual equipment.  The conference rooms should adjoin the administrative support area.

**c. Rest Rooms** - For public use; areas must be accessible by the disabled.

**d. Break Rooms** - Areas for personnel to take a break, relax, and enjoy a snack in a relaxing environment.  An outdoor patio may be included.

**e. Janitor's Closet** - Area for mop sinks, storage of facility maintenance supplies, and cleaning gear.

**f. Mechanical Rooms** - Space for heating, ventilating and air conditioning equipment (HVAC), electrical service, and fire detection and alarm system equipment.

**g. Communications Room** - Space for telephone services, local area network / data communications, video / television, paging, and security and fire sensing and alarm systems.

**h. Storage / Supply Area** - Space set for storage of general supplies, maintenance items, and cleaning materials.

## F. Training Functions
The following eight functions occur in the training facility.

**a. Instructors Office** - An open office with modular workstation furniture with individual areas for each instructor.  The size of this office depends on the number of instructors as well as shift work.

**b. Classrooms** - Spaces dedicated for training functions.  These spaces should be fully equipped with audiovisual computer systems and training aids.

**c. Training Development Team** - The size of this office will be determined by the number of personnel who are assigned to this function.

**d. Contractor Logistics Support** - An office, workspace, and storage area for toolboxes and spare parts. This office must be adjacent to the Maintenance Training Device areas (MTD).

**e. Technical Order (TO) Library** - This area will house the TO's for both the Training Detachment and Maintenance Training Function.  This space must be readily accessible to all staff and students.

**f. Computer Lab** - This area is designed to be used as part of the Distance Learning Center or as a classroom for instructor-led computer-based training.

**g. Maintenance Training Devices (MTDs)** - These areas are designed for specific training devices.  The TD and the MTF share these devices so they must be centrally located.

**h. Distance Learning Center (DLC)** - This area should be adjoined to the computer lab.  This area houses most computer-based training and instructional videos for the unit.  This center is open to all personnel for IMI training.

## G. Space Criteria
The following planning considerations will define the ultimate area of the planned Maintenance Training Facility.

Define the size, type, number, and functional area relationships required to support the Maintenance Training Facility.

Development of the space allocation should take into consideration the existing facilities relative to current and future needs.
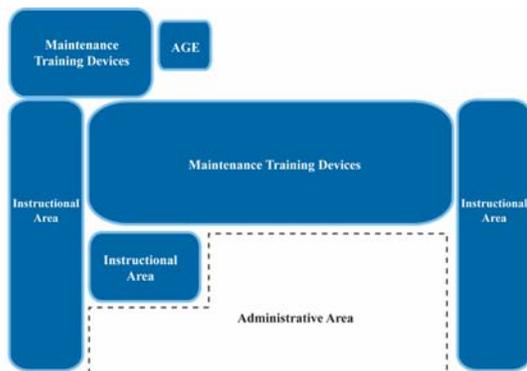


**Figure 1.3**
**Functional Area Relationships for the Instructional Area**

The overall area of the Maintenance Training Facility is dependent on the base population and the transient personnel using the facility.

Facility requirements should also be based on the MTDs and the people and equipment required to support the MTDs.

These functional areas are graphically illustrated in Figures 1.2 and 1.3.  Many areas within the overall facility have specific space requirements which are outlined in Figures 1.4 and 1.5.  The facility includes space for several spare training devices that can be adjusted without facility modifications within the general facility floor area.

## H. Site Evaluation
Locate Maintenance Training Facilities with access from major base roadways. This facility should be adjacent to the apron maintenance function but away from high levels of noise.  If possible, the facility should be located as close as possible to the flight line.  In addition, the facility must be expandable to accommodate additional devices or future training device requirements.

Site areas depend upon gross building square footage, area required for access, maneuvering and parking of government owned vehicles (GOVs) and privately owned vehicles (POVs) away from major access and service roadways.

Maintenance training devices will be one of the biggest variables in determining the size and area of the facility.

Prior to preparation of the DD Form 1391, preliminary site design should be performed to ensure basic building and

site criteria can be accommodated.
Topography of the selected site should
be relatively flat and well drained.

## I. Special Project Costs

Special factors should be considered
when establishing initial estimates of
project costs.  Considerations may
include:

• Geographic Project Location

• Weather conditions - Evaluate local
  wind, snow, and seismic conditions for
  their impact on project costs.

• Geotechnical Soil Analysis –
  Determine whether specialized site and
  foundation design would be required.

• Structural Loads - Access equipment
  weight / loading to determine any
  specific design and construction costs,
  especially for high-bay clearance
  spaces.

• Zone Controls - Functional areas may
  require different environmental
  conditions, based on function or hours
  of operation.  Zone controls can be
  used to satisfy these individual
  environmental requirements for the
  various functional areas.

| Functional Space Requirements for Administrative Areas | | |
| --- | --- | --- |
| | **Type of Space** | **Formulas for Net Space** |
| **Command Activities** | | |
| Flight Commander | Private Office | Number of private offices X 130 sf |
| Flight Chief | Private Office | Number of private offices X 130 sf |
| Officer-in-Charge | Private Office | Number of private offices X 130 sf |
| Superintendents | Private Office | Number of private offices X 108 sf |
| Information Manager / Waiting Area | Modular Furniture | Number of private offices X 108 sf |
| **Central Administration** | | |
| Training Management Element AFETS Section | Modular Furniture | Number of private offices X 108 sf |
| **Support Spaces** | | |
| Atrium / Lobby | Open | Not applicable |
| Conference room (2) | Open | Square footage is based on 50 seats @ 19.5 sf |
| Break room (2) | Open | Square footage is based on 45 seats @ 15 sf |
| Restroom (3 sets) | Open | Square footage is based on NPC for occupancy and number of fixtures for a set number of people |
| Storage room | Open | For general storage of supplies and maintenance items – as required |
| Mechanical room | Open | Square footage is based on 1.1 sf for every 140 sf of net building space |
| Communications room | Open | Size of room per EIA / TIA 569 with the minimum requirement of one room per 10,000 sf |
| Computer storage room | Open | For storage of computer servers and equipment |
| Janitor's closet | Open | As required |

**Figure 1.4 Functional Space Requirements for Administration Areas**

| | **Type of Space** | **Formulas for Net Space** |
|---|---|---|
| **Functional Space Requirements for Instructional Areas** | | |
| Instructor Office (2) | Modular Furniture | Number of instructors X 50 sf |
| Classrooms (One classroom per every 2 instructors) | Classroom | 4-6 students X 35 sf + 100 sf (instructor space) for Mobile Training Set (MTS) |
| TDT Office | Modular Furniture | Number of personnel X 50 sf |
| Scheduler's Office | Modular Furniture | Number of schedulers X 50 sf |
| Curriculum Developer | Modular Furniture | Number of developers X 50 sf |
| CLS Office | Modular Furniture | Number of workstations X 108 sf + workspace |
| Technical Order Library | Classroom | As required |
| Computer Laboratory | Classroom | As required |
| Maintenance Training Devices (various) | High-bay / Classroom | Size of device + work space + 10% for expansion |
| Distant Learning Center | Classroom | As required |

**Figure 1.5 Functional Space Requirements for Instructional Areas**

# Chapter 2-
# Project Design

## A. General
This chapter presents criteria for locating a Maintenance Training Facility on a site, design of the facility and requirements for infrastructure and specific technical features.

## B. Site Design
### 1. Selection

See figure 2.2 for the site organization concept.

Site the building to provide a main entrance and separate vehicular access for the Maintenance Training Devices (MTD) and Aerospace Ground Equipment (AGE)

Building orientation should take into account the following factors:
• Meet Force Protection requirements
• Protection from winds and glare
• Shade from excessive solar radiation in hot climates
• Orient operable windows to take advantage of prevailing summer winds.
• Provide maximum solar exposure during the winter in cold climates

### 2. Access
Provide a clearly identifiable entrance to the site and facility.

Service vehicles should always be separated from general vehicular traffic and pedestrian access. Keep traffic control signs to a minimum and use signage for the integration of POV's,


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truck traffic, and installation street traffic.

### 3. Utilities
In accordance with local service procedures, provide:
• Water, sanitary sewer, and storm water systems, plus natural gas, steam service, or fuel/oil systems.
• Electric, telephone, sprinkler system, fire alarm, and communications systems.

### 4. Landscaping
Use landscape elements to define the site and the main entrance. Landscaping should present an attractive image for the facility, as well as natural screening for separation between parking areas. Landscape design should meet Anti-Terrorism Force Protection (ATFP) requirements.

### 5. Force Protection Guidelines
Anti-Terrorism Force Protection (ATFP) is commonly referred to as force protection measure. In light of the events of September 11, 2001, the Department of Defense (DoD) instituted a comprehensive evaluation of standards being used to combat those who would attempt to harm personnel who work for the United States Government. Unified Facilities Criteria (UFC) 4-010-02, DoD

Minimum Anti-terrorism Standards for Buildings, was published and distributed to all military installations and GSA offices.

The intent of these standards is to minimize the possibility of mass causalities in buildings owned, leased, or otherwise occupied, managed, or controlled by or for the Department of Defense.  These standards provide appropriate, implemental, and enforceable measures to establish a level of protection against all potential threats for all inhabited building.  Total implementation for all existing facilities is cost prohibitive.  The intent of these standards can be achieved through prudent master planning, real estate acquisition, and design and construction practices. In the financial aspects of these standards, significant savings would be realized in comparison to the cost of lives of those who live and work in these facilities.

Levels of protection provided by UFC 4-010-02, establish a foundation for the rapid application of additional protective measures in a higher threat environment. These standards may be supplemented where specific terrorist threats are identified, where local commanders dictate additional measures. Figures 2.1 shows the Force Protection Measure requirements in a graphic site development format.  Table 2.1 presents the setback distances required in a table format.

Terminology used for force protection is defined below:
• Billeting. Any building or portion of a building in which 11 or more unaccompanied DoD personnel are routinely housed, including Temporary Lodging Facilities (TLF) and military family housing permanently converted to unaccompanied housing.
• Controlled Perimeter. For the purposes of these standards, a physical boundary at which vehicle access is controlled at the perimeter of an installation, an area within an installation, or another area with restricted access.  A physical boundary will be considered as a sufficient means to channel vehicles to the access control points.  At a minimum, access control at a controlled perimeter requires the demonstrated capability to search for and detect explosives.
• Conventional Construction Standoff Distance.  The standoff distance at which conventional construction may be used for buildings without a specific analysis of blast effect, except as otherwise required in these standards.
• Effective Standoff Distance. A standoff distance less than the Conventional Construction Standoff Distance at which the required level of protection can be shown to be achieved through analysis or can be achieved through building hardening or other mitigating construction or retrofit.
• Inhabited Building. Buildings or portions of buildings routinely occupied by 11 or more DoD personnel and with a population density of greater than one person per 430 SF.  This density generally excludes industrial, maintenance, and storage facilities, except for more densely populated portions of those buildings such as administrative areas.

| Force Protection Guidelines | | | | |
|---|---|---|---|---|
| **Location** | **Building Category** | **Applicable Level of Protection** | **Conventional Construction Standoff Distance** | **Effective Standoff Distance** |
| Controlled Perimeter or Parking and Roadways without a Controlled Perimeter | Billeting | Low | 45 meters or 148 feet | 25 meters or 82 feet |
| | Primary Gathering Building | Low | 45 meters or 148 feet | 25 meters or 82 feet |
| | Inhabited Building | Very Low | 25 meters or 82 feet | 10 meters or 33 feet |
| Parking and Roadways within a Controlled Perimeter | Billeting | Low | 25 meters or 82 feet | 10 meters or 33 feet |
| | Primary Gathering Building | Low | 25 meters or 82 feet | 10 meters or 33 feet |
| | Inhabited Building | Very Low | 10 meters or 33 feet | 10 meters or 33 feet |
| Trash Containers | Billeting | Low | 25 meters or 82 feet | 10 meters or 33 feet |
| | Primary Gathering Building | Low | 25 meters or 82 feet | 10 meters or 33 feet |
| | Inhabited Building | Very Low | 10 meters or 33 feet | 10 meters or 33 feet |
| Building Separation (for new buildings only) | Billeting | Low | 10 meters or 33 feet | No Anti-terrorism Minimum |
| | Primary Gathering Buildings | Low | 10 meters or 33 feet | No Anti-terrorism Minimum |
| | Inhabited Building | Very Low | No Anti-terrorism Minimum | No Anti-terrorism Minimum |

**Table 2-1: Minimum Standoff Distances and Separation for New and Existing Buildings.**

In a building that meets the criterion of having 11 or more personnel, with portions that do not have sufficient population densities to qualify as inhabited buildings, those portions that have sufficient population densities will be considered uninhabited, subject to provisions of these standards.  An example would be a hanger with an administrative area within it.  The hangar would be treated as uninhabited.

• Level of Protection.  The degree to which an asset (person, equipment, object, etc.) is protected against injury or damage from an attack.

• Primary Gathering Building.  Inhabited buildings routinely occupied by 50 or more DoD personnel and family housing with 13 or more family units per building.

This designation applies to the entire portion of a building that meets the population density requirements for an inhabited building.  For example, an inhabited portion of the building that has an area within it with 50 or more personnel is a primary gathering building for the entire inhabited portion of the building.  The primary gathering building designation also applies to expeditionary and temporary structures with similar population densities.

• The initial step in the process begins with the establishment of the controlled / uncontrolled perimeter.  Once set, this allows us to establish required setback distances in accordance with ATFP standards.
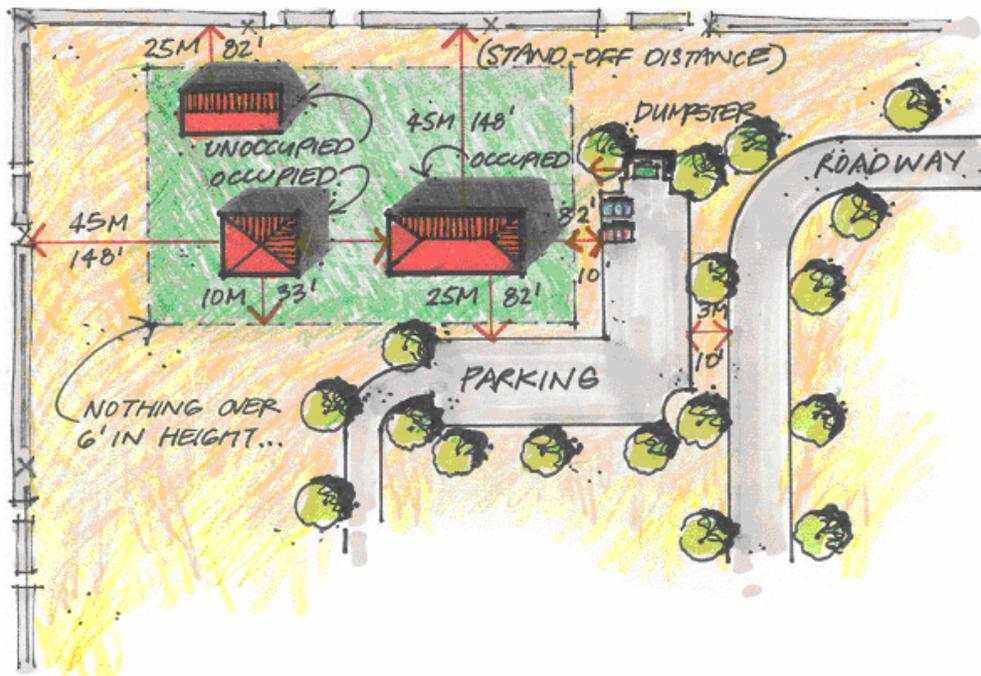


**Figure 2.1: Standoff Distances and Building Separation – Controlled Perimeter**

The minimum standards set forth in UFC 4-010-02, a setback of 148 feet from the perimeter fence.

Instances where current facility design requires modification, UFC 4-010-02, provides standards and guidelines by which the force protection measures can be mitigated.

Examples of these are:

• Landscaping and Vegetation. Ensure that shrubbery, trees and other obstructions within 33 feet of inhabited buildings or portions thereof do not allow for concealment of explosive devices six inches or greater in height.

• Electrical and Mechanical Equipment. The optimum location of electrical and mechanical equipment such as transformers, air-conditioning units is outside the unobstructed space or on the roof.  However, this standard does not preclude the placement of these units within the 33 feet standard provided there is no obstruction from view around the unit.
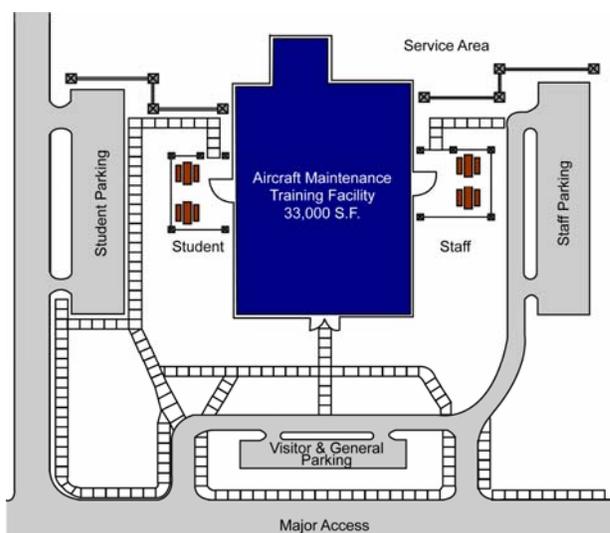


**Figure 2.2 Conceptual Site Plan**

• Facility Construction. Design features, which shall be incorporated, must include progressive collapse avoidance, structural support to ensure the building floor can with stand an explosion from outside the facility, and window frame reinforcement and glass glazing follows the standards in the UFC 4-010-02.

For those existing facilities, the replacement of windows is an immediate mitigation solution. Entrances to facilities containing fascia glass, as an architectural enhancement, must incorporate glazing and bollards to minimize blast effects.

• Trash Containers and Parking Areas. Placement of trash containers (dumpsters) is a vital planning component due to their design and accessibility for the placement of explosives.  These containers must be placed at a minimum of 33 feet from the closest point on the building exterior.  In those cases where this distances in not available, an enclosure of sufficient strength must be constructed around the container.  In the case if screening or walls, openings between the ground and the screen or wall must not be greater than six inches.

## C. Building Design

### 1. Organization and Circulation

This type of facility is comprised of space for command activities, administration, training, and maintenance of training devices. Administration should be a separate area and located away from the other functions.

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The main entrance should provide direct access to the command and training administrative offices.

An open floor plan and internal circulation corridors should provide access to all administrative section areas. Internal corridors should have a minimum width of five feet to facilitate reconfiguration, and they should match the adjoining office space in ceiling height, ceiling material, and floor material.

The rest rooms should have centralized locations with easy access from the circulation corridors.

### 2. Architectural Character, Materials, and Finishes

The architectural and interior design of the facility should be strongly interrelated.  The architectural style and form should be consistent with the base Architectural Compatibility Guide.  The design team should use comprehensive interior finishes and furnishings that are properly coordinated, as well as appropriate for each area.  See Chapter 4 for suggested interior finishes.

Provide a variety of spaces and subspaces to accommodate different size groups and activities.  Use modular systems furniture to economize on space, to provide flexibility, and to promote a sense of organization and visual order.

Consider the use of natural light whenever possible.  Some areas that would benefit include the entrance corridor, lobby, and circulation corridors, and possibly the Training Device areas.

### 3. Flexibility and Expansion Potential

Design of the facility should accommodate change and expansion without "over-designing."

### 4. Handicap Accessibility

All areas of the maintenance training facility should be barrier-free and accessible to the physically disable in accordance with Americans with Disabilities Act (ADA) and Uniform Federal Accessibility standards criteria. Finished floor elevation should remain consistent throughout the facility.

## D. Building Systems

### 1. Structural

Select a cost effective framing system based on size, project load requirements, availability of materials and local labor.

Select and design the structural system based on analysis of projected future needs to accommodate expansion easily and economically; however, do not "over-design" the initial construction.

Design building structural components to reflect clear space requirements, economy, and subsystem dimensions (e.g., ceiling grid, masonry, units, framing members, etc.).

### 2. Heating, Ventilating, and Air Conditioning

Perform a life - cycle cost analysis of available energy sources.  This is especially important in this era of deregulation of the power agencies by numerous states.

Interior range of temperature and relative humidity levels should conform to Air Force standards.  Mechanical air

circulation should be provided for public areas with limited or no air conditioning.

Night time setback controls should be provided for the HVAC system.

The ventilation and heating/air-conditioning loads requirements will depend on local climate factors; latitude, elevation, daily range of temperatures; building shape, size and orientation; and architectural features such as roof materials, wall systems and percent of glass wall area or shading devices.

Design this facility to meet federal energy conservation standards defined in 10CFR (Code of Federal Regulations), "Energy Conservation Voluntary Performance Standards for New Buildings; Mandatory for Federal Buildings."

Provide zone controls (temperature sensors with remote adjustment instead of thermostats) to maintain different environmental conditions in all functional areas.  Some areas of the facility (particularly the MTDs) may require special environmental systems and operation of the systems when other areas are closed.

Provide mechanical exhausts for rest rooms.

The HVAC system should be designed and constructed for ease maintainability and replacement, with all the controls on one panel in the mechanical room.

Provide for connection to the base energy monitoring and control system.

### 3. Plumbing
Provide domestic hot and cold water, sanitary and storm drainage, with propane or natural gas systems.

Provide hot and cold water to all rest rooms, sinks, and janitor's closets.

Provide shut-off valves for isolation of all system fixtures.  Freeze-proof hose bibs should be provided at all exterior wall locations if local climate conditions warrant them.

### 4. Electrical
Provide electrical services, including distribution equipment, wiring, receptacles and grounding, interior/exterior lighting and controls, emergency lighting, security telephone, and fire alarms.

Evaluate and include the power needs requirements of special equipment and requirements for an uninterrupted power supply.

All power service equipment should be Underwriters Laboratories listed or as an alternative, provide published data from a bona fide independent testing laboratory, or nationally recognized certification procedure.

General convenience receptacles and special power outlets should be commercial grade.  Convenience receptacles should be a maximum of eight feet apart.  Provide special power outlets and circuits for all computer equipment, as required.  Provide LAN and electrical outlets at appropriate heights for plasma screens where required.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Recommended Light Levels** | | | | | | | | | |
| **5 FC** | **10 FC** | **20 FC** | **30 FC** | **50 FC** | **70 FC** | **100 FC** | **150 FC** | **200 FC** | **500 FC** |
| Parking<br><br>TV viewing<br><br>Construction | Storage<br><br>Rough Stock<br><br>Receiving | Lobbies<br><br>Auditorium<br><br>Corridor<br><br>Stairway<br><br>Dining | Lavatories<br><br>Corridors<br><br>Conference Rooms<br><br>Casual Desk Work<br><br>Cafeteria | Classrooms<br><br>Stores<br><br>Reading Rooms<br><br>Testing<br><br>Inspection<br><br>Rough Assembly | Proof-Reading<br><br>General Assembly<br><br>Testing<br><br>Inspection | Drafting<br><br>General Assembly<br><br>Testing<br><br>Inspections<br><br>Counter Displays | Fine Drafting<br><br>Fine Assembly<br><br>Testing<br><br>Inspection<br><br>Display Lighting<br><br>Severe & Prolonged Seeing Tasks<br><br>Medium Server Office Tasks | Fine Drafting<br><br>Extra Fine Assembly<br><br>Testing<br><br>Severe Office Tasks | Color Identification<br><br>Minor Surgery<br><br>Special Inspection<br><br>Testing<br><br>Very Severe and Prolonged Visual Task |

**Table 2.2: Foot candle levels based on I.E.S. Recommendations
Source: Architectural Graphic Standards, sixth edition, 1970**

General lighting in office areas should be fluorescent with low temperature energy efficient ballasts and lamps.

Indirect lighting systems of the high-intensity discharge or fluorescent type may be used where practical.

See Table 2.2 for recommended illumination levels for various activities.

Use for incandescent lighting should be kept to a minimum because of energy efficiency and frequency of maintenance.  When used, incandescent lighting should have an extended life of at least 2,500 hours.

Lighting control systems should include dimmers to automatically reduce intensity levels of artificial lighting whenever natural light is available.

Exterior lighting of parking areas, walkways, and building entrances should be provided.  Use high-intensity discharge light sources, with directional lens to remove light pollution and direct light to area of use.

Provide illumination exit signs, public address systems, and battery power emergency lighting.

Provide security surveillance systems with at least two levels of detection in designated areas, such as the following systems:

• Photo card key access
• Voice recognition system
• Motion Detection
• Sound Detection

### 5. Fire Protection

Facilities should be of noncombustible construction with life safety systems applicable to the function occurring in the area or space.

Hazardous or combustible supplies must be contained within a fire-rated enclosure, preferably outside of the facility or in an approved secure storage container if located inside of the facility. They should be stored in a separate secure room with direct access to the exterior and adjacent to the aircraft training device maintenance contractor's area, combing USAF and Maintenance Contractors hazardous waste and combustible supplies storage in one location.

### 6. Communications

The base communications squadron in coordination with the system telecommunications engineering manager can provide details on secure communications requirements and the design for the buildings' internal and external phone and data connectivity, as well as security alarm system wiring.

These communication systems will be incorporated in building design specifications, including connectivity to the base phone and data infrastructure systems with sufficient capacity to support the maximum planned number of building occupants.  The general communication requirements are as follows:

• Phone connections – Provide pre-installation connections to support the maximum planned number of people in each room.  Provide for future growth, modem connections, and special requirements (pay phones, etc.).

• Administrative Data Connections – Provide administrative computer and (LAN) printer connectivity. Specialized computer connectivity should also be provided to support other the base mission objectives when required.

• Optic Connectivity - May be required (internally to several locations and / or externally to system nodes) to support AMC command, control, communications, and computer system.

• Hands-free, two-way intercom (public address system) provide wall-mounted speaker units throughout the facility. Provide capability to zone enunciators to manually selected areas.

# Chapter 3- Functional Area and Space Criteria

## A. General

This chapter presents criteria for programming, planning and designing a combined maintenance training facility. Primary design considerations include the use, performance, organization, character, and relationships of component spaces. For each area, specific criteria are provided concerning area and critical dimensions. These recommendations may be modified to reflect specific mission requirements. The functional areas have been presented in chapter 1, figures 1.4 and 1.5. Ensure that facility training device areas are of sufficient size to accommodate aircraft type training equipment. A detailed space allocation study for specific airframe is provided for guidance in Appendix A.

## B. Command and Administrative Functional Areas

### 1. Design Considerations
The primary training detachment areas include the following:
• Command Activities
• Central Administration
• Support Spaces

Integrate the entrance into overall building form. Make it easy to identify and visible from the street, parking areas, and for pedestrians.

Site circulation should be designed so that pedestrian activities are not disrupted by traffic flow. Provide natural light and a view of the outdoors unless site conditions, climate, or other circumstances make this undesirable.



**Figure 3.1: Typical building entrance**



**Figure 3.2: Typical view of building entrance from access point**



**Figure 3.3: Typical main circulation corridor**

Command offices may be open or enclosed.  If open areas, modular systems furnishings should be used.  Spaces should have a business-like and professional character.

Command and Administrative functions should be accessible and adjacent to the main entrance of the facility.

### 2. Offices (OIC, NCOIC, MTF / TD Superintendent)
This administration area has private offices which have easy access to maintenance and training areas.  The offices will also be adjacent to photocopiers, fax, network printers and storage requirements.

**a.** Furnishings and Equipment
• Desk and chair
• Side chairs
• File Cabinets
• Individual computer station
• Conference room (private)



**Figure 3.4: Command office**

**b.** Technical Requirements
•Telecommunications data/computers
•Wiring for LAN computers
• Security devices to control access



**Figure 3.5: Training NCOIC office**

### 3. Staff Offices
This administration area contains open office space for personnel workstations.  In addition to general office space this area will be adjacent to program space for photocopiers, fax, network printers and storage requirements.

**a.** Furnishings and Equipment
• Modular workstations
• Task lighting for workstations
• Lockable cabinets
• Five drawer vertical files
• File cabinets
• Individual computer stations
• photocopier
• Fax machine
• Guest chairs
• Access to facility conference room

**b.** Technical Requirements
• Telecommunications data/computer outlets
• Wiring for LAN computers
• Security devices to control public access.

**Figure 3.6: Staff instructor's desk and training room**

### 4. Atrium / Lobby

The atrium / lobby is a point of entry within the building for staff and visitors. A seating area for visitors off the main circulation may be incorporated. This area may also have a reception desk, which can be security check point for unauthorized personnel in the building.

**a.** Furnishings and Equipment
• Guest chairs and sofas
• Tables (low)
• Display cases
• Plants, artificial/natural
• Military art



**Figure 3.7: Administration function waiting area**

### 5. Conference Room

The conference room will function as a meeting location for the staff. The room will allow variable seating arrangements for daily staff meetings, briefings, small

group training sessions, and special meetings.

**a.** Furnishings and Equipment
• Conference table and chairs
• Marker and tack boards
• Video/slide projector, or computerized graphics system
• Built-in large television monitor
• Individual computer stations as required
• Equipment table



**Figure 3.8: Conference / Auditorium**

**b.** Technical Requirements
• Multiple switching and dimming controls for low light levels and energy conservation
• Telecommunications data/computer outlets
• Wiring for LAN computer
• Security devices to control public access

### 6. Break Rooms

This area is used for work breaks and lunches. The area will include equipment for minimal food preparation.

**a.** Furnishings and Equipment
• Durable, good quality tables and chairs
• Microwave, refrigerator, and coffee maker
• wall and base cabinets
• bar and sink

• Telephone
• Television
• Outdoor patio area with furnishings
• Smoking area room at least 50' away
  from building.

**b.** Technical Requirements
• Vending area alcove for snack and
  soda machines
• Direct secure access for vendor service
• Easily cleaned, water-and-mud-
  resistant flooring materials
• Walls with minimum sound
  transmission class rating of 45
• Install "store front" glass system at
  entrance to patio, consistent with local
  weather conditions
• Coaxial wiring for cable
• Telecommunications data outlet

**7. Restrooms**
Provide combined restroom facilities for
staff and students from both the training
and repair squadron and maintenance
operation squadron.  Average daily
building occupants will range between
150 to 155 or higher.  Provide storage
area for restroom supplies in restroom.

**a.** Furnishings and Equipment
• ADA accessible
• Men: vestibule, lavatories, urinals,
  water closets, showers, changing areas,
  soap dispensers, paper towel dispenser
  and disposal unit, toilet paper holders,
  grab bars, mirrors, and coat hooks.
• Women: Same as men, minus urinals,
  plus sanitary product dispensers and
  disposal units

**b.** Technical Requirements
• Sound transmission class rating:
  45 between adjacent rooms
• Finish floors with non-skid ceramic tile
• Finish walls with ceramic tile installed
  either full height or as a wainscot

• Use plastic laminate for lavatory
  counters

**8. Mechanical & Electrical Room**
Square footage is based on seven to
eight percent of the gross building
square footage.  Ensure clear space
around equipment to perform
maintenance / repair functions.

**a.** Furnishings and Equipment
• Floor-mounted mop sink
• Electric panels
• Fire-suppression system controls

**b.** Technical Requirements
• Sound transmission class rating: 47-52
• Lockable door, preferably entered from
  both inside and outside of the building

**9. Communications Room**
Provide separate, dedicated tele-
communications space to satisfy the
immediate and planned future needs,
according to AFH 32-1084, Facility
Requirements.
• Telecommunications closet - size the
  closet per EIA/TIA 569.  Table 7.2-1,
  Provide a minimum of one closet per
  10,000-sf (930m2), one closet per
  building.
• Equipment room - size rooms per
  EIA/TIA 569, Table 9.5-2, and
  allocate 1.1-sf (0.1m2) of space for
  every 140-sf (13m2) of net office
  space. The minimum size will be
  150-sf (14m2).
• Entrance Room - size rooms per
  EIA/TIS 569, Table 9.5-2, and provide
  on room for all facilities exceeding
  20,000-sf (1,860m2).
• Provide for various computers, as
  required
• Provide surge protection for all
  computer equipment

**10. Janitor's Closet**
Provide for:
• Floor-mounted mop sink
• Adequate storage cabinets for cleaning supplies.
• Shelves and hooks for cleaning and building maintenance equipment
• Adequate light levels
• Easily maintained wall and floor surfaces

**11. Storage**
Provide for:
• Shelves
• Base and wall cabinets

# C. Training Functional Areas

The primary training functional areas include the following:
i. Instructors Offices
ii. Scheduler's Office
iii. Curriculum developer's office
iv. Classrooms
v. Trainer Development Team office
vi. Contractor Logistics Support (CLS) office
vii. Technical Order (TO) Library
viii. Computer laboratory
ix. Maintenance Training Devices (MTDs)

**Space Organization and Character**
• Spaces should have a business-like character and secure access.
• Classroom layout should maximize utilization of floor space, particularly classrooms with mobile MTDs located on the building perimeter.
• Provide controlled natural light unless site conditions, climate, or other circumstances make this unfeasible.
• Ensure classroom doorways and corridors are wide enough to accommodate mobile MTDs.
• The CLS office should be located near or within the MTD functional area.

• The TO Library should be equipped with tables, chairs and for lighted in research and studying
• Locate the Distance Learning Center (DLC) and computer lab centrally to ensure easy accessibility for students and DLC customers.
• Configure the DLC and computer lab to allow the rooms to be subdivided when required.
• Provide controlled natural light where feasible and diffused lighting to minimize glare.

**Instructor Offices**
**a.** Furnishing and Equipment
• Modular workstation
• Task lighting for workstations
• Computer stations
• File cabinets and book cases

**b.** Technical Requirements
• Telecommunications data / computer outlets
• Wiring for LAN computers
• Digital Technical Order System (DTOS) capability
• Security devices to control access

**Scheduler's Office**
**a.** Furnishings and Equipment
• Modular workstations
• Task lighting for workstations
• Individual computer stations
• File cabinets and book cases

**b.** Technical Requirements
• Telecommunications data / computer outlets
• Wiring for LAN computers
• Security devices to control public access

**Curriculum Developer's Office**
**a.** Furnishings and Equipment
• Modular workstations

• Task lighting workstations
• Individual computer stations
• File cabinets and book cases

**b.** Technical Requirements
• Telecommunication data / computer
 outlets
• Wiring for LAN computers
• Digital Technical Order System
 (DTOS) capability
• Security devices to control public
 access

### Classrooms

Locate classrooms on the exterior portion of the building near training devices area for a minimum of 8 to 10 students.



**Figure 3.9: General Classroom**

**a.** Furnishings and Equipment
• Tables and chairs
• Projection equipment
• Smart board or whiteboards
• Audio-visual computer
• Computerized work stations,
 if required
• Personal digital assistants (PDA) for
 each student, if required
• Training aids, if required
•Acoustical-rated movable partition to
 allow for division of space. The
 partition should have a minimum
 45 sound transmission class acoustical
 rating

**b.** Technical Requirements
• Telecommunications data / computer
 outlets
• Wiring for LAN computers
• Digital Technical Order System
 (DTOS) capability

### Trainer Development Team Office (if assigned)

**a.** Furnishings and Equipment
• Modular workstations
• Desk chairs
• File cabinets
• Bookshelves
• Drafting table
• Individual computer station
• Task lighting for workstations

**b.** Technical Requirements
• Telecommunications data / computer
 outlets
• Wiring for LAN computers
• Digital Technical Order System
 (DTOS) capability
• Security devices to control public
 access

### Contractor Logistics Support (CLS Office, if assigned)

**a.** Furnishing and Equipment
• Modular workstations
• Desk Chairs
• Bookshelves
• Drafting table
• Contractor-provided personal
 computers
• Task lighting for workstations
• Built-in storage for tool boxes, spare
 parts
• Combined HAZMET and combustible
 supplies area with USAF.

**b.** Technical Requirements
• Telecommunications data / computer
 outlets
• Wiring for LAN computers

• Digital Technical Order System
 (DTOS) capability
• Security devices to control access

**Technical Order (TO) Library**
**a.** Furnishing and Equipment
• Tables and chairs
• Carts
• Space-saver storage systems
 (rotary file cabinets)
• Modular workstations
• Desk chairs
• Personal computers

**b.** Technical Requirements
• Telecommunications data / computers
 outlets
• Wiring for LAN computers
• Digital Technical Order Systems
 (DTOS) capability



**Figure 3.10 Technical Order Library**

**Computer Lab**
**a.** Furnishing and Equipment
• Modular workstations
• White board
• Overhead projection system
• Desk chairs
• Individual computer stations

**b.** Technical Requirements
• Telecommunications data / computer
 outlets
• Wiring for LAN computers
• Digital Technical Order System
 (DTOS) capability



**Figure 3.11: Computer Lab Station**



**Figure 3.12:**
**Computer Lab Classroom**



**Figure 3.13:**
**Computer Lab Classroom**

**Maintenance Training Devices (MTD)**
**a.** Size and critical dimensional
space requirements and room
dimensions are based on the size of the
various training devices.  The required

operational area of the device, adequate space to conduct actual training, equipment maintenance and, taking into account future expansion/modifications of the devices are all requirements for this area.



**Figure 3.14:**
**Engine Maintenance Training Device area**

A training device, which needs more than 1,200 square feet, requires a ceiling height exceeding 12 feet, i.e. a high-bay.

If several training devices will be located in an open bay, space requirements should include adequate floor area between the devices for expansion, teaching, and noise reduction. The ceiling requirements should be based on the tallest device.

Locate training devices area in the interior of the building and in the rear portion of the facility. Engine room needs two large overhead doors at opposite ends, to facility engine removal installation training. Ensure the concrete floor is designed to support weight of training device.



**Figure 3.15:**
**Air Frame Maintenance Device Instructors Station**

**b.** Furnishes and Equipment
• Tables and chairs
• Whiteboards
• Computerized projection system
• Individual computer stations

**c.** Technical Requirements
The following are some special technical requirements to consider when planning facilities with maintenance training devices.
• In-floor trenching for electrical cables
• Electrical -powered hydraulic pumps audio only sound will be simulated
• Overhead rails and hoists
• Specific climate controls dictated by device requirements
• Specific power requirements for devices requiring 90 amps or more

**Figure 3.16:**
**Vertical Stabilizer Training Device**

• Liquid cooling systems for avionics
  devices
• Wiring for LAN computers
• Ventilation systems
• Emergency equipment (eye wash
  stations, showers, etc.)
• Access to exterior with secure
  high / wide overhead doors on opposite
  end of the area to facility engine
  removal training
• Provide adequate direct lighting for
  detailed precision equipment
  maintenance training.



**Figure 3.17:**
**Power Plant Replacement Training**
**Device**



**Figure 3.18:**
**Wing Assemble Training Device**



**Figure 3.19:**
**Cockpit Electronics Training Device**
**Instructors Station**

# Chapter 4- Architectural Character and Interior Standards

## A. General

### 1. Architectural Character

Integrate the architecture and interior design of the Aircraft Maintenance Training Facility.  Develop a design that reflects the regional and local base architectural theme or character in accordance with Base Architectural Compatibility Plan.  Dramatic statements of style should be avoided.

Create a design scheme that applies continuously to the entire facility, from overall architectural expression to specific interior development.  Differentiate various functional spaces by changes in materials, colors, and/or textures.  For example, use soft floor materials for seating areas; hard materials for circulation areas.

Use architectural form to enhance function and uses.  For example, provide higher ceiling or vertical design features in lobbies and lounges and high-bay for the training device areas.

Ease the students and staff decision-making effort.  Create an open design with clear directional signage.  Provide direct visibility from main lobby into primary function areas such as administration, training and command activities.  Use directional signage to direct students and visitors to secondary functions such as restrooms, public telephones, vending, break-rooms, etc.

Provide for efficient circulation flow.  Ensure that aisle widths are sufficient for different levels of activities.  Consider clear-span versus column-supported structures for lobbies, lounges, and training devices areas.
Provide floor space for students sufficient for all training program activities and conditions.  General room circulation should not traverse between training devices when they are located in the common areas.

Use local materials to the greatest extent feasible.  Consider climate and humidity factors to avoid selecting materials that may be conducive to the growth of fungus or bacteria.  Consider the material's availability for replacement, should the need arise in future expansions or renovations.  Provide a record of architectural materials, interior finished, furniture, and fixtures to the BCE for future repairs.

### 2. Interior Finish Standards

A quality Training Facility reflects a standard of understated excellence and creates an environment where professionals can learn in a comfortable, functional setting.  Select finishes for life cycle cost effectiveness as well as environmental factors.  Interior finishes that are durable and easy to maintain are essential to user satisfaction.  A quality interior provides an environment that promotes improved job performance, student satisfaction, conveys professionalism, and maintains security in the workplace and public areas.  Refer to Interior Finish Schedule, Table 4-1, for generic information.  Refer to the AMC Interior Design Guide for additional information.

### a. Color Concepts

Provide a timeless color scheme.  Trendy colors that date the appearance

of a facility are unacceptable.  Use accent colors sparingly to complement neutral background colors.  Select neutral tones for materials that cover large expenses: wall coverings, hard-surface flooring, and system furniture wall panels.  Incorporate accents colors in carpets and/or carpet borders, upholstery, accessories, and artwork.  Ensure the interior color scheme is compatible with the exterior architectural color scheme.

**b. Floor Coverings**
Use hard surface flooring materials like ceramic tile, or quarry tile, in high traffic areas.  Provide carpet in seating areas, offices, conference and training areas, and some special use spaces like break-rooms use vinyl composite tile.  Consider multi-colored, patterned carpet tile in darker shades in the public areas.  Select neutral or lighter color carpets in small rooms to create the appearance of larger, lighter spaces.  Avoid stripes and liner floor designs that are hard to line up with walls in corridors, vestibules, or irregular shaped areas.  Use sheet vinyl composition tile in storage rooms, vending areas, and in areas where equipment or conditions may warrant.  Provide ceramic tile floors in restrooms.  Use sealed concrete floors in janitorial closets, and mechanical / electrical / communications rooms.  Consider safety issues, use slip resistant floor coverings where warranted.

**c. Wall coverings**
Use vinyl wall coverings, acoustical wall coverings, ceramic tile, paint, and textured paint finishes.  Avoid an "institutional" appearance.  Use ceramic wall tile in restrooms for ease of maintenance.  Where appropriate, include chair rails and vinyl corner guards to protect walls and wall coverings from carts, and other training tools and equipment.

**d. Ceilings**
Where the ceilings are suspended, use acoustical ceiling tiles with a concealed grid or revealed edge finish.  Use standard 2'x2' tile as the consistent module throughout the facility.  Use a water-resistant gypsum board or plaster with water resistant paint finish in restrooms and other wet areas.

**e. Window Coverings**
Window coverings are not required on all windows.  If desired, use vertical blinds in public spaces and mini blinds in office areas to filter daylight but still allow outdoor views.  Use lined draperies in the classrooms or draperies with blackout lining in the classrooms, conference and training rooms to block out light for visual presentations.

**f. Accessories**
Professionally framed artwork, wall murals, and live or high quality silk plants complement the interior finishes and reinforce the design scheme.  Provide trash and recycling receptacles that coordinate with the color scheme.  Put temporary notices, memos, training information, etc., on framed commercial bulletin boards located away from public view.  Plasma screens may be used for posting all policies, letters, notices, training, schedules, etc.  Keep instructional messages to students to a minimum, and post only where necessary.  Do not use hand lettered or stenciled signs in any room.

**g. Signs**
Develop an interior signage plan as part of the comprehensive interior design.

Use professionally made signs, appropriately sized for the viewing distance, and compatible with the facility design scheme. Refer to AFM 91-201, Explosives Safety Standards, to determine if fire symbol signs are required on the inside of the building. See Chapter 7 for additional information on antiterrorism and access control signage. See AMC Interior Sign Standards Manual.

**f. Furnishings**
Furnishings are an integral part of the comprehensive building design and image. Coordinate furnishing selections with built-in materials, textures, and colors. Design office areas using either panel-hung or desk-based systems furniture. These products generally take less floor space than free standing furniture and allow for future reconfiguring. Select furniture that has integral conduits, raceways, or channels for electrical and communications service to hide unsightly wires and cables. Use sound absorbent fabric panels and /or privacy screens to reduce background noise. Use plastic laminate work surfaces.

Use upgraded systems furniture for free standing wood furniture in OIC's offices. Use high quality wood and upholstered furniture in the lobby or waiting areas.

Provide a minimum inside seat width of 18". Use high quality, breathable vinyl or heavy-duty upholstery fabric. Use metal arms and legs (as opposed to wood) for durability and ease of maintenance.

**g. Miscellaneous**
Paint all exposed fire bells, electrical boxes, and other protrusions to match the adjacent walls. Coordinate light switches, receptacles, and their covers with the walls in which they are located. When providing color contrast to comply with ADAAG requirements for safe way finding, use colors that coordinate with the overall scheme.

| Interior Standards | Floors | | | | | Base | | Walls | | | | Ceilings | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Carpet | Vinyl Composition Tile | Ceramic Tile | Sealed Concrete | Raised Floor | Vinyl | Ceramic Tile | Paint | Vinyl Wallcovering | Acoustic Wallcovering | Ceramic Tile | Acoustical Ceiling Tile | Painted Gypsum Board | Painted Exposed Structure |
| **Support Space / Common Use Areas** | | | | | | | | | | | | | | |
| Atrium / Lobby | | • | | | | • | | | • | | | • | | |
| Restrooms | | | • | | | | • | | | | • | | • | |
| Break Rooms | | • | | | | • | | | • | | | • | | |
| Janitor's Closet | | | | • | | • | | • | | | | • | | |
| Mechanical Room | | | | • | | • | | • | | | | | | • |
| Electrical Room | | | | • | | • | | • | | | | | | • |
| Communication Room | | | | • | | • | | • | | | | • | | |
| Computer Storage Room | | • | | | | • | | • | | | | • | | |
| Conference Room | • | | | | | • | | | | • | | • | | |
| Storage / Miscellaneous | | • | | | | • | | • | | | | • | | |
| Outside Storage | | | | • | | • | | • | | | | | | • |
| **Command Administration Area** | | | | | | | | | | | | | | |
| Flight Commander | • | | | | | • | | | • | | | • | | |
| Flight Chief | • | | | | | • | | | • | | | • | | |
| Officer-in-Charge (OIC) | • | | | | | • | | | • | | | • | | |
| MFT Superintendent | • | | | | | • | | | • | | | • | | |
| TD Superintendent | • | | | | | • | | | • | | | • | | |
| Information Manager | • | | | | | • | | | • | | | • | | |
| CLS Office | • | | | | | • | | | • | | | • | | |
| AFETS Section | • | | | | | • | | | • | | | • | | |
| **Instructional Areas** | | | | | | | | | | | | | | |
| Instructors Office | • | | | | | • | | | • | | | • | | |
| Schedulers Office | • | | | | | • | | | • | | | • | | |
| Curriculum Developer | • | | | | | • | | | • | | | • | | |
| Classrooms | | • | | | | • | | | • | | | • | | |
| Training Development Team | • | | | | | • | | | • | | | • | | |
| Contractor Logistics Support | • | | | | | • | | | • | | | • | | |
| Technical Order (TO) Library | • | | | | | • | | | • | | | • | | |
| Computer Lab | | • | | | | • | | | • | | | • | | |
| Maintenance Training Devices (MTDs) | | | | • | | • | | | • | | | • | | |
| Distance Learning Center (DLC) | • | | | | | • | | | • | | | • | | |

**Table 4.1: Generic Interior Finish Schedule**

**Appendix A**

**Typical C-17 Maintenance Training Facility Space Allocation
for Facilities with 3 Training Devices.**

| Functional Components | Gross Sq. Ft. |
|---|---|
| **1. Administrative Functions** | **1,685 S. F.** |
| 1.0 MQTP Maintenance Flight Admin | 745 |
| 2.0 Training Detachment (TD) | 470 |
| 3.0 Administrative Support | 470 |
| **2. Training Functions** | **21,618 S. F.** |
| 4.0 Instructors Area | 3,718 |
| 5.0 MQTP Classrooms | 3,862 |
| 6.0 Training Detachment (TD) Classrooms | 2,800 |
| 7.0 Distance Learning Center (DLC) | 978 |
| 8.0 Maintenance Training Devices (MTD) | 8,460 |
| 9.0 Contractor Logistics Support | 1,800 |
| **3. Support Functions** | **4,131 S. F.** |
| 10.0 Lobby/Vestibule Entrance | 500 |
| 11.0 Break Rooms | 1,363 |
| 12.0 Conference Room/Large Classroom | 600 |
| 13.0 Telecommunication Entrance Room | 500 |
| 14.0 Telecommunications Rooms | 140 |
| 15.0 Restrooms/Janitor's Closet | 878 |
| 16.0 Central Supplies/Storage/Refuse/Recycling Room | 150 |
| **Sub Total** | **27,434 S. F.** |
| Building Efficiency Factor (20% for walls & circulation) | 5,487 |
| **Sub Total** | **32,921 S. F.** |
| Mechanical, Electrical & Plumbing (10%) | 3,292 |
| Estimated Building Gross Square Feet **Total** | **36,213 S. F.** |

Note:  This does not include covered storage for Aeronautical Ground Equipment (AGE)

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IECC International Energy Conservation Code, International Code Council

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Air Force Environmental Responsibility Facilities Guide

USAF AMC, Commanders Guide To Facility Excellence Air Mobility Command

Air Mobility Command, AMC Interior Design Guide

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