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# IMCOM SPACE PLANNING AND CRITERIA MANUAL

**PREPARED FOR:**

**United States Army Installation Management Command**



**PREPARED BY:**

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## I. INTRODUCTION

### A. Authority

Headquarters, Installation Management Command (HQ, IMCOM) directed the preparation and approved the use of this edition of the IMCOM Space Planning and Criteria Manual (ISPCM).

#### 1. Compliance

IMCOM activities and installations responsible for facility management and planning within the continental United States and all overseas commands may use this manual as a guide for reporting, planning, programming, and assigning real property. Subordinate agencies and activities may not supplement the ISPCM without prior approval of HQ IMCOM.

#### 2. Updating and User Involvement

Send recommendations for improvements and changes to this manual, or requests for clarification of the content, to HQ, IMCOM: ATTN G-4.

### B. Purpose

The ISPCM provides a single source of information for installation-level use in reporting, planning, programming, and assigning facilities on Army installations and for planning and programming facilities for Army organizations on other service installations and joint bases. It serves as the definitive IMCOM reference on space management and space utilization and provides guidelines for determining facility requirements.

This manual augments facility category descriptions from Department of the Army (DA) Pamphlet (PAM) 415-28 with functional area definitions and functional adequacy requirements. The ISPCM provides basis of allowances and utilization metrics. It incorporates the guidance from Army Standards and Standard Designs, where available. The ISPCM is the basis for planning and programming new facilities. It correlates facility categories with “facility complexes” (see Chapter 4) where applicable and serves as a reference for site and land use considerations consistent with procedures in the Master Planning Desk Side Reference Manual.

This manual also links various criteria sources with real property categories and provides IMCOM policy limiting the use of certain facility categories to improve clarity and consistency for reporting.

### C. Scope

The ISPCM includes an entry for all real property categories contained in DA PAM 415-28, dated 10 July 2013. ***Because the Army does not have quantitative criteria for each category code, the manual does not address all facility categories with the same level of detail.***

### D. Goals

Table Preface-1 lists the ISPCM goals to improve facility management.

Table Preface-1: Goals	
Goal	How the ISPCM meets this Goal
Standardize and codify related terminology and procedures	The chapters define key terms and concepts and the glossary provides a consolidation of terms, acronyms, and definitions.
Establish principles for reporting, utilizing, planning, and programming facilities	Chapter 1 establishes the principles and subsequent chapters provide clear, consistent interpretation of and procedures for applying key regulatory requirements and guidelines.
Provide simple, clear descriptions and instructions for performing common real property management tasks	The chapters provide “How To” information. The appendices supplement the chapters. Appendix F applies that methodology and information to individual categories with criteria.
Provide IMCOM activities and installations a comprehensive source of facility criteria that addresses all major phases of planning, programming, classification, management and utilization	Appendix F, the facility category discussions, provides IMCOM activities and installations facility criteria.
Encourage use of automated tools, including Army systems and installation GIS, that support planning, programming and managing facilities	Appendix B explains how related tools interact with the space planning and management process and provides a consistent framework in which to use the tools.
Reduce the time spent researching criteria, increase the accuracy and consistency of U.S. Army facility data, and improve communications between HQ IMCOM and other command echelons	The ISPCM consolidates critical information into a single, comprehensive reference.
Assist the installation master planner with space management.	Chapter 6, Space Planning and Chapter 7, Assigning Space provide clear direction with respect to the nuances of space management.

## II. OVERVIEW OF THE MANUAL

This manual consists of three major sections.

- The first consists of general procedures and guidelines in narrative chapters.
- The second consists of five appendices, including a glossary of terms, acronyms, and units of measure.

- The third section consists of one appendix containing a detailed discussion of the facility criteria by facility category code.

*This manual is most effective when users read the first section in its entirety and review it periodically.*

Chapter 2 contains a detailed discussion of the content and uses of this manual.

### III. THE ISPCM AND REAL PROPERTY MASTER PLANNING

“The US Army is responsible for managing millions of acres of land and billions of dollars’ worth of facilities and infrastructure worldwide. Effective long-term planning is accomplished primarily at the installation level...<sup>1</sup>” “All real property activities (i.e., lease, purchase, sustainment, restoration, modernization, disposal, conversion, construction, or outsourcing) shall be described in, and justified by the RPMP. All projects or programs that change the quantity or extend the life of real property assets will be included.”<sup>2</sup>

Requirements are the bridge between the Real Property Master Plan (RPMP) vision and long-range component, which describe what the installation can be, and the capital investment strategy, which is the roadmap to implementing the RPMP. AR 420-1 Chapter 10 Section 10-42, which deals with the requirements generation process, says the RPMP must be based on thorough and defensible facility requirements. The Installation Management Command (IMCOM) Space Planning and Criteria Manual (ISPCM) is an IMCOM tool that provides linkage among real property, requirements analysis, space planning, and facility utilization within the context of the RPMP process.

The ISPCM provides IMCOM’s guidance for applying criteria to describe facilities in the inventory in a consistent way, evaluating functional adequacy and determining facility requirements in a way that supports comparison with the inventory to determine the delta between what the installation has and what the installation needs. Consistent application of the guidelines:

- Ensures a complete and accurate facilities and infrastructure baseline, in which the real property planning process finds its genesis
- Promotes objective analysis that identifies in a detailed and auditable manner the facility and infrastructure quantities needed to adequately house the force and its support structure, including family and quality of life facilities

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<sup>1</sup> AR 420-1 Chapter 10 Installation Master Planning, Paragraph 10-1a

<sup>2</sup> Ibid, Paragraph 10-1b

- Helps ensure that the capital investment strategy addresses validated requirements in a manner consistent with approved Army criteria and stakeholder operational needs

To that end, the ISPCM functions as the process guide for the development and documentation of requirements supporting the RPMP. It also provides instructions and examples enabling planning personnel to quickly and accurately collect and analyze facility and force structure data “enabling the installation to respond to future Army missions and community aspirations, while simultaneously providing and maintaining the capability to sustain, prepare and reset and transform today’s force.”

The ISPCM provides insights into and knowledge about the working relationships between a myriad of automated programs. These systems, which are discussed in more detail in Appendix B include:

- The Real Property Planning and Analysis System (RPLANS), which is the data base of record for facility requirements
- The Army Stationing and Installation Plan (ASIP), which documents the current and future organizations at a particular location that require facility support
- Force Management System (FMS) Web, which contains the Tables of Organization and Equipment (TOE) and the Tables of Distribution and Analysis (TDA) that describe and define Army unit structure
- The Headquarters Installation and Information System (HQIIS), which aggregates and documents the real property inventory and real property locations
- The Installation Status Report (ISR) – Part I, Infrastructure, which is the current tool for evaluating condition and adequacy
- Army Builder, which, when fully implemented, will document the sustainment and modernization requirements of Army infrastructure
- Proactive Real-property Interactive Space Management System (PRISMS), the enterprise space management and facility utilization tool

These systems are the core systems for conducting stationing studies, supporting BRAC analysis, and analyzing opportunities for redistribution, repurposing or disposing of real property to improve the overall utilization and cost effectiveness of Army facilities. In addition these systems, working in concert with one another, provide the basis for developing and evaluating proposed Military Construction projects.

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## I. INTRODUCTION

### A. Foundations of Space Management

Space management is an essential element of the larger mission of facilities management. This chapter introduces space management goals and objectives, lays out the principles of effective space management, provides the components of space planning, and introduces the space management process.

Space management is the process of matching space requirements with available space in a manner that best satisfies the operational requirements of users with the minimum amount of quality space consistent with Army criteria. The components of successful space management, as discussed in Part IV of this chapter, include:

- 1) Complete and accurate inventory of real property
- 2) Complete and accurate listing of tenant units
- 3) Current and continually updated assessment of facility conditions
- 4) Understanding of the space requirements of tenant activities
- 5) Assigning space effectively
- 6) Ongoing monitoring of utilization rates

Within the context of these components, space management is change management.

While space management is a process, it is not necessarily a sequential one. Each component may have multiple concurrent actions in differing stages of completion at any point in time. The individual actions may be interrelated, so that delays in one component may delay or prevent action in others.

Space management is an ongoing activity: Monitor changes in the force and in the condition of facilities, monitor utilization rates, and monitor new construction for opportunities to improve the overall utilization of space and the operational effectiveness of space assignments.

### B. Planning Basis

Space planning and management rely on three distinct bodies of information: real property **assets**, facility requirements based on **the force**, and **criteria**. Successful space management requires a thorough understanding of each in isolation and in aggregate. Figure 1-1 illustrates these elements and their relationships to each other.

#### 1. Assets

Assets data, which is the basis for determining facility capacity, consists of the existing real property inventory, plus planned construction, minus planned disposals. The planned construction and conversions enter the analysis process from within the capital investment strategy.

The first step is to **identify** assets; each real property facility has a unique Real Property Unique Identifier (RPUID<sup>1</sup>) and a unique site code.

Next, it is necessary to **describe** the assets in terms of facility category codes and their associated size, quantities, capacities, or other attributes as required by Department of the Army Pamphlet (DA PAM) 415-28. The category code indicates the **purposes** or **functional uses** for which a building or facility is suited. Describing assets also involves identifying the assigned user or users of each facility or building.

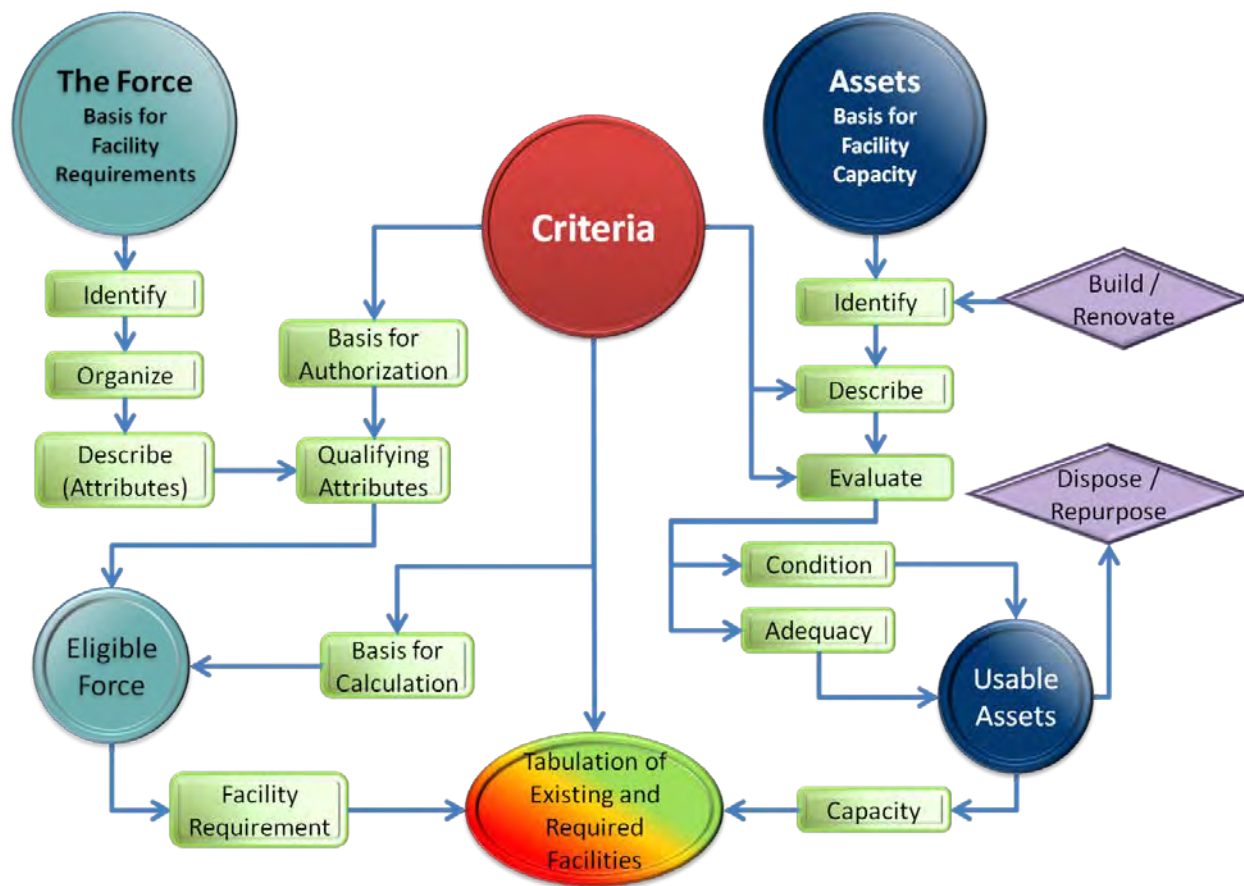


Figure 1-1: Components of Space Planning and Management

Next, it is necessary to **evaluate** the inventory in two distinct areas: condition and adequacy.

“Facility condition” refers to whether building spaces and systems needed to function efficiently and properly are consistent with the building design and are in good repair. It relates primarily to items that can be maintained or repaired with sustainment dollars, without regard to their facility

<sup>1</sup> This is also called RPAUID and Asset UID in various places. All three refer to the same unique real property accountability unique identifier.

purpose. Condition does not inherently affect the ability of a building to meet its intended purpose until there is a failure of the building systems, the building envelope, or the communications infrastructure.

Ideally, Army Standards provide the basis for determining adequacy. Adequacy is a measure of the ability of a building to fulfill its intended purpose with two distinct elements: presence and sufficiency. Presence determines whether a facility has all the functional areas and spatial relationships needed to meet the intended purpose. Sufficiency addresses whether the facility has the capacity or capability in each functional area to meet the requirements for a particular user.

At this point in the process, some facilities may be identified for disposal or repurposing because of poor condition, inadequacy, or a combination of both.

What remains, when combined with planned construction and conversions, are usable assets that represent the capacity or capability available to satisfy facility requirements in a particular facility category.

## 2. The Force

The force, which is the basis for determining facility requirements, consists of all units, organizations, populations, or missions supported by facilities at a particular location, or those that are the object of a force analysis/force development initiative. The force is not a set number or entity. Rather, it is a general term that refers to the factors that are the basis for requirements, and therefore varies by facility category and its governing criteria. Facility requirements identify and quantify the facility categories and functions necessary to support the missions or operational objectives of units or populations.

Force data must first **identify** the force. For an existing force structure, force data is identified by Unit Identification Code (UIC) in the Army Stationing and Installation Plan (ASIP) for each ASIP station code (STACO).

It is then necessary to **organize** the force by aggregating the individual units and organizations that share facilities under the control of a single commander or the equivalent. The goal is to connect every organization represented by a UIC in the ASIP with the UIC of the organization that is assigned the space occupied.

To **describe** the force involves identifying those attributes of units, organizations, populations, missions, or locations that quantify, describe, or otherwise indicate the operational or functional characteristics of the element being described.

Unit and location attributes are compared with **qualifying attributes** to identify the **eligible force** for each facility category.

To determine the requirement, the **basis of calculation** is applied to each eligible unit or location using the applicable calculation methodology for each facility category.

Repeat this process for each segment of the force and all facility categories.

### 3. Criteria

Facility criteria can be divided into three broad categories: planning criteria, technical criteria, and space planning criteria.

Planning criteria may help to identify and quantify facility requirements, but they do not generally relate to space-based utilization calculations. For example, weapons qualification ranges have specific criteria, but there is no direct relationship between the size of the range in acres or the size of the range support building and its utilization rate. Range utilization is measured in terms of range days available and range days of actual use. Calculations are based on the assumption that the range has the requisite number of firing points.

Technical criteria may also affect the measurable aspects of a facility. A Class “A” fixed wing runway has a minimum length and a standard width that can be used to calculate square yards of runway, which is one of the units of measure in DA PAM 415-28. The actual length is a factor of altitude and temperature, which determines the actual square yards required. But ultimately, the utilization rate is based on the number of takeoffs and landings, not the size of the runway.

These two categories of criteria normally have very limited relevance to space planning and utilization.

Space planning criteria use some form of occupancy-based standard as the basis of calculation. Space planning criteria are the policies that, in principle, synchronize assets and the force to ensure valid analysis and provide the metrics to define assignable increments, determine excesses and deficits, and calculate utilization rates for each facility category. They frequently include required functional areas and their capacities or capabilities. These criteria identify the **basis of authorization** for a particular facility category as well as the **qualifying attributes** that indicate whether a unit or location is eligible for that facility category.

Clear, precise, and functionally specific criteria that stipulate the basis of calculation for a facility category are an essential prerequisite for developing valid and objective facility requirements. The qualifying attributes are not necessarily the same as those needed to perform the calculations. Effective criteria establish the basis for evaluating condition. Criteria guide the comparison of facility requirements with usable assets to determine functional adequacy and quantitative sufficiency for each facility category.

Chapter 6 provides more details on the requirements process.



#### **4. The Tabulation of Existing and Required Facilities**

The result of this process is a Tabulation of Existing and Required Facilities (TAB), which, in its most complete form, identifies by use and user the excesses and deficits in each facility category for which quantitative planning and space planning criteria exist.

## **II. SPACE MANAGEMENT GOAL AND OBJECTIVES**

### **A. Army's Space Management Goal**

“The goal of space utilization planning and management is to maximize the efficient use of all Army controlled land, facilities, and space to support assigned missions.”<sup>2</sup>

While the goal is efficient use, the focus of space management is supporting the assigned missions. At times, efficient use and mission-essential capabilities may be in conflict. Efficient use does not justify degradation of essential mission capabilities if the means are available to accommodate the mission. For example, it may be necessary to assign a unit a Tactical Equipment Maintenance Facility (TEMF) that is larger or smaller than the unit actually requires, thereby providing the unit all of its facilities in a contiguous area, even if there is a “perfect fit” several miles away.

### **B. Objectives**

AR 405-70, Utilization of Real Property, 12 May 2006 identifies related objectives and goals, paraphrased as they apply to space management, as follows.

- (1) Use existing facilities and space in an efficient manner.
- (2) Reduce the need to construct, rent, lease, or otherwise acquire land and facilities by using existing Army-controlled facilities.
- (3) Determine any shortfalls or excesses of assigned land, facilities, and space consistent with unit and/or activity populations reported in ASIP.
- (4) Take action to deal with shortfalls or excesses.
- (5) Dispose of land, facilities, or space in excess of Army needs in order to reduce sustainment costs.

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<sup>2</sup> Army Regulation (AR) 405-70, Utilization of Real Property, 12 May 2006, paragraph 3-1

### III. PRINCIPLES OF EFFECTIVE SPACE MANAGEMENT

Having guiding principles provides a conceptual framework for making effective decisions. Use these principles to guide the development and evaluation of space management alternatives and actions.

#### A. Know the Inventory

Perhaps the most essential principle of space management is to **know the inventory**. A thorough familiarity with the inventory, including its capabilities and limitations, is critical to effective space management. Effective management of the space is more easily achieved when the space manager properly defines and quantifies the facilities in the inventory. The reporting paragraphs in Appendix F provide the description of facility categories the Army uses to define the real property inventory. Real property personnel should have detailed knowledge of, not just accurate data about, the facilities they manage.

#### B. Know the Force

**Know the force: the strength or population, equipment, missions, and units** supported by facilities. Space managers must be customer oriented. Knowing the force includes understanding both the relationships among, and the interdependencies of, various units and organizations. When the space manager combines a thorough understanding of the force with objective procedures for processing change, based on facts and accurate data, then users are more likely to believe that the installation distributes space equitably.

#### C. Adhere to Army Criteria and Guidelines

**Adhere to Army criteria and guidelines** in developing requirements. Valid requirements come from knowing the force and objectively applying facility planning criteria consistent with information provided elsewhere in this document.

- Instructions in Chapter 6
- Guidelines in Appendix A
- Criteria in Appendix F

#### D. Recognize Interdependencies

**Recognize that interdependencies, teamwork, and communication are essential within the facilities community.** Effective space management depends, in part, on recognizing the close ties between space management, real property, master planning, and stationing.

#### E. Manage Space with the Master Plan in Mind

**Perform space management with the master plan in mind.** View every new or changed requirement as an opportunity to improve the overall space utilization posture for the installation. Focus planning actions with a vision of the installation for the future.

### F. Encourage User Participation

**Encourage users to participate/get help.** With limited staff, the space management specialist or team can encourage users to participate, verify the requirements documentation as much as possible, and review proposed courses of action. Space management staff can provide users guidance and format requirements. Real property planning boards allow all organizational elements on the installation to attend and participate in making decisions in an open forum. Real property planning boards may make decisions in an open forum with affected organizations present. When the situation suggests major changes in the foreseeable future, obtain outside assistance from other agencies, or consider contracted help early enough to allow the assistance to influence course of action analysis.

### G. Distribute Space Equitably

**Treat users in accordance with established Army standards, and satisfy requirements effectively and efficiently.** Whether there is a shortage or an excess of space, inequitable distribution of space undermines morale and degrades efficiency and effectiveness. Using space efficiently also reduces the cost of cooling, heating, lighting, other utilities, janitorial services, and maintenance or repair. This means scarce resources are available for other functions.

## IV. COMPONENTS OF SPACE PLANNING

### A. Complete and Accurate Inventory of Real Property

This component relates to assets, as described above. A complete and accurate inventory is more than a tabular list of facilities by category code, dimensions, and activity or tenant unit. Ideally, the inventory will include information and attributes that accurately reflect the true capacities, actual functional capabilities, and known limitations of buildings.

As-built drawings, computer-aided drafting and design (CADD) files, and facility pictures or illustrations can improve planning efficiency and effectiveness, and save time, especially if linked to a space management system or other spatial tool.

New construction, demolition, renovations, conversions, infrastructure upgrades, and other restoration and modernization efforts affect the overall inventory. Track changes as they occur, and project their effects on tenants.

**Principle:** *The most essential principle of space management is to know the inventory.*

*Documenting changes in the Database of Record as they occur best supports knowing the inventory.*

When available, use geographic information system (GIS) or facility management software to visualize the effects of these types of change. To accommodate and adapt to the short- and long-term consequences of change, plan early for the displacement and relocation of tenant activities.

**TIP:** *Record information in GIS or facility management databases by functional area, as outlined in Chapter 3 and Appendix A. This facilitates functional capabilities assessment and expedites evaluating the suitability of buildings for specific users.*

Chapter 3, Facility Inventory and Functional Areas, addresses inventory.

### **B. Complete and Accurate Listing of Tenant Units**

This component relates to the Force. The ASIP is a starting point, but the successful space manager knows how units are organized, knows the key personnel in major tenants, cultivates a positive working relationship with them, and treats them as customers. Work closely with the Plans, Analysis, and Integration Office (PAIO), and visit tenants regularly to stay abreast of pending changes in mission, structure, or requirements. Chapter 6, Space Planning, addresses this component in more detail.

### **C. Current and Continually Updated Assessment of Conditions**

Part I of the Installation Status Report (ISR), Infrastructure Quality Ratings, provides an annual look at the conditions of the components of facilities and key facility attributes that affect the physical usability of a facility. It is the occupant who usually determines quality component ratings, which are not intended to be a detailed engineering assessment. Keep in mind that not all facilities are rated. The Army Builder facility assessment system will assume this role in the future

Facilities need sustainment maintenance on an ongoing basis. Buildings and building systems need periodic restoration and modernization. A long-range plan showing when buildings are due for major renovations, modernization, recapitalization, or major systems or component replacement can help predict changes and facilitate planning.

Restoration and modernization may require tenant displacement. The capital investment strategy should consider these needs and project when and how much swing space is needed in key facility categories in order to minimize the costs associated with and reduce disruption of tenant activities during renovation.

### **D. Understanding Space Requirements**

People, equipment, and missions define facility space requirements. Units and activities do not just require space, they require a work environment that may include multiple facilities arranged to support an array of functions that have internal and external relationships.

**Principles:** *Know the force – the strength or population, equipment, and mission(s).*

*Adhere to Army criteria and guidelines in developing requirements.*

The Web-based Real Property Planning and Analysis System (RPLANS) calculates the initial facility allowances for most units and locations. RPLANS calculates allowances for units and locations with qualifying attributes consistent with the appropriate criteria. An allowance in RPLANS is not an authorization for space, nor is the absence of an allowance by itself justification for denying a tenant space. Rather, RPLANS allowances are an indication that space for a specific user or use may be justified, and it provides an initial indication of the quantity of that space that may be justified. Detailed requirements analysis provides comprehensive space requirements, which may be greater than or less than allowances. **Analysis may justify a requirement different from the allowance. Analysis may also justify space in facility categories for which a unit does not have allowances.**

Every authorized mission happens somewhere. If a tenant needs space for an activity, the tenant should be able to demonstrate where it currently performs the activity or provide documented evidence of mission degradation due to lack of space.

Appendix B includes a description of the Army's official population source, ASIP, which documents the authorization for all military and civilian personnel who perform missions, work, or train within the physical boundaries of the installation. Additionally, Appendix B includes a description of the RPLANS, which calculates initial facility allowances for most units.

Chapter 4 presents descriptions of standard facility complexes. Linking units and organizations to a complex, when appropriate, ensures that the requirements analysis considers all of the facility categories normally associated with a particular type of unit or organization. Chapter 6 provides information on facility planning and requirements analysis.

### **E. Assigning Space Effectively**

Assigning space is the process of associating a specific unit's requirements with a facility or set of facilities. It involves more than a real property transaction. It includes determining and initiating required modifications, repairs, and incidental actions prior to building occupancy. View every new or changed requirement as an opportunity to improve the overall space utilization posture of the installation.

**Principle:** *Distribute space equitably, and satisfy requirements effectively and efficiently.*

Stationing actions require assignment of facilities to units and organizations. Assign space with an understanding of what utilization rate will result from that assignment. Note that the

Headquarters Installation Information System (HQIIS) refers to space assignment as “space allocation.”

Chapter 7 provides guidance for assigning space.

### **F. Ongoing Monitoring of Utilization Rates**

While optimum utilization is the goal, it is impossible to maintain perfect utilization of all facilities across the installation. Periodic requirements for restoration or modernization projects may temporarily displace organizations. Organizations change in size, composition, and missions over time. The result is fluctuations, often gradual, in utilization rates. Monitor utilization and track situations of underutilization and overcrowding. Excess space is rarely empty.

Knowing which units and organizations have generous space and which have marginally adequate or inadequate quantities of space will help identify win-win solutions to problems, help meet new requirements, and provide the flexibility to exploit opportunities. Possession does not equal a requirement. The fact that the Army built a particular facility for a particular organization does not mean that unit is entitled to that facility forever or that the facility will be adequate forever.

Conduct periodic facility utilization surveys. When doing surveys, focus on high-density category codes. In multiuse facilities, include the entire building in the survey, not just the portions in the target facility categories. Activities often “bleed” over into adjacent areas, blurring utilization rates.

Utilization of administrative, storage, and unaccompanied personnel housing facilities is a rated area in the Installation Status Report – Services (ISR-S) Service Support Program (SSP). Historically, this is a component of SSP 405, master planning. The current rating scale is:

- Green: 95 percent to 100 percent Average Utilization
- Amber: 85 percent to 95 percent Average Utilization
- Red: 75 percent to 85 percent Average Utilization
- Black: Less than 75 percent Average Utilization

The ratings are based on top-loaded data from HQIIS. While the rating represents a utilization average, individual facilities or organizations may have utilization rates that are above or below the ISR-S rating.

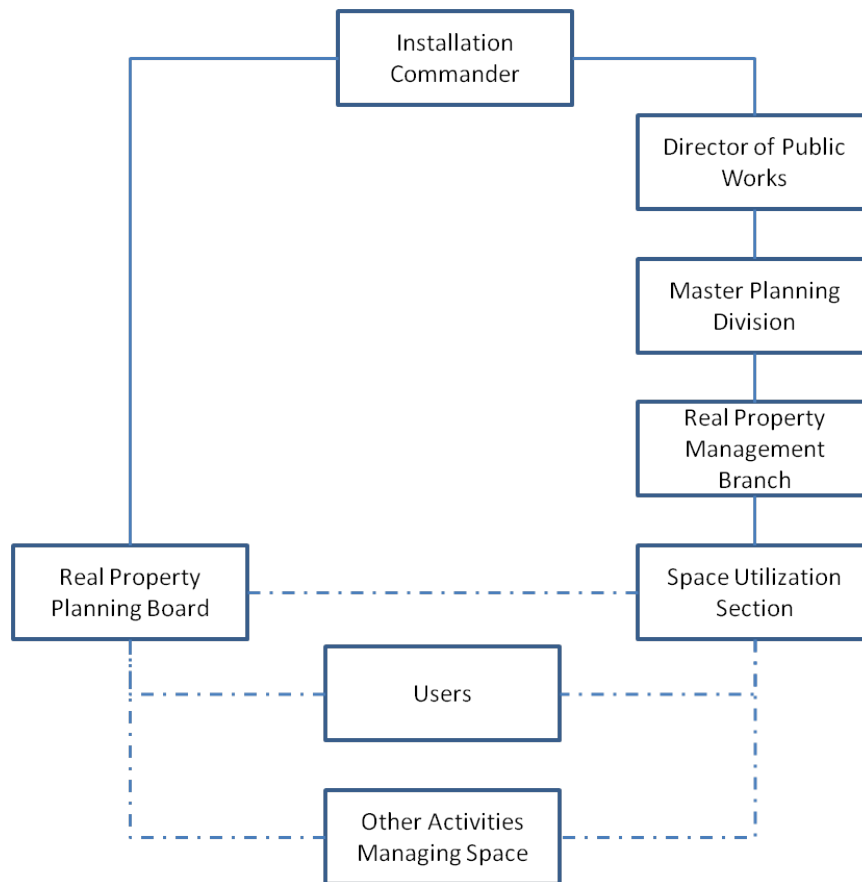
## **V. THE SPACE MANAGEMENT PROCESS**

The real property master plan articulates the vision, goals, and objectives for the long-range development of the installation. Space management is one avenue for achieving the vision. Therefore, perform space management with the master plan in mind.

Focus planning actions with a vision of the installation for the future. As with other resources, stakeholders compete for space. Installations need a formal or documented informal process for obtaining input and building consensus.

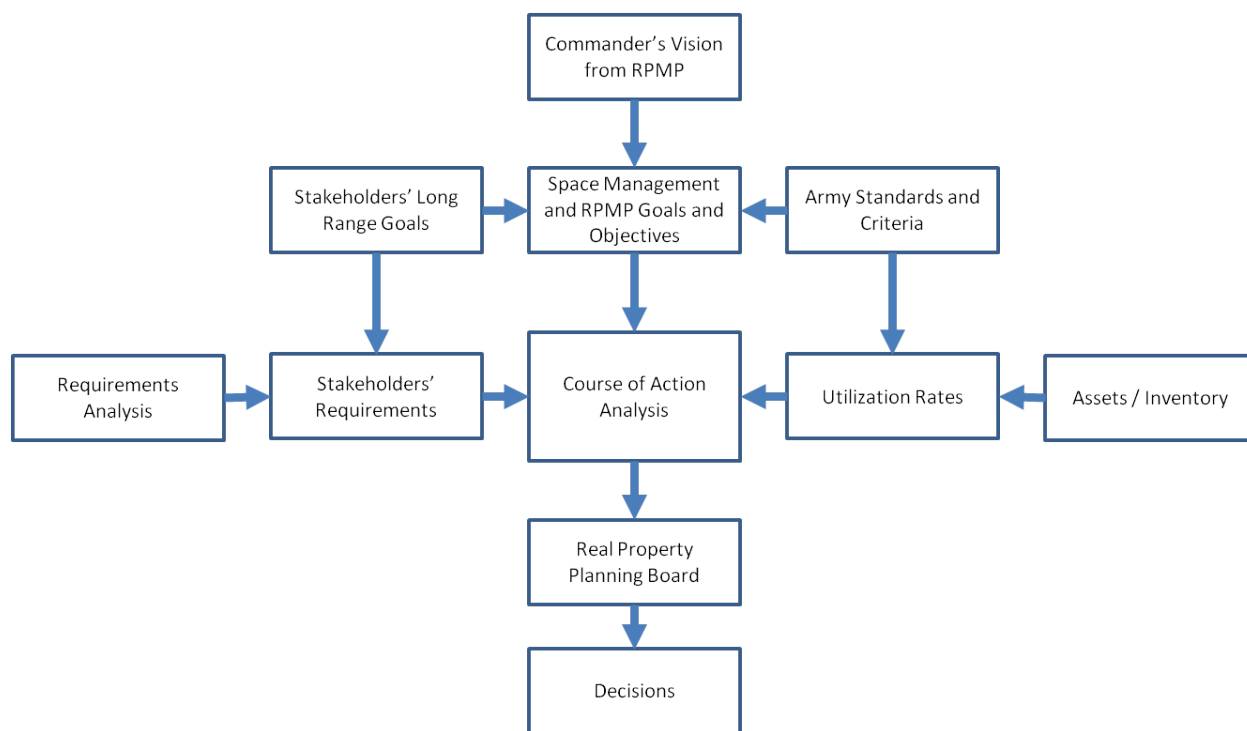
**Principle:** *Perform space management with the master plan in mind.*

Space management is performed under the oversight of the Real Property Planning Board (RPPB). The RPPB works under the direction of the garrison commander in cooperation with the Space Utilization section in the Directorate of Public Works (DPW). At some installations, major tenants may have management control of special-purpose campuses or facility networks that deliver services or support functions that are under the exclusive control of that tenant. Figure 1-2 illustrates a typical space management structure.



**Figure 1-2: Space Management Structure**

Figure 1-3 shows the conceptual flow of the space management process using an example of an installation with a RPPB.



**Figure 1-3: Space Management Process**

RPMP – Real property Master Plan

The process begins with the installation commander's vision. The master plan and any related real property guidance articulate the vision. Stakeholders add their organizational goals and objectives to those of the installation as a whole. Assets, consisting of the real property inventory and programmed construction, less programmed disposals, are the basis for defining the existing opportunities. Planners analyze requirements and utilization rates as new requirements emerge or conditions change. Based on current and future requirements, planners develop courses of action and provide decision presentations to the commander or the real property planning board.

**Principle:** *Encourage users to participate and/or get help.*

The real property/space management/master planning team supports the commander throughout the process using the system tools identified in Appendix B to gather and analyze information. The team may perform facility surveys, review authorization documents, conduct requirements analyses, interview units, conduct site visits, or perform other data-gathering tasks. This ensures that information supporting space management decisions is current, accurate, and complete.

A site visit is the best way to gain an understanding of a stakeholder's requirements, and the functional relationships that affect its operations.



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**Principle:** *Know the force – the strength or population, equipment, and mission(s).*

---

Use common sense. For example, the cost of relocating activities to achieve efficiency may exceed the projected savings from improved utilization. On the other hand, the short-term costs of relocating may yield dividends in operational efficiency and combat readiness that cannot be measured simply in dollars.

The decision presentations include information on how well each course of action meets the needs of affected tenants, the costs of the alternatives, and the time frames required for execution. The board advises the installation commander, who is ultimately responsible for making decisions.

Once the commander approves a course of action, the team prepares a detailed execution plan that assigns responsibilities, establishes time lines, and directs the necessary actions for all involved stakeholders and supporting installation activities.

Update databases and drawings continually during the execution phase as the affected stakeholders execute each action in the plan. Updating databases and drawings continually is an integral and essential part of each space management action.

Several enterprise automated tools help support the space management process. In particular, the Pro-Active Real Property Interactive Space Management System (PRISMS) is the Army's enterprise space utilization tool. The Cloud-based system provides centralized access to digital floor plans, imagery, and space utilization data.

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## I. ORGANIZATION OF THE MANUAL

This manual consists of three major sections. The first major section consists of chapters with general procedures and guidelines. The second major section contains Appendices A through E, including a glossary of terms and other reference information. The third major section, Appendix F, contains detailed information for each facility category, in numerical order.

This chapter highlights the contents of each section, with a detailed discussion of the contents of the facility categories.

This manual is most effective when users read the first major section in its entirety, and reread it periodically.

## II. FIRST SECTION: CHAPTERS 1 – 7

Chapters 1 through 7 provide general procedures and guidelines for space management and planning functions. The chapters provide definitions and Installation Management Command (IMCOM) instructions relative to reporting, planning, managing, programming, assigning, and evaluating the adequacy of space. Each chapter begins with an introduction to the subject and the structure of the chapter.

**Chapter 1, Space Management Overview**, introduces space management concepts, reviews the overall space management process, and introduces space utilization and space planning.

**Chapter 2, How to Use the Manual**, describes the organization of the manual, the contents of the chapters, the content of Appendices A through E in general, and the contents of Appendix F, including the content associated with each paragraph of the facility category information. This chapter also defines the purpose and content of each paragraph and section of the facility category information, and describes its use.

The tutorial chapters, Chapter 3 through Chapter 7, provide detailed guidance on the various aspects of space management.

**Chapter 3, Facility Inventory and Functional Areas**, provides general information on how to define or classify space by category code and functional area type (mission, general, or support), and how to measure space for reporting purposes, as well as how to measure usable area or capacity. Chapter 3 additionally addresses specific requirements for classifying classroom space.

**Chapter 4, Facility Complexes**, describes asset relationships and includes guidance on land use and site planning considerations. It includes the identification and composition of standard facility complexes and the definition of compound facilities.

**Chapter 5, Facility Utilization and Functional Adequacy**, deals with evaluating the effectiveness or efficiency of use, and evaluating the adequacy of the facility to meet the mission requirements.

**Chapter 6, Space Planning**, provides information on the space planning process and methods for determining facility requirements. Space planning involves understanding factors that drive requirements, including planning levels, missions, equipment, and personnel. This chapter also discusses the relationship between RPLANS allowances and space management.

**Chapter 7, Assigning Space**, discusses the process of matching requirements to facilities, including guidelines that apply when new construction is the preferred alternative for meeting a space requirement.

### III. SECOND SECTION: APPENDICES A - E

The second section contains the smaller appendices that augment the information in the chapters.

**Appendix A, General Functional Areas**, explains what general functional areas are and provides metrics for determining requirements for areas defined as general functional areas.

**Appendix B, Army Supporting Systems**, provides background information on Army systems that can assist with the analysis of the force, criteria, and real property inventory assets, and otherwise support the space planning process.

**Appendix C, Glossary, Acronyms and Units of Measure**, contains a glossary and an alphabetical list of acronyms, including units of measure. It also discusses major topics related to real property facility management.

**Appendix D, Bibliography**, is an alphabetical list of the references and the facility categories to which they apply.

**Appendix E, Index**, is an index of the category codes (CATCDs), both alphabetically and numerically. The numerical index indicates which of the facility categories include space planning criteria.

### IV. THIRD SECTION: APPENDIX F, FACILITY CATEGORY DISCUSSIONS

The third section of this manual contains information on each facility category. Facility categories with no Army-approved planning or space planning criteria are described with an abbreviated entry.

The **facility category information** includes several major paragraphs.

- A. Reporting
- B. Criteria
- C. Planning
- D. Programmable Increments
- E. Land Use and Site Planning Considerations
- F. Other Considerations

**Functional adequacy matrices** augment the guidance in the facility category discussions for categories that have an approved Army Standard or Standard Design. This matrix format assists space managers in assigning space, and assists real property inspectors in evaluating space by providing a checklist of key functional areas that must be present in a building to serve its intended purpose. When mandatory functional areas are not all present, or when they fail to meet minimum standards, planners evaluate options to bring them into compliance with standards, convert them to another use, or to dispose of the asset. Chapter 5 provides guidelines for determining facility adequacy. In Appendix F, the **functional adequacy matrices** follow the **facility category discussions**.

Some facility categories with Standard Designs have **floor plans**, or drawings, from the Army Center of Standardization. The floor plans depict functional relationships and required or notional layouts that can help interpret the criteria. The Standard Design floor plans are available online at the Military Construction (MILCON) Requirements and Standardization Integration team (MRSI) website (currently <http://mrsi.usace.army.mil/cos/SitePages/Home.aspx>).

**A description of the contents of each paragraph in Appendix F follows.** The reader may wish to print one of the facility category discussions (e.g., CATCD 17120 or 44220) and follow along with the printed discussion while reading this section.

The facility category discussion contents description begins on the next page in the same way that each new facility category discussion in Appendix F begins on a new page. This section describes the information requirements for each paragraph and subparagraph, as well as other standards used in the IMCOM Space Planning and Criteria Manual (ISPCM) facility category discussions.

The name listed in the DA PAM 415-28, dated 10 July 2013, appears on the header and footer of each facility category discussion, with the exception of facility categories added since that time. Different Army references refer to different categories with some variation in names, as do the narratives of the chapters and appendices.

## A. Reporting

The reporting paragraph contains the facility description/definition, proponent, complex, units of measure, and functional areas associated with the facility category. See Chapter 3 regarding inventory and functional area details.

Reporting answers several questions: What is it? How do I know if I have one? How do I know if it is complete, or adequate, to perform the mission? Use the information in the reporting paragraph to identify, classify, and report the facility by the category code(s) that best describe(s) the facility.

### 1. DA PAM 415-28 Description / Definition

Department of the Army Pamphlet (DA PAM) 415-28, Guide to Army Real Property Category Codes, provides the basic facility description/definition, which this paragraph paraphrases closely, except for a few new facility categories. This information applies to both existing and planned facilities. Use this information to determine what category to assign, or to verify that the assigned category is correct. Keep in mind that the category classification describes the facility, not the current tenant or occupant.

The description/definition paragraph may occasionally contain a text box, such as the one below, to clarify the appropriate use of particular category codes for classification and reporting purposes.

***Note:** This paragraph appears occasionally, containing clarification regarding the appropriate use of particular category codes for classification and reporting purposes. In particular, this note box may provide direction for when to use the facility category and when not to use it. For example: “**Note:** This facility category is normally a functional area in a facility with facility category code 21410. Use this category only for reporting standalone facilities.”*

### 2. Proponent and Centers of Standardization

This section lists the Army staff proponent or advocate for the facility as contained in DA PAM 415-28. This section also lists the Center(s) of Standardization (COS[s]) that is/are responsible for maintaining the Standard Design. Some category codes may have governing standards from more than one COS.

This text box aligns with  
2. Proponent.

**Proponent:**

- DCS, G3

**COS:**

- MTOE – Savannah
- AIT & BT/OSUT – Fort Worth



### 3. Complex

Some facilities are frequently included as part of one or more standard facility complexes. This section indicates the complex or complexes with which a facility may be associated.

The text box to the right provides a callout for complexes.

Chapter 4 lists the complexes, and discusses their composition and their purpose.

If the facility is not part of a COS-, IMCOM-, or assistant chief of staff for installation management (ACSIM)-defined complex, this paragraph will state, “This facility is not part of an ACSIM-defined complex.”

This text box aligns with 3. Complex, and lists complexes, of which the facility category may be part, e.g.:

#### Complex:

- TEMF
- Brigade (MTOE)
- C2F for MTOE Organizations

### 4. Units of Measure

DA PAM 415-28 identifies units of measure for each category code. Units of measure are the attributes that quantify the size or capacity of buildings or other facilities. They provide the basis for comparing the capacity of a facility with the requirements of a user for the purpose of assigning or programming space and determining utilization rates.

The text box to the right provides a callout for units of measure (UM). Multiple units of measure are defined in DA PAM 415-28 for each category.

The first UM listed in each box is the primary UM from DA PAM 415-28. The second unit of measure in each box is the secondary UM from DA PAM 415-28, if one is assigned. Some CATCDs have no secondary UM, in which case the box will state, “Secondary UM = None.” The third unit of measure is the Facility Analysis Category (FAC) UM. It is always the same as the primary UM. Use the FAC UM for programming actions. Note that the primary UM is not necessarily the area UM.

In some cases, the ISPCM identifies UM that are not included in HQIIS or DA PAM 415-28, but are useful for space management purposes. Planners may incorporate these into GIS or facility management software, if desired. These additional UM may also be recorded in the General Fund Enterprise Business System (GFEBS), making them part of the official real property record.

This text box aligns with 4. Units of Measure, and lists applicable UM, e.g.:

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = PN
- FAC UM = GSF
- Other Area UM = NUA
- Count or CAP = EA

### 5. Functional Areas

This section lists the functional areas for buildings in table format. In many cases, it supplements and reinforces the concepts that appear in the description/definition paragraph. Planners, programmers, facility managers, and building occupants will be able to use these tables as a checklist to classify and report facilities, and to compare facilities with user requirements.

Functional areas include the common and unique “building blocks” that, when taken as a whole, define the specific facility category for buildings measured in square feet (SF). The IMCOM SPCM identifies the functional areas for buildings having criteria.

If a facility is not a building measured in SF, this paragraph will state, “By definition, only buildings measured in SF have functional areas.” Some facility categories have functional components not measureable in area, such as an overhead crane. The functional components are included in the functional adequacy matrices.

Chapter 3 discusses and defines types of functional areas in detail, and explains how to differentiate between defining situations.

- 1) When functional areas are included within a specific facility category
- 2) When that function describes a specific facility category for the purposes of reporting the inventory

Table 2-1 is a sample of functional areas by type and adequacy requirements of presence for **category codes without a standard or Standard Design**. The table lists the functional areas; defines whether they are general, mission, or support functional areas (“**Type**” column); and provides an adequacy requirement (“**Presence**” column). In the facility category discussions, these tables list only those presence requirements that apply to that particular category.

Table 2-1: Functional Areas and Adequacy Requirements (Sample of Facility Categories without Standard / Standard Designs)		
Functional Area	Type	Presence
Private Offices – See Appendix A for Criteria on Private Office Space	General	A
Open Office and Reception	General	A
Arms Room	Mission	A
Nonsensitive Secure Storage	Mission	A
Public Shower Rooms	Support	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
C - Required, Vicinity		
D - Not Required, if present collocated		
E - Not Required, if present: adjacent or vicinity		
F - Occupant Dependent		

The ISPCM uses a similar table without the “**Presence**” column for facility categories with Army Standards and/or Standard Designs sufficiently detailed to construct a functional adequacy matrix. Table 2-2 is a sample functional area table for **category codes with established standards and Standard Designs**. The functional adequacy matrices developed from the standards and Standard Designs follow each applicable facility category discussion in Appendix F. The functional adequacy matrix provides the adequacy requirements for presence, as well as all other standard- or Standard Design-defined qualitative and quantitative facility requirements.

Table 2-2 Functional Areas by Type (Sample of Facility Categories <i>with</i> Standards or Standard Designs)	
Functional Area	Type
Private Offices	General
Open Office and Reception	General
Conference Room	General
Arms Room	Mission
Nonsensitive Secure Storage	Mission
Public Shower Rooms	Support

Note that this section normally lists functional areas in the order in which they appear in source documents, rather than alphabetically or grouped by mission, general, or support functional areas. Listing in this order simplifies side-by-side comparison of the functional adequacy matrix with the source document, if needed. See Chapter 3 for an in-depth discussion of inventory and functional area details.

## **B. Criteria**

A complete space planning criterion has two parts related to space planning; these are the underlying policy, and the criterion itself.

The policy is descriptive. The policy helps define the inventory and describes requirements with a functional area vocabulary common to that used to describe the inventory. Policy also identifies the types of units, organizations, missions, or populations to which the Army normally provides this facility; these are known as the basis for authorization. The criterion provides the basis for calculation, which is the means for quantifying space and the need for space. Chapter 6 discusses the guidelines for applying criteria to determine requirements. Use the criteria paragraph to establish who is eligible for what facilities in what quantity.

Some facility categories do not have quantitative space management criteria. The ISPCM uses an abbreviated facility category discussion for these categories.

### **1. Basis for Authorization and Calculation**

People, equipment and/or missions are normally the basis for applying Army criteria. The Army issues policies and criteria to support the needs of the Army adequately.

The basis for authorization section defines how to determine who is eligible for the facility category in question. When available, it provides the qualifying unit or other-than-unit attributes needed to establish the eligible force. Where applicable, it also provides the basis for calculation.

Generally, this section states the basis for authorization in terms of eligible population, equipment, and/or mission. For example, the general basis for authorization for company operations facilities (COFs) is one per company in battalion-size facilities. The qualifying attributes include the presence of a company commander, a first sergeant, and a supply section with an armorer. The basis for calculation, in this instance, is the number of companies in a battalion and the number of soldiers assigned to each company.

### **2. Programmatic Application**

This section explains how the Web-based RPLANS applies the applicable criteria. It identifies the level or levels at which calculations are performed (unit, complex, site, or base). This helps planners understand why allowances are what they are, and provides a place to begin requirements analysis. It does not provide the complete process, but identifies key variables and assumptions.

There are three general calculation methods: algorithm, “allowance equals assets,” and “allowance equals zero.” Under the Help menu, RPLANS provides a listing (Category\_Code\_Characteristics.xlsx) that shows the calculation methodology and the calculation level or levels for each CATCD. The Space Planning Criteria option under the Planning menu in RPLANS provides a detailed explanation of the calculation methodology for algorithm category codes.

All users of this manual need to understand the limitation that systems programming cannot calculate allowances for every conceivable facility requirement for every unit, organization, or tenant. This is especially true of requirements for tenants-other-than-Army. The RPLANS algorithm may not address all cases where a valid requirement exists, nor does RPLANS provide allowances for all category codes for which criteria exist.

**The fact that RPLANS does not provide an allowance does not preclude an activity from having a requirement when the activity has a mission to perform.**

If the allowance resulting from the programmatic application in RPLANS does not adequately address the requirement, the space planner may calculate the requirement manually, based on the strength or population, equipment, and mission using the information in the CATCD planning paragraph.

Because criteria occasionally change, this paragraph provides the date of the RPLANS calculation methodology used in this paragraph.

### C. Planning

Planning, as it pertains to this paragraph of the facility category discussions, is the process of applying the basis for calculation to a specific organization, mission, or population according to the criteria for that facility category. Planning answers such questions as: How much space does the organization, mission, or population need? What else do we consider in providing the space such as operational or functional relationships among units, organizations, missions, etc.? While the criteria paragraph generally describes the factors that lead to the basis for authorization, the planning paragraph discusses the rules for determining required net area or capacity.

Planning results in a calculated requirement, providing the planner the data required to take one of two actions – assigning existing facilities, or programming new facilities. The possibility exists, as well, that the planning effort will confirm the status quo.

This paragraph also provides information that may be useful in developing courses of action for the distribution or redistribution of assets. See Chapter 6 for more on space planning.

Once the criteria paragraph identifies eligibility, use the planning paragraph to calculate size requirements for programming facilities, assigning space, or determining utilization rates.

### 1. Planning Level

This section identifies the planning level for each facility category. The ISPCM identifies two planning levels, unit level and other-than-unit level. Planning levels are related to but distinct from allowance calculation levels in RPLANS. The text box to the right of the planning level title provides a callout for the planning level. For unit-level facilities, this section may include additional information on hierarchical levels that may affect space planning.

This text box aligns with 1. Planning Level, and specifies 'unit' or 'other-than-unit,' e.g.:

Planning Level:

- Unit

The word “unit,” when not modified further, represents Table of Organization and Equipment (TOE) units, Table of Distribution and Allowances (TDA) units, split units, and/or detachments. It may also refer to Tenants Other Than Army that are resident on an installation. Unit level means that the basis for allowances and requirements consists of attributes typically found in or associated with a unit’s authorization document or corresponding requirements document. This may include attributes in organic or assigned subordinate units.

For other-than-unit-level facilities, this section defines the eligible strength or population to consider in calculating requirements for population-driven facilities; or the factors, such as mission, that trigger a requirement for facilities. RPLANS allowances for other-than-unit CATCDs may be based on complex-, site-, or base-level attributes. The calculation methodology in RPLANS space planning criteria defines the level or levels at which the methodology is applied and defines the eligible units, populations, or missions that provide the basis for authorization and the basis for calculation for other-than-unit-planning level facility categories.

***Note:** The “Note:” paragraph appears on other occasions to highlight particular points regarding that paragraph of information.*

### 2. Requirements Calculations

The planning task may include calculating the requirements manually based on the population or strength, the equipment, and the mission.

This section provides information on how to apply the criteria to calculate a requirement(s) from the allowance(s) provided by policy or criteria; it also provides information for comparing the requirement with established standards. This information helps the planner select the right facility to assign or determine whether programming is the answer. Chapter 7 provides an example of how to compare requirements with a facility in both narrative and tabular form using an Army Standards design as an evaluation tool.

***Note:** In certain cases, this paragraph will point to the requirement for an engineering study. This is the case for many of the airfield and aviation CATCDs, as well as information systems-related facilities.*

### 3. Assigning Space

This paragraph provides space managers any particular information about using the facility adequacy matrix and utilization criteria that may help in assigning the space. It helps the planner adapt Army Standards and Standard Design criteria to existing facilities.

#### *Guidance*

This paragraph provides guidance in assigning space, as well as general guidance regarding the facility, and provisions of the facility for the tenant or user. The rules for determining whether there are functional areas that are not always required are included in this section when applicable (e.g., not all brigades need a Sensitive Compartmented Information Facility [SCIF]).

This paragraph may also provide other guidance to help evaluate requirements that are specific to a type of space or potential user.

#### *Facility Utilization Metrics*

This section explains how to calculate utilization rates for those facilities that have an effective measure of utilization. See Chapter 5 for a discussion of facility utilization.

For some facilities, the simple requirement to perform a particular mission creates a facility requirement without regard to metrics. Examples of this are runway lighting, windsocks, and schools where training involves a task- or mission-specific laboratory environment. If this is the case, this paragraph may state, “The mission requires the facility,” or “This is a required facility for the complex (or installation) to function as a whole.”



### **D. Programmable Increments**

The information in this paragraph applies to planners and construction programmers who develop space requirements and supporting program budgets based on construction and/or renovation scopes of work. Use the programmable increments paragraph for programming renovation or new construction.

#### **1. Standard Facilities**

Army Standards are the required facility elements and criteria that define the fundamental purpose and function of a facility's design and construction. Standard Design criteria are drawings and/or written criteria that delineate space, functional layouts, and the basic configuration of a facility required in developing design and construction drawings for a specific project. The standard or Standard Design specifies the programming UM.

This section contains information about applicable Army Standards or Standard Designs required when programming such facilities.

This section also identifies when Standard Design floor plans are available on the COS website. The COS maintains both the standards and the Standard Designs on this website:

<http://mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx>

The COS website has regular updates to post revisions to Standard Designs. Use the current version on the website for programming purposes if it is more recent than the version referenced in this manual.

Chapter 7 discusses Army Standards and Standard Designs in the paragraph titled Use Army Standards and Standard Designs to Evaluate Facilities.

#### **2. Programming Units**

This section provides the minimum number of units the Army will normally authorize to program for new construction, if standards define the minimum number. For example, the minimum number of rooms for programming barracks is 50.

Additionally, if available, this section provides the standard sizes of facilities for small, medium, or large units, or for different types of units.



**E. Land Use and Site Planning Considerations**

The Land Use and Site Planning Considerations paragraph answers this question: Where do we put the facility when we build it – in proximity to what, not in proximity to what? Planners and programmers who are involved in site selection, project programming, and detailed site planning will use this information.

The information does not discuss routine issues, but alerts professional planners to unusual requirements. It supplements information in the Master Planners Desk Side Reference. Chapter 4 of the ISPCM discusses land use and site planning in further detail.

**1. Land Use Considerations**

This section has information to guide decisions when selecting a location or site with regard to type of land use – including acreage required when available, particularly for complexes – as well as land use impacts.

**2. Site Planning Considerations**

This section provides information that assists in site planning by highlighting issues specific to the individual facility categories. In some cases, this section describes estimates for parking requirements.

**F. Other Considerations**

This section contains special instructions, exceptions, references, and a list of related facility categories.

**1. Special Instructions**

This paragraph provides special information that does not fit elsewhere. It may include coordinating instructions for facilities governed by special regulations or agencies. For example, this section for a dental clinic may state, “Coordinate all requirements with the Health Facilities Planning Agency.”

**2. Exceptions**

This section identifies known exceptions to criteria, and provides the authority from which to request exceptions for a particular category code. For example, in CATCD 14185, one exception is, “The Army authorizes Explosive Ordnance Disposal (EOD) companies a double readiness module increment to provide space for specialized EOD equipment, including robots and associated training.”

### 3. References

The reference list shows the main criteria sources used to compile the information.

Users should keep in mind that the reference list is an aid; it is not an exhaustive bibliography of relevant publications and sources.

Sample reference: UFC 4-214-02: Tactical                      25-JUL-13  
Equipment Maintenance Facilities  
Standard Design

### 4. See Also

For comparison, this section provides a list of facility categories by category code with a similar or related use. For example, CATCD 21411, a functional area of the vehicle maintenance shop, also known as the TEMF, lists:

21410, Vehicle Maintenance Shop

## G. Functional Adequacy Matrices and Floor Plans

For facility categories with Army Standards and/or Standard Designs, the facility category discussion follows with a matrix of the facility adequacy requirements – called a functional adequacy matrix. Many Standard Designs include floor plans for a standard facility. When available, planners may download the floor plans from the COS website (<http://mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx>). The functional adequacy matrices follow on the pages immediately after the six major paragraphs (A through F) described above.

Table 2-3 is an example of a functional adequacy matrix provided in Appendix F. The functional adequacy matrix is an optional tool that can assist space planners and real property managers in determining the functional adequacy of existing facilities, and in assigning existing space. The matrices provide requirements and standards for each required functional area and critical attribute. The matrix shows the standard and, when defined, the lower limit.

Chapter 5 addresses functional adequacy.

In conjunction with the functional adequacy matrices, the floor plans can help planners and facility tenants visualize the design intent the facility category entails. Because the COSs update these floor plans periodically, refer to the COS website for programming and design purposes.

## HOW TO USE THIS MANUAL

Table 2-3: APPENDIX F – Example Functional Adequacy Matrix							
FUNCTIONAL AREA / ATTRIBUTE		PRESENCE		QUANTITY / CAPACITY			NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Private Offices	A		3 per company module	None		
Mission	Arms Vault	A		400 NSF	200 NSF		
Mission	Company Storage	A		300 NSF	None		
Mission	NBC Storage	A		100 NSF	None		
General	Conference Room	D		300 NSF	0 NSF		
Mission	Commo Storage	A		100 NSF	None		
Support	Private Restrooms	A		4 Per Company	NLT 2		
Mission	Supply Storage	A		100 NSF	No Lower Limit		
General	Open Office	A		630 NSF	330 NSF		
Presence Requirement for Adequacy:				Additional Notes			
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

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## I. INTRODUCTION

A fundamental aspect of space management is an Army-wide common operating picture of the inventory. That means having all installations follow consistent rules for defining, describing, quantifying, and evaluating the inventory for reporting purposes. This chapter addresses how the Army defines and measures facilities in general, and buildings in particular, in the real property inventory, as well as the functional areas that comprise the buildings.

Effective space management and an accurate TAB depend on an accurate and careful application of the concepts and procedures in this chapter, which focuses on classifying or defining facilities by category and functional area. It also provides guidelines for measuring the area and volume of the inventory, determining net area and net usable area, and calculating volume in cubic feet for various storage measurements.

Additionally, this chapter addresses specific inventory concepts regarding defining latrines, measuring storage space, and reporting instructional space.

## II. ASSETS

Before looking at assets in detail, it is important to understand the broader context within which real property assets affect the space management process. Figure 3-1 provides a summary of the process. This section of the chapter includes an overview of the concepts of functional adequacy, which are addressed in more detail in Chapter 5.

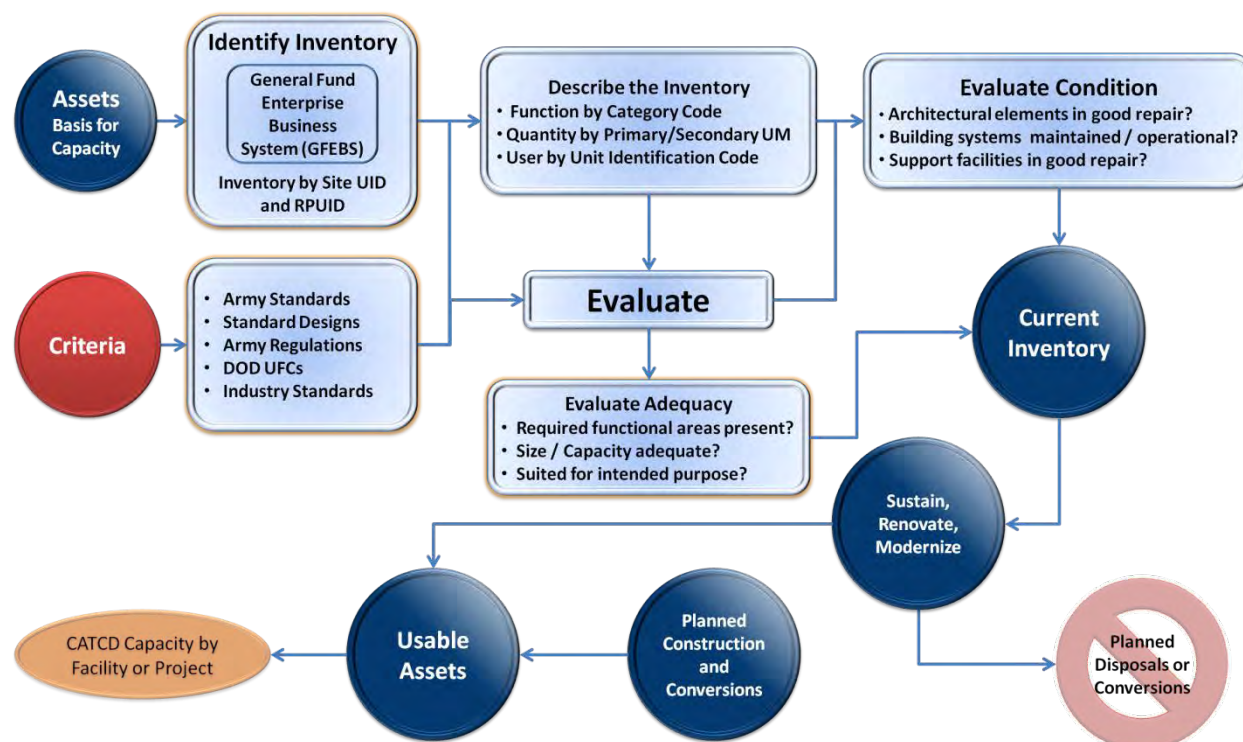
### A. Identify the Inventory

The first step in the assets side of the equation is to **identify** assets. The GFEBS<sup>1</sup> is the primary means of identifying assets. This is accomplished by assigning a site unique identifier for each real property site (site UID), and a unique Real Property Unique Identifier (RPUID). Because the site UID and the RPUID cannot be reused if a site is closed or a facility is disposed of, the combination of site UID and RPUID provides an enduring and **auditable** identity to every real property facility captured in the inventory.

Legacy site codes and facility numbers are also part of the inventory. Legacy site codes use geographic references to help experienced practitioners know in which state or country a particular site is located. Because legacy facility numbers normally have blocks of numbers associated with development areas within the installation, they can help users locate individual buildings or structures on maps or drawings.

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<sup>1</sup> The Army National Guard uses the National Guard system called PRIDE to keep real property inventory data.



DOD = Department of Defense; UFC = Unified Facilities Criteria

Figure 3-1: The Elements of the Assets Process

### B. Describe the Inventory

The second step in the process is to **describe** the inventory. AR 415-28 and the supporting pamphlet are the basis for this step, defining and describing facility categories in a system that is coordinated with a DOD-wide real property classification system. Each facility category is assigned a code that places it into a DOD framework of classes, category groups, basic categories, FACs, and facility categories. The category and corresponding facility category code indicate the functional uses for which a building or facility is suited. The facility category descriptions are not always sufficiently detailed for space planning and management purposes. When available, Army Standards and Standard Designs normally provide detailed descriptions of the functional areas and space or capacity criteria necessary for a building to be fully suited to the intended uses of facilities in a particular category. As such, the description embedded in the standard is normally much more detailed than the description contained in DA PAM 415-28.

Figure 3-2 shows a comparison of the definitions of a COF with a table that quantifies the criteria in the Army Standard for that facility category as it applies to a typical an Army unit.



## COF Inventory Description versus Requirement Calculation

The table on the right shows the criteria for a TOE company for a company operations facility, which is part of the basis for calculation in WebRPLANS. The figure below shows the description from DA Pamphlet 415-28 for real property inventory purposes. Different criteria apply to BT/OSUT and AIT companies, as well as other TDA companies. The capital investment strategy relies on being able to make a distinction in functional capabilities in both requirements and inventory.

**CATCD:** 14185

**Long title:** COMPANY HEADQUARTERS BUILDING

**Short title:** CO HQ BLDG

**Facility type:** Building

**UM1:** SF

**UM2:** None

**Program UM:** SF

**FAC:** 6101

**FCG:** F14185

**Proponent:** DCS, G-3

**GLAC:** 1730

**Investment code:** 01

**Description:** A building provided for companies, batteries, and troops as space to perform daily administrative and supply activities. It is also known as a company operations facility. Separate unit headquarters at echelons below company (platoon, detachment, contact team, and so on) are reported as 61050, Administrative Building, General Purpose.

Table 14185-4 COF Standard Sizes - NSF				
Area	100 PN	150 PN	200 PN	Each Additional 50 PN
<b>ADMINISTRATION MODULE</b>				
Private Offices (See Appendix A for criteria)	1,200	1,200	1,200	
Storage	40	40	40	
Conference Room	310	310	310	
<b>READINESS MODULE</b>				
<b>Supply Bay</b>				
Secure Storage for Non-Sensitive Items	166	306	504	169
Vault	400	500	600	
NBC Storage	94	152	198	52
Communications Storage	94	152	198	52
Unit Storage	367	595	764	199
<b>Readiness Bay</b>				
TA-50 Lockers	3,672	5,292	6,912	1,620
Equipment Maintenance/ Layout Space	1,671	2,328	2,985	657

BT = Basic Training; OSUT – One Station Unit Training; AIT = Advanced Individual Training

### Figure 3-2: Company Operations Facility (COF) Inventory vs. Requirements

Differing definitions between the DA PAM and the facility criteria complicate comparisons of the asset inventory with the required functional areas established in many criteria documents. This can occur when an Army Standard or Standard Design identifies criteria or defines a facility type that is included in a category code that has a broader application.

Additionally, HQIIS records four separate facility category records<sup>2</sup> in the inventory of each facility. For space planning and management, the two of primary interest are “design use” and “current use.” This is important because RPLANS performs base-wide quantitative analysis based on design use in conjunction with unit-level analysis, which in turn is based on current use. When current use and design use are different, this has the effect of unbalancing the TAB at either the unit level or the base level.

Describing assets also involves identifying the user or users of each facility or building. This is done in the inventory with both the UIC and a customer ID. The UIC serves as the common link between requirements and assets. When an invalid or obsolete UIC is listed on the asset allocations in GFEBS, it is not possible to link it back to the correct UIC in the ASIP to determine whether there is a requirement associated with the assigned user.

<sup>2</sup> The other two facility category entries are predominant design use and predominant current use.

### C. Evaluate the Inventory

**Evaluating assets** is a two-track process, addressing both condition and adequacy. To a large extent, condition and adequacy are unrelated: a functionally adequate facility can be in poor condition, and a facility in good condition can be functionally inadequate.

**“Facility condition”** refers to whether building spaces and systems needed to function efficiently and properly are consistent with the building design, and are in good repair. It relates primarily to items that can be maintained or repaired with sustainment dollars, without regard to its “facility purpose.” Condition does not inherently affect the ability of a building to meet its intended purpose until there is a failure of the building systems, the building envelope, or the communications infrastructure. **Condition** is a matter of maintenance and routine repairs, and is not necessarily dependent upon facility category, except as it relates to functional areas specific to a group of related facility types. The Installation Status Report – Infrastructure (ISR-I) is the current tool for evaluating condition. In the future, the Army intends to transition that function to a system called “Builder.”

**Adequacy** is a measure of the ability of a building to fulfill its intended purpose with two distinct elements: presence and sufficiency. Presence determines whether a facility has all the functional areas and spatial relationships needed to meet its intended purpose. Sufficiency addresses whether the facility has the capacity or capability in each functional area to meet the requirements for a particular user.

### D. Determine Usable Assets / Capacity

Once condition and adequacy have been evaluated, some facilities may be identified for disposal or repurposing because of poor condition, inadequacy, or a combination of these factors. Other assets may enter the picture in the form of programmed MILCON; Unspecified Minor Military Construction, Army (UMMCA); construction or repurposing using operations and maintenance Army funds; or other appropriations or private funding streams. These decisions are part of the continuing cycle of analysis and decision that is inherent in the capital investment strategy.

At this point, the combination of inventory and programmed actions represents **usable assets**, which represent the **capacity** or **capability** available to satisfy facility requirements in a given facility category at a specific point in time.

One problem that remains when considering adequacy is that some CATCDs encompass diverse facilities. A brigade combat team (BCT) headquarters and an AIT brigade headquarters both have qualifying attributes for a brigade headquarters building (CATCD [14182](#)). A BCT is authorized a facility with a SCIF, a brigade operations center (BOC), and a network operations center (NOC). An AIT brigade is authorized a headquarters without these three functional areas, so a brigade headquarters that is adequate for an AIT brigade is functionally inadequate for a BCT, even though the assets and requirements are captured by the same category code.

### III. REPORTING INVENTORY

Reporting inventory is the process of identifying the correct facility category or categories for a particular real property asset, and assigning the corresponding category code. It also involves ensuring that a valid assignment (“asset allocation” in GFEBS terminology) is reflected in the inventory. This section takes the principles outlined above and provides specific guidance on reporting the inventory. Chapter 7 provides practical information on assigning facilities.

#### A. Introduction to Facility Category Codes

A real property facility category code is an Army-developed five-digit number used to identify a specific category of facilities when classifying real property. The primary purpose of a facility category is to identify the functional nature of real property, which helps define the uses for which a facility is suited to support the force, equipment, and missions. DA PAM 415-28, which implements a standard real property coding system, is the official source of real property category descriptions, definitions, and facility category code numbers.

The ISPCM augments the definitions in the DA PAM to promote consistent reporting of assets in the real property inventory. Use the reporting paragraph in the facility category discussions in Appendix F to classify facilities for reporting.

The CATCD assigned to a facility at the time it enters the inventory, defined as the design-use facility category code, will remain with the facility throughout its life cycle, unless officially converted to another facility category and documented on DD Form 1354.

A conversion normally involves physical or structural changes that permanently alter the uses for which a facility is suited. A facility’s current use, if different from its design use, does not justify, by itself, changing the building’s design-use category code.

A diversion is using a facility for other than its design use, and is allowable if it is for less than 3 years and the installation can return the facility to its design use in 72 hours or less for a cost of less than \$5,000 in new work. Likewise, the mission or nature of an occupant does not, by itself, define the category code of the facility. These temporary diversions do not bring about a change in a facility’s design-use category code reported in either HQIIS or GFEBS.

#### B. Defining Facilities Using Category Codes

In Army inventories, facilities consist of land and all items of improvements on land. This includes items such as buildings, roads, parking areas, fences, communications lines, water lines, railroads, storage tanks, etc. For purposes of inventory, a facility is an item of real property, and may be a building, a structure, a linear structure, or land. DA PAM 415–28 categorizes all real property facilities by one or more CATCDs.

***Note:** A facility is a real property entity consisting of one or more of the following: a building, a structure, a utility system, or underlying land.*

A building, as defined here, may consist of one or more functional areas. The ISPCM identifies the functional areas for real property categories of buildings measured in square feet. The presence of those functional areas helps the planner determine the appropriate facility category for the building, and the corresponding category code for the record.

In general, do not assign a separate category code to functional areas within a building if DA PAM 415-28 or this manual explicitly identifies that functional area as a component of the primary category code assigned to the building. For example, instructional buildings (facility category code 17120, General Instruction Building) normally include some office space. Because instructor offices are functional areas included within facility category code 17120, do not classify the office space as facility category code 61050, General Purpose Administration, unless one or more of the conditions described in Paragraph D (Reporting Facilities vs. Reporting Functional Areas of Facilities) applies.

***Note:** In general, do not assign a separate category code to functional areas within a building if DA PAM 415-28 or this manual explicitly identifies that functional area as a component of the primary category code assigned to the building.*

### C. Defining Functional Areas

A functional area is a space within a building, measured in square feet, with distinct characteristics or attributes necessary to support or enable an activity or purpose integral to the building's design use. Facilities, which are not buildings measured in square feet, by definition do not have functional areas.

A Company Headquarters Building, facility category code 14185, for example, has several functional areas. They are:

- Private Offices
- Open Office Areas
- Conference Room(s)
- Training Room(s)
- Platoon Offices
- Storage
- A Secret Internet Protocol Router Network (SIPRNET) Room
- Private Bathrooms
- Public Shower Rooms
- Unit Storage
- Secure Nonsensitive Storage
- Nuclear, Biological, and Chemical (NBC) Storage

- Communications Storage
- An Arms Room
- TA-50 Lockers
- Equipment Layout Space
- An Exterior Covered Hardstand
- A Troop Aid Station (if required by mission)

The presence of these functional areas, in conjunction with other criteria, is what defines a building as a Company Headquarters Building.

***Note:** There are three broad categories of functional areas: mission, general, and support.*

*Mission and general functional areas are part of the net area of the building; support functional areas are part of the gross area of the building.*

### 1. Mission Functional Areas

**Mission functional areas** are areas with characteristics and attributes that contribute directly to the unique functions associated with a facility category. Examples include the arms room and/or NBC storage in a COF, or the various maintenance areas included in TEMFs. Mission functional areas are normally distinct work spaces or work support areas in which the intended users carry out specific, mission-related activities. They are included in the net area of a building.

### 2. General Functional Areas

**General functional areas** are work-related areas that might be present in any building to support work functions common to many activities. Many facility categories require the presence of one or more general functional areas to be functionally adequate.

General functional areas are normally workspaces or work support areas in which the building users perform common tasks. General functional areas are included in the net area of the building. The following are general functional areas:

- Private Offices
- Open Offices
- Conference Rooms
- Team Rooms
- Break/Vending Areas
- Ceremonial/Screening Areas
- Distributed Training/Computer-Based Training (DT/CBT) Rooms
- Distribution/Mail Rooms
- File Rooms
- General Purpose Storage Rooms
- Printer/Copier Areas
- Reception Areas/ Waiting Areas

See Appendix A for basic criteria regarding each of these general functional areas. See the functional area paragraph for all buildings measured in net square feet (NSF) in Appendix F, Facility Category Discussions, which lists the general functional areas required for each facility category. The DT/CBT classrooms referred to above are, in fact, general functional areas when associated with categories other than 171-series instruction buildings. Thus, do not separately classify or inventory a DT/CBT classroom as facility category code 17136 when it is in a building such as a Command and Control Facility (C2F) (facility category code 14190) or similar.

### 3. Support Functional Areas

**Support functional areas** are spaces that provide services or utilities of a general nature – those normally required of any building, regardless of its purpose or use. They may provide special services as an integral part of a functional area, which, in turn, is essential to the function of the building in a particular category (e.g., an audio/visual closet for a video-teleconference [VTC] room). They may support all users in the building (e.g., a telecommunications room), or they may support only users within one or more selected functional areas (e.g., emergency power). In many cases, they are unoccupied spaces that contain equipment. Some of these areas are essential for maintaining normal working environments or special environments, and include spaces to house utilities and communications for the building. They also include building circulation areas such as stairwells, elevators, access control rooms, and entry foyers.

**Unlike mission and general functional areas, support functional areas are not included in the net area of a building.** The following are typical support functional areas:

- Access Control Spaces
- Audio-Visual (AV) Closets
- Electrical Closets
- Elevator Shafts
- Entry Foyers
- Hallways
- Janitor Closets
- Mechanical Spaces
- Shipping/Receiving Docks
- Restrooms/Bathrooms
- Shower and Locker Rooms
- Stairwells
- Telecommunications Rooms
- Trash/Recycling Closets
- Vestibules

See Section VI, Defining Restrooms, for a discussion of restrooms, bathrooms and showers, and locker rooms.



An exception of note: Shipping/receiving docks at logistics buildings are mission-functional areas if they support the shipping and receiving area for the building.

The ISPCM category-reporting paragraph for buildings measured in square feet provides a list of the mission, general, and support functional areas. See Chapter 2 for samples of tables in Section IV, subsection A, number 5, Functional Areas.

#### **D. Reporting Facilities vs. Reporting Functional Areas of Facilities**

While a **facility category** describes the facility or a designated portion of a facility as a whole, a **functional area** is a distinct portion of a building that has identifiable characteristics or features different from other portions of the building. Functional areas are the components that define the facility category of a building.

A building that does not contain all of the required functional areas may still have that category code designated in the inventory, but have a diminished functional adequacy status. Use the definitions provided in the functional adequacy section of Chapter 5 when evaluating functional adequacy.

In some cases, definitions of categories in DA PAM 415-28 explicitly define functional areas that constitute a category. In other cases, Army Standards or Standard Designs define functional areas that constitute a category. In many cases, DA PAM 415-28 does not explicitly define all functional areas. However, there are functional areas that implicitly must be present for a building to fulfill its intended purpose, mission, or function.

The ISPCM identifies the functional areas required to support the population, equipment, and/or mission for each category code with functional area criteria. See the facility category discussions in section **A.5, Functional Areas, in the individual CATCD files** in Appendix F of this manual to identify the functional areas required for a facility category to meet its functional purpose adequately.

Some facility categories can apply to a complete, freestanding building or to a functional area or a subset of functional areas within a building. **The fact that a functional area** meets the definition of **a distinct facility category** does not mean the functional area should be classified as such. For example, facility category code 21411 (Repair Bays) is also a functional area in facility category code 21410, Vehicle Maintenance Shop. While the repair bays in a standard motor pool fit the definition of a Repair Bay, facility category code 21411, it is not appropriate to classify the repair bays in a standard motor pool as such. The decision to identify a functional area within a building by a separate facility category code is a separate step in the space reporting process.

Determine whether a particular space within a building is simply a functional area of a larger facility category or warrants identification as a separate facility category by applying this set of three tests: severability, visibility, and utility. **If the functional area does not meet the**

requirements of one or more of these three tests, do not identify the functional area with a separate category code.

### 1. Severability

Severability applies in cases where space within an existing building that might otherwise be defined as a functional area can be used independently of and for a different purpose from other portions of the building, without regard to the occupants of the remaining portions of the building. To meet this condition, the space must display certain characteristics.

- It must be contiguous: The space must be capable of being defined by a single polygon or the aggregation of adjacent polygons in a drawing.
- It must be accessible: The contiguous space must have a separate entrance or a securable entrance from a shared corridor or common foyer or core. Contiguous areas that do not meet this description may still be classified as a different facility category from the primary portion(s) of the building if they meet one of the other tests.
- It must be assignable to a distinct organization as an isolated activity. The space must be able to be secured and accessed for the exclusive use of the assigned activity, by way of either a separate external entrance or a securable access point from a shared corridor or common core.
- It must be functionally consistent with the facility category definition to be recorded in inventory.
- It must be functionally different from other space(s) in the building that it occupies.

Figure 3-3: Severability

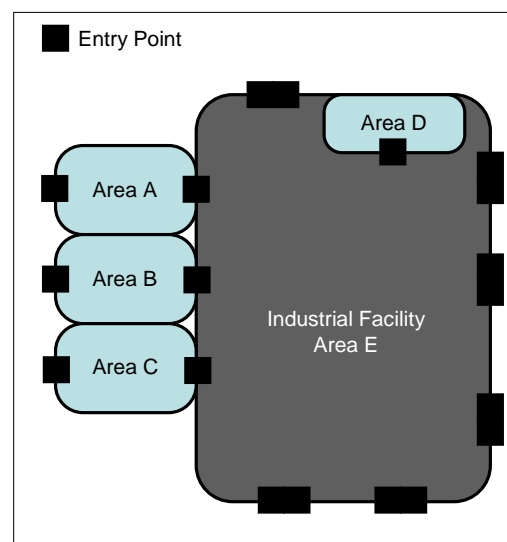


Figure 3-3 shows an example of a large industrial building. Areas A, B, and C are office suites attached or connected to the building. They are contiguous with one another and with the main building. Area D is an office suite on a mezzanine in the industrial building. Areas A, B, and C potentially could be classified as CATCD [61050](#), Administrative Building, General Purpose. They are contiguous and accessible from the exterior, even though they also have access points into the industrial section, Area E.

Based on the diagram, Areas A, B, and C are severable from each other and the remainder of the building, and could reasonably be assigned to agencies or activities unrelated to the main industrial building.

Based on the lack of access, except through the industrial section, Area D could not reasonably be assigned to an activity or organization without regard to the occupant of Area E, since Area D



lacks severability from Area E. Therefore, Area D cannot be classified as a separate facility category under the test of severability.

Severability may apply even if a single user occupies the entire building, if the configuration meets the conditions in this section. The point is that the space is divisible into different uses, the characteristics of the various areas within the building are consistent with the facility category used to describe them, and the areas can be used independently from the other areas of the building.

A separate facility category classification under the severability test identifies a space that a) is manageable, b) does not require extraordinary measures to maintain organizational autonomy with physical separation, and c) can be enclosed with a polygon on a drawing.

Severability does not preclude shared use of support functional areas.

Do not classify or report a space as a separate facility category due to severability if the space is less than 1,000 gross square feet (GSF), unless this small space meets one or more of the remaining tests.

## **2. Visibility**

Visibility applies where the nature of the functional area is of such value or sensitivity that it is necessary to maintain visibility of all occurrences of that type of space. This rule applies whether the functional area is in a standalone building or is a functional area within a larger building. Examples include information systems support spaces, SCIFs, emergency operations centers (EOCs), and automation-aided instruction classrooms. It can also include utilities spaces, mechanical systems spaces, and similar spaces.

Space to which the visibility test applies must be capable of being enclosed in a polygon on a drawing, though it need not be severable in the sense described above.

Represent each noncontiguous polygon within a building that meets this test with a separate assignment record, even if all of the spaces identified under this test are for the same category and belong to the same organization.

## **3. Utility**

Utility applies in cases where there is a value or a need to both identify distinct users within the building and conclude that those users have distinct space requirements. Furthermore, the distinct requirements can be met only by a functional area that is defined by a facility category different from the category of the surrounding area.

Utility may also apply in cases where services or other costs associated with occupying the space must be tracked independently from other portions of the building, and the basis for calculating the costs is dependent upon the facility category or the tenant. This includes non-Army tenants

that must be represented with an assignment record under the provisions of AR 415-28, paragraph 2-1 I (3).

Utility may also apply to legacy facilities that do not meet current Army Standards when there are category codes that equate to functional areas in an Army Standard Design. For example, a building consisting of two repair bays and an administration/shop control area may be reported in the inventory as 21411 (Repair Bay) and 21413 (Admin/Shop Control) to avoid having it aggregated with other substandard facilities in 21410 (Vehicle Maintenance Shop). This case may be applied even if one of the areas is less than 1,000 GSF.

***Note:** To be reported correctly as a separate facility category, a functional area must meet at least one of the tests for severability, visibility, or utility. Failure to meet one or more of the requirements tests, do not classify or report the functional area as a separate facility category.*

### **E. Reporting Assignment Records**

Report each use/user combination separately. The use/user detail is required to make unit TABs (and subsequent “what-if” exercises) meaningful, and to ensure that complete, correct sustainment (organization/fund) data are fed to the Office of the Secretary of Defense (OSD) Facility Sustainment Model (FSM).

The term “use” (noun, not verb) refers to each distinct design-use facility category assigned to a facility. The term “user” refers to each distinct unit, organization, or activity that occupies space in the building that can be identified by a unique UIC, customer ID, or combination of the two.

This does not mean that each activity with a distinct ASIP UIC occupying a building must have an assignment record. Rather, only the UIC of the organization controlling the activities represented by related UICs must have an assignment record.

For example, the ASIP extracts contractors documented in the TDA of a Program Executive Office (PEO) from the authorized strength of the TDA, and assigns a distinct contractor UIC to the contractor population. Only the TDA UIC needs to have an assignment record to account for that user.

## **IV. MEASURING SPACE FOR THE INVENTORY**

Reporting the inventory requires reporting the capacity by functional area.

This section provides definitions and principles for measuring building inventory and functional areas. While studying this section, keep in mind that the definitions of gross area and net area apply equally to existing facilities and programming requirements.

Five types of area measurements apply to the discussions of space throughout the ISPCM: gross area, net area, net usable area, net living area, and net storage area. Three-dimensional spaces are measured with cubic feet. Storage requires measurements in both two and three dimensions. Table 3-1 shows the abbreviations this manual uses to refer to each, and the section of this chapter that defines the measurement.

Table 3-1: Space Designation and Annotation		
DESIGNATION	ANNOTATION	DISCUSSION
Gross Square Feet	GSF	IV.A.1
Net Square Feet	NSF	IV.A.2
Net Usable Square Feet	NUA	IV.A.3
Net Living Area	NLA	IV.A.4
Net Storage Space	NSS	IV.B.3
Cubic Feet	CF	IV.B.4

### A. Defining Area Measurement

All dimensions that appear on figures in this section represent interior dimensions.

#### 1. Gross Area / Gross Square Footage / Gross Square Feet (GSF)

“All floor area (including all openings in floor slabs) measured to the outer surface of exterior or enclosing walls. It includes full areas of all basements, on grade and above grade floors, service and equipment rooms, boiler plant and heater rooms, mezzanines, penthouses, halls, vestibules, stairwells, enclosed passages and walks, finished usable space with sloping ceilings (such as attic space) having seven (7) feet or more headroom, and appended covered shipping or receiving platforms at truck or railroad car height. Also included in gross floor area, but calculated on one-half of actual floor area, are covered open porches, passages, and walks, with appended uncovered receiving and shipping platforms at truck or railroad car height.”<sup>3</sup>

A number followed by “GSF” in this manual refers to gross area as defined here.

#### 2. Net Area / Net Square Footage / Net Square Feet (NSF)

“That area defined as gross square footage, less space occupied by outside walls, interior partitions, stair towers, elevator shafts and machinery, toilets, telephone and communications closets, basement and attic space unsuitable for use, permanent hallways and corridors, and rooms (mechanical) housing machinery or equipment for heating, ventilating or air conditioning, and for furnishing light, power, and water supply for the building.”<sup>4</sup>

The net area of general and mission functional areas is a mathematical calculation based on the dimensions of rooms that meet the definition of occupiable areas. Occupiable areas are: “The portion of the area that is available for use by personnel or furnishings. Occupiable area does not

<sup>3</sup> AR 405-70, Utilization of Real Property, 12 May 2006, page 24

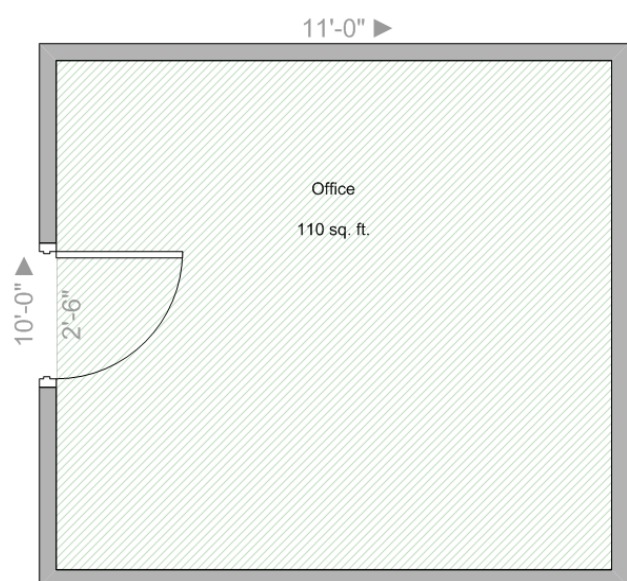
<sup>4</sup> Ibid, pg 25

include space in the building that is devoted to its operations and maintenance, including craft shops, gear rooms, and building supply, storage, and issue rooms.”<sup>5</sup>

The net area of a room is the mathematical net area of the geometric space (polygon) that the interior walls of the room define. Measure distances from the surface of the wall if the area consisting of windows is less than 50 percent of the total wall area. Measure distances from the surface of the window when the area consisting of windows is greater than fifty per cent of the wall surface. The net area of a building is the sum of the net areas of the rooms.<sup>6</sup>

A number followed by “NSF” in this manual refers to net area as defined here.

Figure 3-4 shows an example of net area for a common area that consists of a regular rectangle.

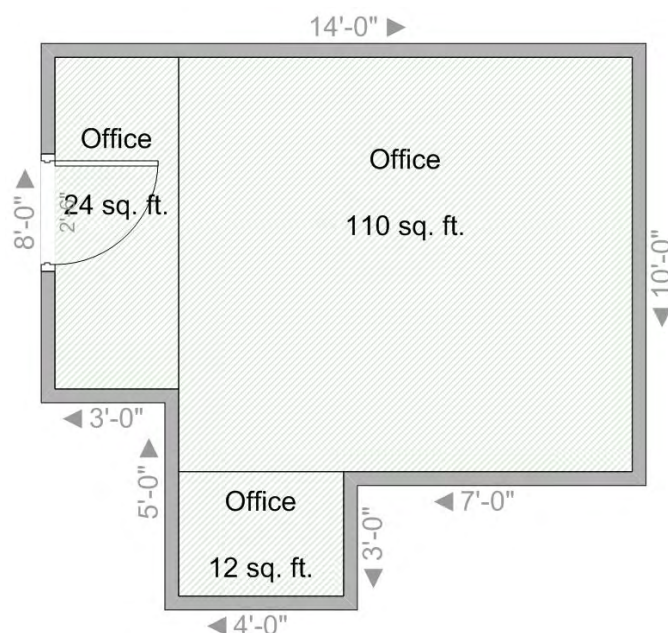


**Figure 3-4: Net Area of a Rectangular Room**

<sup>5</sup> Ibid, page 25

<sup>6</sup> AR 405-45, Real Property Inventory Management, 15 September 2000, page 45

Figure 3-5 shows the computation of net area for an irregularly shaped room, in this case 24 NSF plus 110 NSF plus 12 NSF, for a total of 146 NSF. A number followed by “NSF” in this manual refers to net area as defined here, e.g., 146 NSF.



**Figure 3-5: Net Area of an Irregular Room**

### 3. Net Usable Area

The NUA is the portion of the net area in **general functional areas** usable for offices, cubicles, or other primary office work spaces. Use NUA to compare the space available in existing facilities with the NSF allocated to a function in Standard Designs or other criteria when assigning space or determining utilization in existing buildings.

**The definition of NUA applies only to general functional areas and selected mission functional areas** in existing buildings. NUA measurements provide a means for comparing actual capacity in existing buildings, constructed prior to current standards, with the design or intended capacity of current Army Standards and Standard Designs. Net Usable Area has no application to programming new construction.

***Note:** NUA measurements provide a means for comparing actual capacity in existing buildings with the design or intended capacity in Army Standards and Standard Designs.*

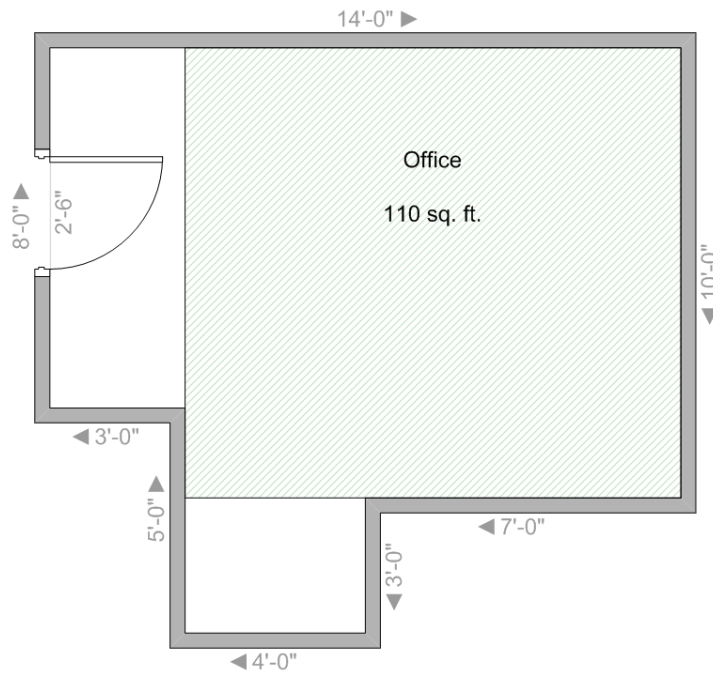
*NUA has no application to programming new construction.*

Generally, net usable space applies only to space suitable for human occupation, such as administrative work space. Use NUA to determine the workstation capacity of rooms.

For occupied general functional areas, determine the NUA by determining the largest unobstructed rectangular area of the room. Figure 3-6 shows a room consisting of a polygon with all walls at right angles. The hashed area is the net usable area by this definition.

Compare the net usable area in Figure 3-6 (110 NSF NUA) with the net area for the same room in Figure 3-5, which is 146 NSF.

Note that while it is possible to superimpose an 8-foot-by-14-foot polygon on this room, the door swing interrupts the larger polygon and reduces the net usable area by the area of the polygon.



**Figure 3-6: Net Usable Area Irregular Room**

For irregular rooms, overlay the largest unobstructed rectangle to calculate net usable space.



The room in Figure 3-7 is, geometrically, about 180 NSF, but has a NUA of 167 NUA.



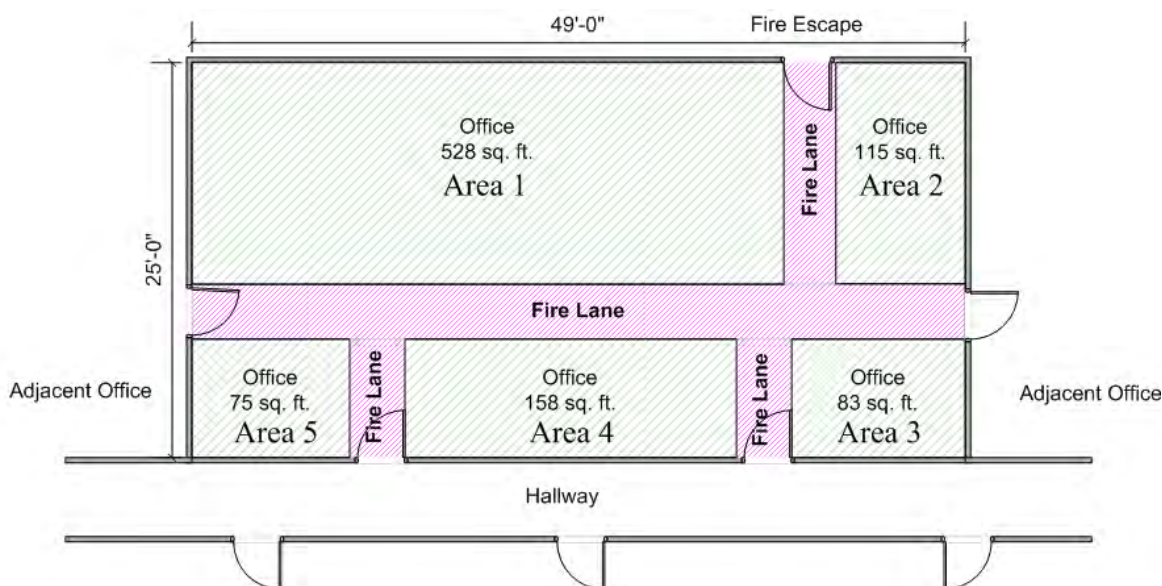
**Figure 3-7: Net Usable Area Irregular Room**

If permanent vertical beams or other structural obstructions divide a room, calculate NUA by overlaying rectangles on the unobstructed portions of the floor, as shown in Figure 3-8.



**Figure 3-8: Net Usable Area Obstructed Room**

In a room with an exterior door requiring access for emergency egress, exclude from the net usable space the fire lanes from interior entrances to the exterior exit door. Figure 3-9 is an example of this situation. The net usable area is the sum of the NSF of the five hashed blocks. The net area is 1,225 NSF (49 feet by 25 feet). The NUA, the sum of the five (5) hashed rectangles, is 959 NUA.



**Figure 3-9: Net Usable Area as Result of Fire Lanes**

For rooms serving as open office space, calculate the capacity in persons (PN) by dividing the net usable area by 96 SF, the net area allowed per cubicle including circulation; see Table 3-2: Sample Capacity Calculation. If the remainder is 0.85 or higher, round up to the next whole number. If the remainder is less than 0.85, round down to the next-lowest number.

Using Figure 3-9 as an example, calculate the capacity of the room using Area 1 through Area 5. Divide the NUA for each area by 96 NSF to determine the Calculated Capacity. Area 3, at 0.86, has a capacity of one. Area 5, with 0.78, has a capacity of zero.

Table 3-2: Sample Capacity Calculation			
Area	Area NSF	Calculated Capacity	HQIS CAP
Area 1	528	5.5	5
Area 2	115	1.20	1
Area 3	83	0.86	1
Area 4	158	1.65	1
Area 5	75	0.78	0
TOTAL	924		8

By definition, private offices have a capacity of one. AR 405-70 sets the authorized net area for private offices based on position (function of duties) and grade.



Table 3-3 correlates the program size for private offices to a minimum NUA and a maximum NSF. Rooms with a net usable space of 285 NSF or greater will not be classified as private offices for calculating capacity unless they are in a general officer/Senior Executive Service (SES) suite.

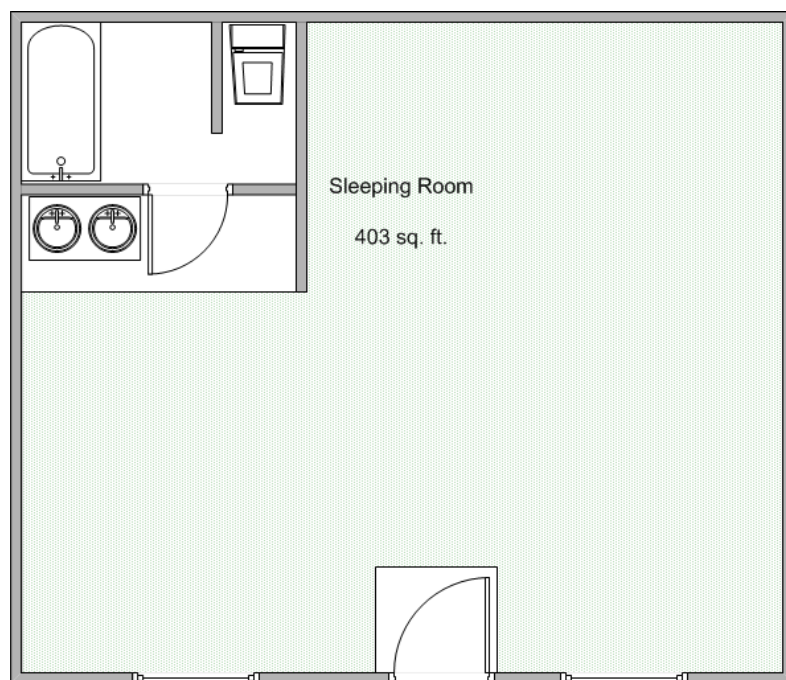
Table 3-3: Private Office Space			
OFFICE TYPE	PROGRAM	EXISTING	
		MIN NUA	MAX NSF
P1	400	386	475
P2	300	286	385
P3	200	180	285
P4	150	135	179
P5	110	100	134

Rooms in office spaces with a net usable area of less than 100 NUA have a capacity of zero for office space. Capacity determination for other-than-office space is dependent on the category code. Where applicable, the detailed category discussions outline the method for calculating capacity for that facility category.

#### 4. Net Living Area

The NLA of a private room or suite is measured from the inside face of the peripheral wall, and includes all such enclosed, unshared spaces and partitions. The NLA in a shared room includes the clear area in the sleeping room available for beds, lockers, and circulation; it excludes lounges, bathrooms, hallways, door-swing areas, and storage areas designed for military mobility and/or field gear or equipment.

Figure 3-10 depicts a living area, the shaded area of which represents 403 square feet of NLA in a shared room.



**Figure 3-10: Net Living Area**

In contrast to a private room or shared room, in an open bay, net living area is one equal share per person. The open bay comprises all space within the peripheral walls of the bay.

## **B. Storage Buildings and Storage Measurements**

### **1. Classifying Storage Buildings**

Conceptually, there are two broad groups of storage buildings, organizational storage buildings and logistics storage buildings. The intent of the former is met primarily by the facility category Organizational Storage (44224). Facility categories for Storage Building, General Purpose, Depot Level, (44110); and for Storage Building, General Purpose, Installation, (44220), cover the latter group. This distinction is not meant to exclude special-purpose facilities (e.g., hazardous storage) or special-environment storage (e.g., controlled humidity or cold storage).

#### ***Organizational Storage***

Organizational storage is analogous to a backyard storage shed. It satisfies the requirement for an organization to store organizational material and equipment between uses. The Army criterion for this type of storage allows space based on authorized TOE or TDA equipment and Common Tables of Allowance (CTA) items, including containers associated with those items.

The criterion also extends to storing procured items. However, organizational storage is distinct from the storage included in general functional areas, which satisfies the requirement to store a

limited amount of consumable products such as paper and toner. See Appendix A for a discussion of general functional areas.

Organizational storage normally applies to austere buildings that provide shelter from the weather and may not have heat, light, or plumbing when built as standalone buildings. Use of the organizational storage facility category is also appropriate for space in basements or attics included in the area of the building that are not suitable for use as office space, but provide dry, enclosed space suitable for storing organizational equipment. Space that meets this description may be classified as facility category code [44224](#), Organizational Storage, under the utility test to avoid overstating the capacity of the primary facility.

Organizational storage generally does not envision sufficient vertical space to use material handling equipment such as forklifts, because most units do not have that capability.

### *Logistics Storage*

Logistics storage implies operations where storage is a mission rather than an incidental activity. Storage Building, General Purpose, Installation ([44220](#)); and Storage Building, General Purpose, Depot Level ([44110](#)) are the most common logistics storage building categories.

Logistics storage buildings commonly include functional areas for logistics management, loading and unloading materials, shipping and receiving, and processing of materials, in addition to storage areas. The other characteristic of logistics buildings is vertical height, allowing the use of bins, racks, and/or shelves.

Organizations with logistics missions will normally have personnel and equipment dedicated to managing and conducting the logistics process.

Some activities that do not have a traditional logistics mission, such as research and development activities, may have requirements to store large quantities of equipment and materials incidental to their missions. Their missions may justify facilities that are more characteristic of logistics storage than organizational storage.

Ultimately, the character of the space, and not the use or user, determines the appropriate facility category.

***Note:** The character of the space, not the use or user, determines the appropriate facility category.*

## **2. Definition of Gross Storage Space**

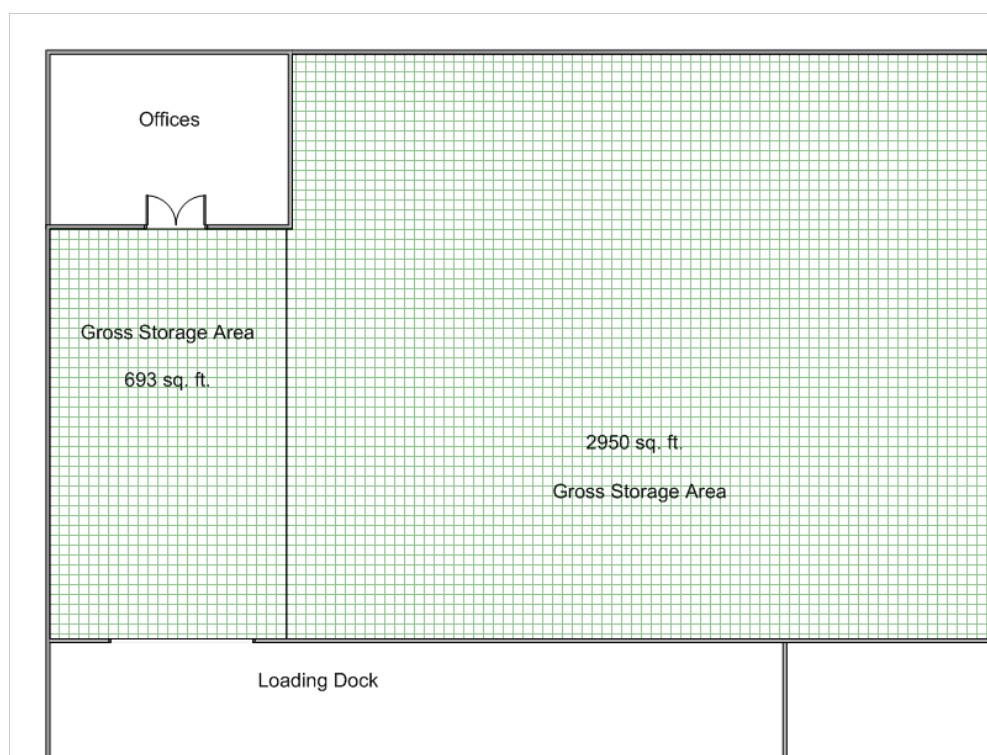
Gross storage space is the gross space assigned or used for any operation concerning storage or support of storage functions, regardless of location or the purpose for which the space was designed or designated.

**Gross storage space is not the same as the UM GSF.** To measure gross storage space requires taking measurements from the interior walls.

*Note: Gross storage space is not the same as the Unit of Measure GSF.*

For enclosed storage, the gross storage space is the net area of the interior portion of the building with design features suitable for storage. The shaded area in Figure 3-11 illustrates gross storage space. Note that the offices within a hard-walled area are not part of the gross storage space.

Likewise, the external loading dock is not part of gross storage space. In Figure 3-11, the gross storage area is 3,643 SF, the sum of the two rectangular areas.



**Figure 3-11: Gross Storage Area**

### **3. Definitions of Net Storage Space**

Net storage space (NSS) is defined in both net square feet and cubic feet.

#### ***Definition of Net Storage Square Feet***

The NSS is the gross storage space minus aisles, structural loss, and support space.

- An aisle is any passageway in storage areas, including passageways in bin and rack areas. Aisle types include fire, personnel, main, and cross aisles.

- Structural loss is the space that is not usable for storage because of obstructions such as posts, pillars, ramps, door clearances, and firewalls, and because of installed equipment such as switch panels or dehumidification equipment. Structural loss **does not** include aisles.
- Support space is gross storage space that supports storage operations. Support space includes receiving, shipping, preservation and packaging, inspection and identification, packing, box shop, assembly, open offices, materials-handling equipment (MHE) parking areas, battery-charging stations, employee restrooms, locker rooms, time clock areas and smoking areas when they are within the gross storage space. It **does not** include general administrative offices, unless they are in gross storage space.

Figure 3-12 shows an example of NSS (large shaded area), with aisles and support spaces that are not part of the NSS. In this case, the net storage area is 2,376 SF.

When bin or rack systems are in use, deduct from the net storage space the aisles necessary to service the bins or racks.

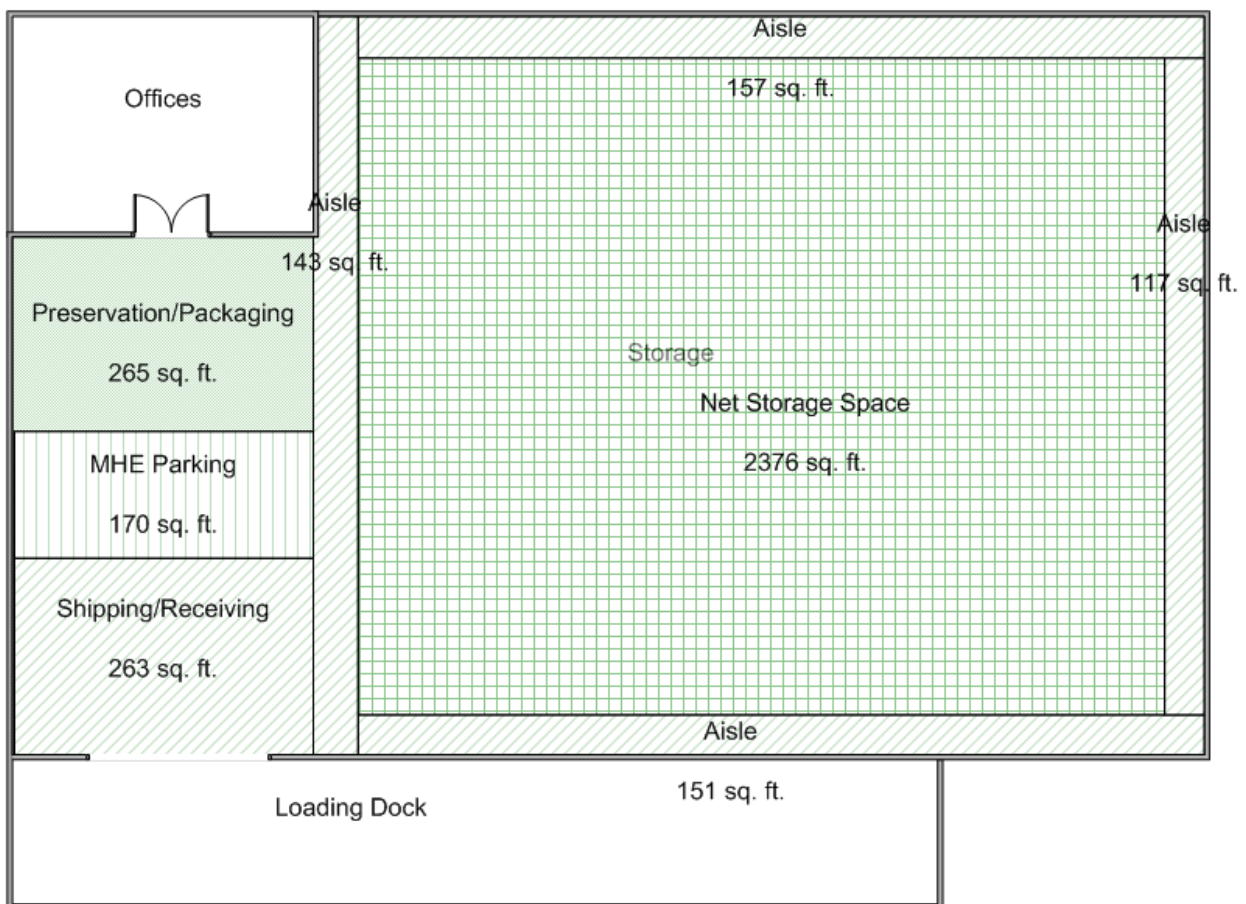


Figure 3-12: Net Storage Space

*Definition of Net Storage Cubic Feet*

Net cubic capacity requires recognizing the difference between total capacity and attainable capacity.

**4. Definitions of Cubic Capacity**

Cubic capacity is the total cubic capacity and attainable cubic capacity.

*Definition of Total Cubic Capacity*

Cubic capacity is NSS times the unobstructed storage height. The unobstructed storage height is the distance from the floor to the lowermost point of overhead obstruction minus a safety clearance. The lowermost obstruction may be sprinkler heads, joists, rafters, beams, roof trusses, lighting fixtures, ductwork, or any other permanent fixture. The safety clearances vary depending on circumstances.

- If the lowest obstruction is less than 15 feet above the floor, the clearance is 18 inches.
- If the lowest obstruction is 15 feet or more above the floor, the clearance is 36 inches.
- For hazardous materials storage and buildings without sprinklers, the clearance is 36 inches.
- A clearance of only 14 inches is required for reclaimed drum storage, regardless of stacking height, provided the building is of all-metal construction and contains no electric wiring.

For the building in Figure 3-12, if the unobstructed height is 14 feet, the stacking height is 14 feet minus 18 inches, or 12.5 feet; thus, the calculation is 2,376 NSS times 12.5 feet equals 29,700 CF. In some cases, the stacking height may vary in different segments of the building. When that is the case, calculate the attainable cubic capacity separately for each area.

*Definition of Attainable Cubic Capacity*

Attainable cubic feet is the cubic space usable or available for storage with existing resources. The calculation is the product of net storage square feet multiplied by the stacking height(s) permitted by safety regulations/restrictions, and floor load limitations with available MHE and storage aids. Storage aids include bins or rack systems that elevate and segregate materials.

Attainable cubic capacity is dependent on the storage method, bin, rack, or bulk. Bulk storage is palletized storage on open floor space.

*Bin Capacity*

Bin cubic capacity is the product of inside dimensions, namely length times width times height ( $L \times W \times H$ ). Unused cubic space above the bins will not be included as attainable space. Figure 3-13 is an example of a bin storage aid.

In a warehouse, bins are normally arranged back to back in double-loaded rows to minimize aisle space. For safety reasons, the **space on top of the bins is not storage space**, even if there is sufficient clearance.



**Figure 3-13: Bin Storage Aid Example**

### *Rack Capacity*

Rack cubic capacity also is the product of the inside dimensions,  $L \times W \times H$ . Include cubic space above the racks to the extent that use of such space is permitted by safety limitations. Figure 3-14 shows a typical rack storage aid.



**Figure 3-24: Rack Storage Aid Example**

It is possible to place one layer on top of the rack system, so add the equivalent of one layer of the rack height to the vertical dimension of the rack system to calculate attainable space. If shelf spacing is irregular, divide the height of the system by the number of layers to determine the average distance between layers, and use this for the additional height, as long as it does not cause the total vertical distance to intrude into the safety clearance.

In Figure 3-14, if the racks are 96 inches high, the attainable **additional** height is 96 divided by 4, or 24 inches. The attainable cubic capacity is length times width times 120 inches; 120 inches is the height plus the equivalent one layer (96 inches plus 24 inches).



## 5. Occupied Space vs. Vacant Space

### *Definitions of Occupied and Vacant Square Feet*

“Occupied square feet” is the amount of square feet occupied by bins, racks, or bulk materials in covered storage areas.

“Vacant square feet” is area where nothing occupies the space, including bins or racks.

Bin and rack space is occupied space whether or not materials are stored in it. “Occupied square feet” is length multiplied by width (L x W) of the storage aids.

Survey the bulk-occupancy storage in covered storage areas periodically to determine the representative bulk stacking height for each storage facility.

### *Determine Occupied Cubic Feet*

“Occupied cubic feet” is the product of net square feet occupied and actual storage height(s).

### *Determine Vacant Storage Space*

Compute bin and rack occupancy by determining what portion of total attainable space is vacant through statistical sampling, or by records of available and occupied openings.

## V. REPORTING INSTRUCTIONAL SPACE

Instructional space has four broad groups; these are academic buildings, unit training buildings, simulation buildings, and range support buildings. This section deals specifically with reporting instructional buildings and functional areas normally associated with Army schools.

Academic buildings support the missions of training institutions conducting scheduled courses with formal programs of instruction. They may include general instruction classrooms, applied instruction classrooms, administrative spaces, libraries, resource rooms, simulation rooms, and assorted support spaces.

Instructional space categories, although the names include the word “building,” often are classrooms within an academic or instructional building. All instructional building categories may be simply a classroom or space within a building.

### **A. General Instruction Building**

General instruction space is traditional or multipurpose classroom space, facility category code [17120](#), General Instruction Building (GIB). The nature of the training programs conducted in general instruction classrooms does not require any specialized training environment.



## B. Applied Instruction Building

Applied instruction space is specialized space within a training building. It includes eight facility categories. Table 3-4 shows the Applied Instruction Building (AIB) categories. Appendix F discusses each in detail.

Table 3-4: Applied Instruction Building (AIB) Categories		
CATCD	DESCRIPTION	UM
17131	Compact Item Repair Instructional Building	GSF
17132	General Item Repair Instructional Building	GSF
17133	Vehicle Maintenance Instructional Building	GSF
17134	Aircraft Maintenance Instructional Building	GSF
17135	Laboratory Instructional Building	GSF
17136	Automation Aided Instructional Building	GSF
17137	Material Handling Instructional Building	GSF
17138	Limited Use Instructional Building	GSF

The nature of the training programs conducted in applied instruction facilities and the degree of specialization required to create the training environment are instrumental both in reporting the space and in determining requirements (see Chapter 6 on determining requirements for instructional spaces).

### 1. Compact Item Repair Instruction Building

Compact Item Repair Instruction Building (17131) is space designed to support training on compact items that one person can move and lift on a bench alone. The physical characteristics of this type space are similar to consolidated bench space in a TEMF.

### 2. General Item Repair Instruction Building

General Item Repair Instruction Building (17132) is space designed to support training on items that, by their size and weight, require two or more people to lift and place on a bench, or which cannot be moved without mechanical assistance but do not require a high maintenance bay. The physical characteristics of this type space are similar to consolidated bench space in a TEMF.

### 3. Vehicle Maintenance Instruction Building

Vehicle Maintenance Instruction Building (17133) is space designed to support training on items that, by their size and weight, require a vehicle maintenance bay to conduct training properly. The physical characteristics of this type space are similar to a maintenance bay or repair bay in a TEMF. This generally includes a high bay space.

### 4. Aircraft Maintenance Instruction Building

Aircraft Maintenance Instruction Building (17134) is space designed to support training on aircraft frames or components.

### 5. Laboratory Instruction Building

Laboratory Instruction Building (17135) is space designed to perform tasks that require a laboratory (e.g., chemical, soils, petroleum, electrical) and/or replicates the work environment, and that involve activities using a specific type of space. The physical characteristics of laboratory instruction space may replicate a laboratory in a number of ways:

- In the conventional sense, if the purpose of the laboratory is to teach fundamental or foundational skills common to multiple Military Occupational Specialty (MOS) or skill identifiers (general chemistry or physics lab).
- It may replicate a specific type of laboratory used to perform tasks associated with a particular MOS or skill identifier (oil analysis lab, soils lab).
- It may replicate a work environment associated with a specific MOS or skill identifier (dining facility, X-ray facility).

### 6. Automation Aided Instruction Building

Automation Aided Instruction Building (CATCD 17136) applies to facilities that meet the technical standards for Classroom XXI as described in GIB and Army Continuing Education System (ACES) Standard Designs.

The mere presence of computers, even if networked, does not qualify a building for this facility category. Classroom XXI technical standards are related to projection and distance learning capabilities.

***Note:** The mere presence of computers, even if networked, does not qualify a building for CATCD 17136. Classroom XXI technical standards are related to projection and distance learning capabilities.*

### 7. Material Handling Instruction Building

Material Handling Instruction Building (17137) applies to buildings physically designed like warehouses, providing the ability to instruct students on the use of forklifts and other material handling requirements.

### 8. Limited Use Instruction Building

Limited Use Instruction Building (17138) applies to buildings physically designed for unique, single-purpose training.

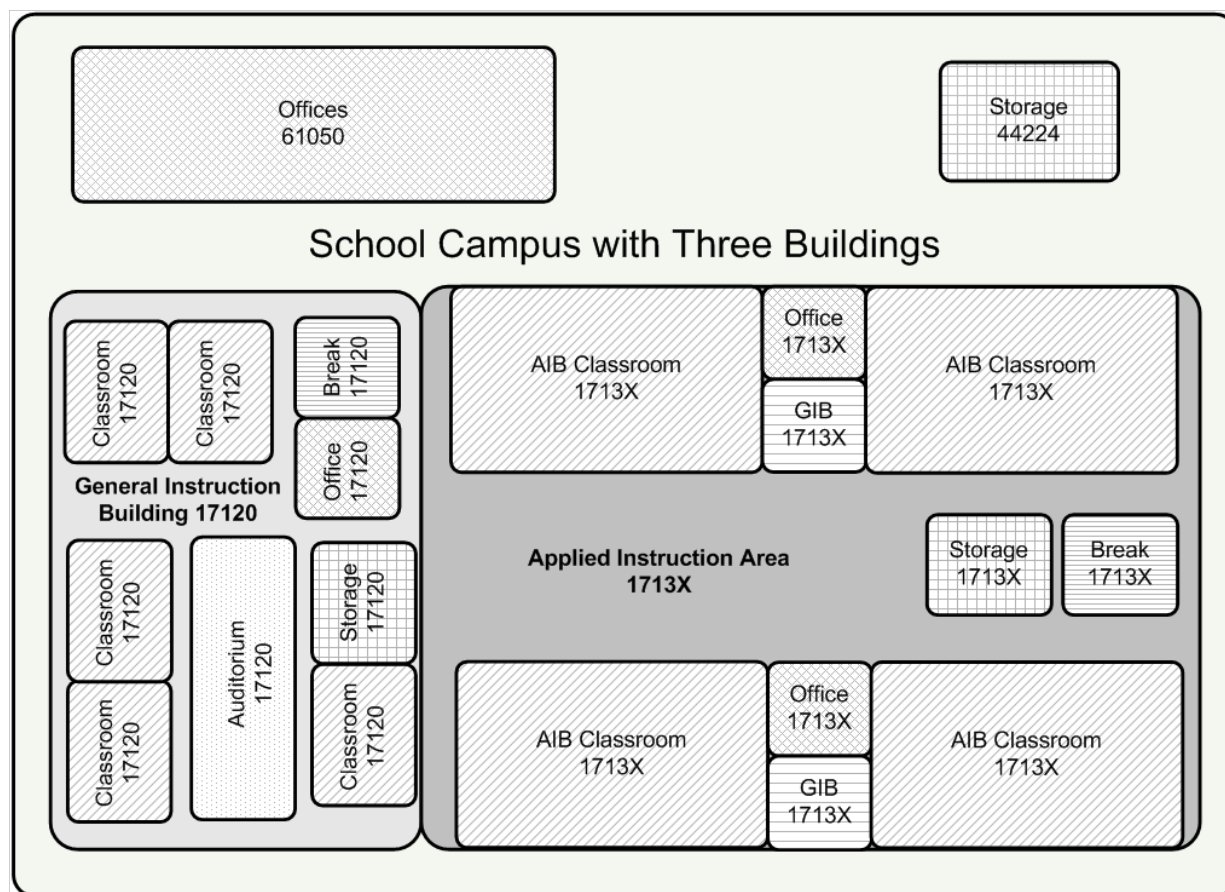
## C. Classifying General and Applied Instruction Classrooms

Large instructional buildings in a training complex are frequently multiuse facilities with two or more categories. The nature of the training programs conducted in instructional buildings and the degree of specialization required to create the training environment are instrumental in reporting the space.

Consider the overall mission and composition of the complex in determining facility categories within the complex. Evaluate each classroom, whether general instruction or applied instruction, independently when determining capacity and classification.

***Note:** Large academic buildings in a training complex are frequently multiuse facilities with two or more category codes. Consider the overall mission and composition of the complex in determining category codes within the complex.*

Use Figure 3-15 in conjunction with this guidance.



**Figure 3-35: Instruction Building Classification Guidelines**

When traditional or multipurpose classrooms are in an AIB, report them as facility category code **17120**, General Instruction Building, **when they are in a contiguous area within the AIB**. However, when multipurpose classrooms **are dispersed within an AIB and oriented in a manner to provide direct support to specific AIB classrooms**, report the classrooms as part of the AIB (1713X). Additionally, if the exclusive or primary access to a classroom is through an AIB instructional area, report the classrooms as part of the AIB (1713X).

Always report facility category code [17136](#), Automation Aided Instruction Building, separately for visibility.

***Note:** Always report CATCD [17136](#), Automation Aided Instruction Building, separately for visibility.*

### **1. Classifying Instructors' Offices**

When classifying classrooms using the GIB category within an instructional building, report contiguous or adjacent offices using GIB ([17120](#)).

Instructor offices associated with applied instruction facilities are normally included in the GIB facility category code [17120](#) when co-located within a single instruction building with general instruction classrooms.

Report instructor offices located in an administrative building (without classrooms) as facility category code [61050](#), Administrative Building, General Purpose.

When instructor offices are in an AIB with only limited multipurpose classroom space, include the instructor offices in the AIB (1713X), unless the offices are aggregated in a contiguous area. In the latter case, classify offices as facility category code [17120](#), GIB.

### **2. Classifying Instruction Supporting Space**

Include storage buildings, auditoriums, libraries, and break areas in facility category code [17120](#), GIB, only if they are physically contained within an academic building.

For standalone facilities in school complexes, use the following facility category codes respectively: [44224](#), Organizational Storage Building, for storage; [74010](#), Auditorium, General Purpose, for auditoriums; [61065](#), Technical Library, for libraries; and facility [74060](#), Break/Lunch Room, for break areas.

When the storage space is within the footprint of an AIB building, or the AIB portion of an academic building, and has its primary access through or oriented towards AIB space, classify the storage with the corresponding AIB category.

## **VI. DEFINING RESTROOMS**

Although latrines are among the more frequently observed support functional areas, and the word “latrine” is common vocabulary in the Army, it is a generic term from a criteria perspective. This section provides definitions with specific examples from Standard Designs (when available) of the various fixtures and functions of restroom types.

### A. Private Restroom

A private restroom is a support functional area with a single toilet and sink and, as appropriate, a urinal. A private restroom is designed for one user at a time. The entry door locks from the inside, and normally is locked when in use. While a private restroom may be designated for men or women, as shown in Figure 3-16, it could easily serve as a unisex restroom. It may be intended for use by a limited number of people within a specific work area, but is not necessarily for the exclusive use of one individual.

Figure 3-16 shows an example of side-by-side private restrooms.

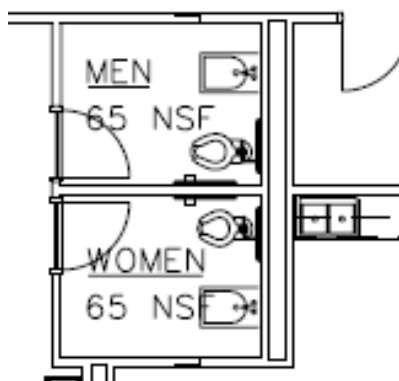


Figure 3-46: Two Private Restrooms

### B. Private Bathroom

This support functional area is the same as a private restroom, but the private bathroom includes a shower or bath. It may include a locker; however, the presence of a locker does not classify it as a shower room.

Figure 3-17 depicts an example of two adjacent private bathrooms.

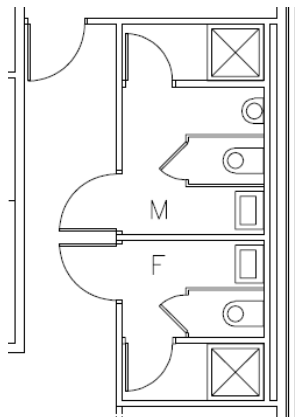


Figure 3-57: Two Private Bathrooms

### C. Public Restroom

This is a support functional area with multiple toilets, sinks and, as appropriate, urinals. Figure 3-18 shows a typical public restroom. It is designed to accommodate multiple users simultaneously.

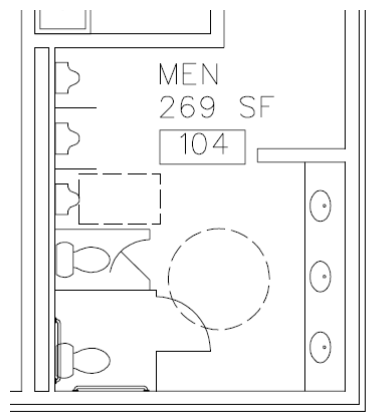


Figure 3-68: Public Restroom

### D. Public Bathroom

This is a support functional area with multiple toilets, sinks and, as appropriate, urinals, that also has one or more showers; it is distinct from a public restroom. The showers are incidental to the primary purpose of the facility. A public bathroom normally will not have lockers. When present, they often occur in buildings originally designed as barracks that were converted to other uses. Figure 3-19 is an example of a public bathroom from the Small Brigade Headquarters Standard Design.

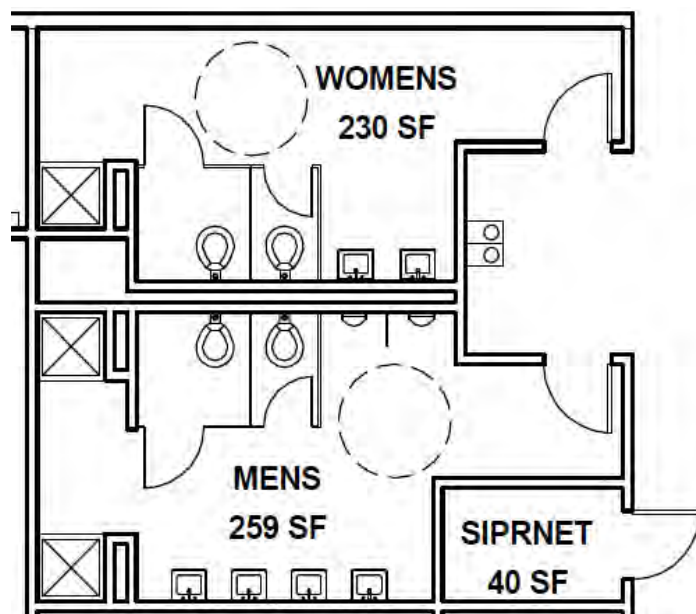
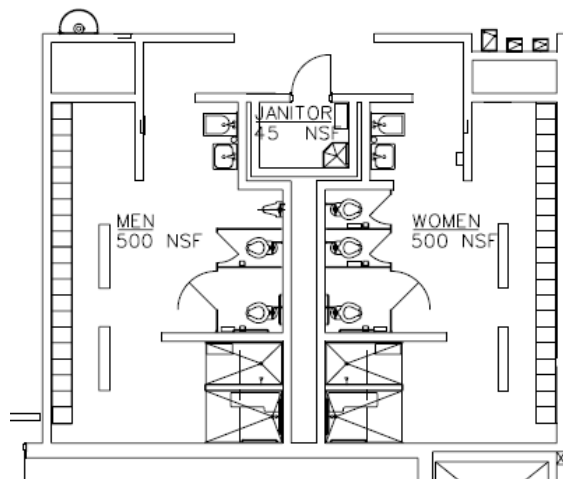


Figure 3-79: Public Bathroom

### E. Shower Room

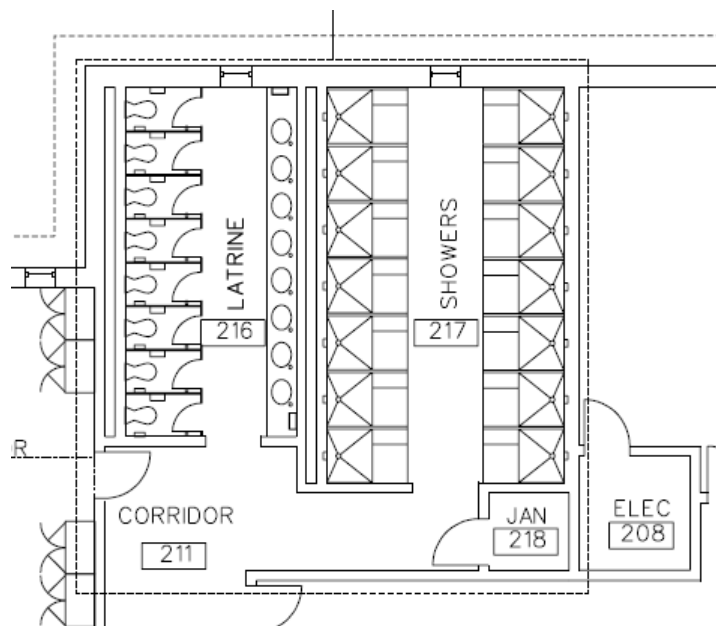
A shower room is a support functional area designed to provide shower facilities in support of a fitness center, workplace, or communal living area such as an Operational Readiness Training Complex (ORTC) or BT/OSUT barracks. In workplaces and fitness centers, a shower room normally includes lockers. In workplaces, a public shower room may also be the primary restroom facility for the building or work area.

Figure 3-20 shows a public shower room in a medium TEMF.

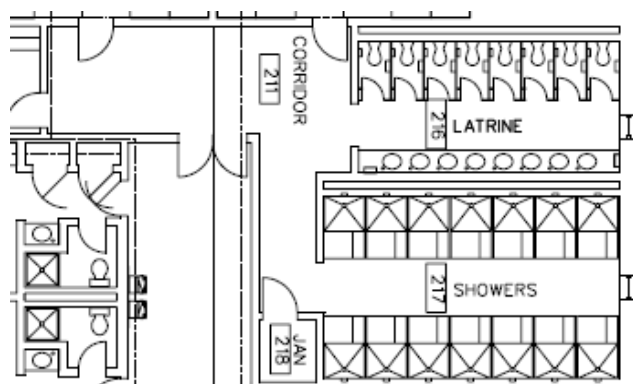


**Figure 3-20: Shower Room**

Figure 3-21 shows a public shower room from an ORTC barracks. In this case, there are no lockers, but there is a dressing area adjacent to each shower.



The distinction between public showers and private bathrooms is visible in Figure 3-21. The term latrine, used in Figure 3-21 and Figure 3-22, is a generic term encompassing all of the different types of facilities in this discussion. In this case, it differentiates between the shower and the other fixtures in public shower rooms.



**Figure 3-22: Public Showers and Private Bathrooms**



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## I. INTRODUCTION

A complex is a grouping of two or more facilities of different real property categories that, taken together, serve a common operational purpose for a specific user or group of users. Operational requirements, the characteristics of facilities, and the nature of activities associated with the missions of the users inherently influence the locations that are appropriate for different types of complexes. In turn, the nature of the complexes has an effect on site planning.

This chapter first describes facility characteristics in seven broad groups or categories, and provides site planning guidance that planners should consider early when planning complexes. Then, the chapter defines and describes Army complexes. These Army-defined complexes seek to employ best practices of land use and site planning for operational purposes.

The RPMP is the commander's tool for managing the development of the installation. The various planning components of the RPMP work in concert to guide the process. The RPMP provides a vision for the installation and breaks down the vision into goals and objectives. These are then captured in the various components of the RPMP to document and guide the process.

Space management operates within the context of the RPMP and therefore considers the vision, goals, and objectives of the RPMP as implemented in the framework plan, regulating plans, and area development plans in addressing space utilization challenges. In that context, space management considers the categories and amounts of space that units and organizations need to accommodate their strength or population, equipment, and missions. When space managers work proactively with master planners, particularly in planning complexes, the results support the force, the missions, and the community more effectively and efficiently than they would without this essential coordination.

**Principle:** *Perform space management with the master plan in mind.*

*This is especially true for complexes.*

The regulatory plan is a control measure to protect the intent of the goals and objectives of the installation master plan from incompatible development patterns, such as a daycare building under the approach to the runway at an airfield. Site plans integrate specific projects or activities into a suitable area based on the vision, goals, and objectives of the master plan, the regulatory plan, and area development plans, as well as with the functional requirements of the intended users.

## II. LAND USE

### A. Guidance

Land use is a component of the regulatory plan, which provides an organizing framework for the development of the installation. Proper application of this plan avoids conflicts that otherwise arise when incompatible activities are sited in close proximity. Adherence to the regulatory plan and area development plans enhances the community as a whole, separates incompatible operational activities, reduces conflicting traffic patterns, increases the efficiency of development, and enhances sustainability. The IMCOM Real Property Master Planning Desk Side Reference (DSR) provides the procedures for developing and maintaining these plans.

Consider the land use associations required for facility categories when planning new construction, or considering options for stationing or relocating units and organizations into existing buildings. Particularly in a complex, a user may require adjacent or collocated facilities in multiple categories.

If the land uses of the categories are incompatible, defer to the more industrial or less residential land use. For example, if the user needs tank/automotive research, development, test, and evaluation (RDT&E) facilities collocated with a general-purpose administration building, the activity belongs in an industrial use area.

The regulatory plan and area development plans are helpful when evaluating stationing actions and planning for new or changed missions. However, do not view land use in a rigid or dogmatic way. Seek opportunities for compact, sustainable, mixed-use development.

Develop stationing recommendations or responses to stationing scenarios as a partnership among space utilization, real property, master planning, and the environmental office to ensure that both short-range and long-range factors are included in the recommendation or response.

### B. Facility Site Categories

Different facility categories require different site characteristics, which can be grouped into seven broad categories.

- Community and Community Support
- Professional/Institutional
- Residential
- Troop Unit
- Industrial
- Airfields/Aviation
- Ranges and Training

Note that facility categories associated with community, professional/institutional, and residential are generally compatible with mixed-use development.

### **1. Community and Community Support**

Community facilities include those used for a variety of purposes: religious, family support, personnel services, professional services, medical clinics, community activities, commercial services, retail, and recreational facilities. Many of these are candidates for mixed-use, compact development, along with residential facilities.

### **2. Professional / Institutional**

The professional/institutional facility categories include nontactical organizations such as professional military schools, major headquarters and commands, nonindustrial RDT&E, and hospitals or medical centers. Some organizations requiring facilities in this category use may have light industrial characteristics associated with them that must be considered when doing site planning or evaluating stationing possibilities. Facilities in these categories often have a workforce that can range from several hundred to a few thousand personnel, which generates significant traffic and parking concerns.

### **3. Residential**

Residential facilities include family housing and senior unaccompanied personnel housing. They may include convenience outlets for family services, and other neighborhood services normally associated with the community facility category. They are incompatible with industrial, aviation, training, and troop unit land uses because these areas present attractive nuisances, and they generate noise, traffic, and other activities that may pose risks to family safety and compromise environmental aesthetics.

Ideally, housing areas should provide ready access to community functions without traversing other operational areas of the installation. Residential facilities offer opportunities for mixed-use development in the community center.

While not compatible with family housing, and not included in this land use category, site unaccompanied enlisted personnel housing with the same principles of aesthetics and proximity in mind.

### **4. Troop Unit**

Troop facilities include operational facilities for TOE units, BT/OSUT complexes, and for selected AIT. The goals are to provide facilities contiguous to related organizations in order to facilitate both operational readiness support and operations security for deployable units, and to minimize the movement of trainees between facilities used for sleeping, eating, and training.

Troop facilities should be adjacent to training and ranges, and provide ready access to industrial and airfield facilities that support training, maintenance, and deployment operations.

### **5. Industrial**

Industrial facilities include facilities that support production, maintenance above field maintenance, depot activities, major supply, or other storage functions including depots,

intermodal transportation nodes, deployment facilities, and similar activities. Facilities in this category are often associated with heavy large-vehicle traffic, loud outdoor equipment, noise, smoke, steam, or pollutants that require processing on site. Activities outside of troop, range, and training, and aviation operations that generate significant volumes of hazardous waste normally belong to this facility category.

#### **6. Airfields / Aviation**

Airfields include runways, taxiways, and other associated pavements, along with airfield support facilities including airfield operations, aviation refueling, aviation maintenance, and related test facilities. They also provide the necessary characteristics to support the aircraft-related functions of aviation units. These include aircraft parking, hangars, or Army aviation support facilities. Flight simulators may also be located at the airfield. Airfields may be compatible with industrial uses, as long as excessive light, smoke, or steam are not produced that would affect visibility and night operations.

#### **7. Ranges and Training**

Facilities in this category include live-fire ranges, nonlive-fire ranges, and special training areas such as confidence courses, driver training, or land navigation. They also include facilities that are dispersed throughout maneuver training areas. Support facilities (ORTC) for transient units require convenient access to these areas, but also benefit from reasonable proximity to community facilities.

The ranges and training areas should be accessible from troop areas without requiring traffic to traverse roads or routes through community, residential, or professional/institutional areas.

### **III. SITE PLANNING**

Site planning is normally accomplished using a charrette process. A planning charrette is frequently the transition point between planning and programming.

Site planning has three phases:

- Associate the planned activity with an appropriate land use or development area. Consider whether the activity is compatible with mixed-use development.
- Develop and evaluate courses of action to select a site within an appropriate development area.
- Lay out the facility or complex within the selected site.

Conduct requirements and site analyses prior to the charrette so the stakeholders and design professional(s) participating in the charrette can focus their time and abilities on developing and evaluating actionable alternatives. During the charrette, site planning focuses on the internal relationships of the organization(s) that will use the finished facility, and the impact of their operations on adjacent sites, traffic patterns, and utilities.

Stakeholders and design professionals often benefit from using Standard Design packages. Standard Design packages frequently provide a notional site plan for complexes associated with the facility categories in the design package. These diagrams are useful in understanding the design intent of the facilities within the complex, and the approved operational characteristics of the organizations associated with the site.

Rarely will an installation have a site that matches the idealized site plan perfectly. Use the site plans from the standards as conceptual templates, and work to maintain the functional relationships to the extent possible.

Installations can achieve sustainability points from site planning. However, sustainability points are secondary to meeting the operational requirements of the user.

## IV. COMPLEXES

### A. Definition of Complex

A complex is a group of two or more facilities that, by design, are in different facility categories and that, when taken together, serve a common operational purpose for a specific user or group of users.

The layout of complexes must integrate functional, operational, and spatial relationships critical to meeting mission requirements. Not all planned complexes require all of the categories that may be associated with the basic complex of that type. The requirements of the user define the actual complex composition. Some users may require additional facilities not included in the basic complex. These can be included in a complex when approved by IMCOM. Perform a requirements analysis to demonstrate the need, and submit it to IMCOM for approval. Some complexes include facility categories that may also exist independent of a complex.

**Principle:** *Know the force – the strength or population, equipment, missions, and units.*

While it is operationally desirable to plan, program, and build complete complexes, it is often necessary to work with the individual facilities of the complex. In those cases, let the operational intent of the complex guide planning decisions to the maximum extent possible, given existing constraints.

The ISPCM addresses the following complexes:

- Troop Unit Complexes
  - Command and Control Facility (C2F) Complex
  - Brigade Complex (MTOE)], including:
    - Command and Control (C2) Complex

- Company Operations Facility (COF) Standard
  - Tactical Equipment Maintenance Facility (TEMF) Complex
- Aviation Unit Complex
- Airfield Complex
- School Complexes
  - Army School Complexes
  - Basic Training / One Station Unit Training (BT/OSUT) Complex
  - Advanced Individual Training (AIT) Complex
  - Noncommissioned Officer (NCO) Academy Complexes
- Operational Readiness Training Complex (ORTC)
- Warrior in Transition (WT) Complex
- Community Oriented Complexes
  - Chapel Complex
  - Soldier Family Support Center Complex
- Medical Complex

These complexes include facility categories that may occur in more than one complex. For example, Battalion Headquarters Building, CATCD [14183](#), is a part of Aviation Unit, Brigade, C2F, BT/OSUT, and AIT complexes. The criteria for facility categories may differ by complex.

### **B. Compound and Multipurpose Facilities**

In contrast to a complex, a compound facility is one facility inherently consisting of two or more facility categories that must be present for the facility to meet its intended purpose. A brigade headquarters (MTOE) is an example of a compound facility. It consists of facility category codes [14182](#) (Brigade Headquarters Building), [14161](#) (Emergency Operations Center), and [14162](#) (Sensitive Compartmented Information Facility).

A compound facility may be part of a complex, but normally does not constitute a complex by itself. In some cases, the components of a compound facility may be in separate buildings or adjacent to each other on a site. In this case, a campus arrangement meets the intent of the compound facility. When this is the case, consider associating the real property assets with a complex code in HQIS to identify the inherent relationship between them.

A multipurpose facility is one that, by design, includes different facility categories that are combined for reasons unrelated to operational requirements. The purpose may be convenience or efficiency, but it is not normally necessity. For example, a C2F building may also contain a cafeteria.

## **V. DESCRIPTIONS OF COMPLEXES**

The descriptions discuss the basic elements for the complex with a narrative for overall comprehension of the complex. Individual complexes may have additional facility categories, which the tables herein do not list specifically, according to the needs of the intended user.



### A. MTOE Unit Complexes

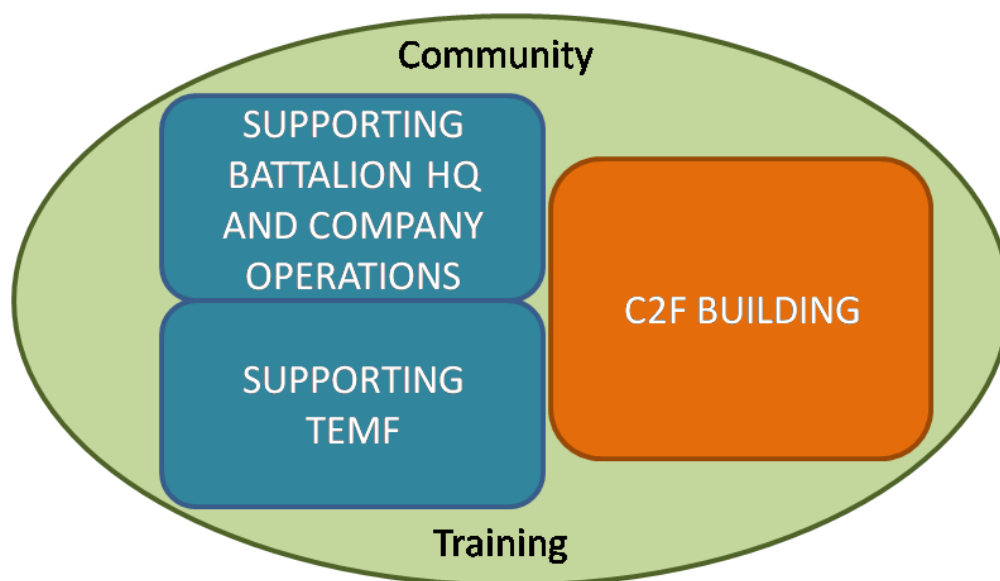
MTOE unit complexes are those associated with tactical units at all levels.

#### 1. Command and Control Facility (C2F) Complex

C2F complexes support MTOE units and organizations for echelons above brigade (EAB), including divisions, corps, and Army Service Component Commands (ASCC), including numbered armies. The Army Standard that defines the C2F also applies to Army Commands (ACOMs). A C2F complex normally applies only to MTOE organizations.

Divisions, corps, and numbered armies are MTOE organizations that generally consist of the headquarters (HQ) staff and a headquarters and headquarters battalion (HHB), which are deployable. The HHB normally consists of two to four companies, at least one of which has the personnel and equipment necessary to perform maintenance on assigned vehicles and equipment.

Troop areas are appropriate for a C2F complex for an MTOE headquarters, even when the unit commander is the senior mission commander for the installation. Professional/institutional areas are appropriate for C2F facilities for TDA organizations. Figure 4-1 depicts a notional site plan for a C2F complex.



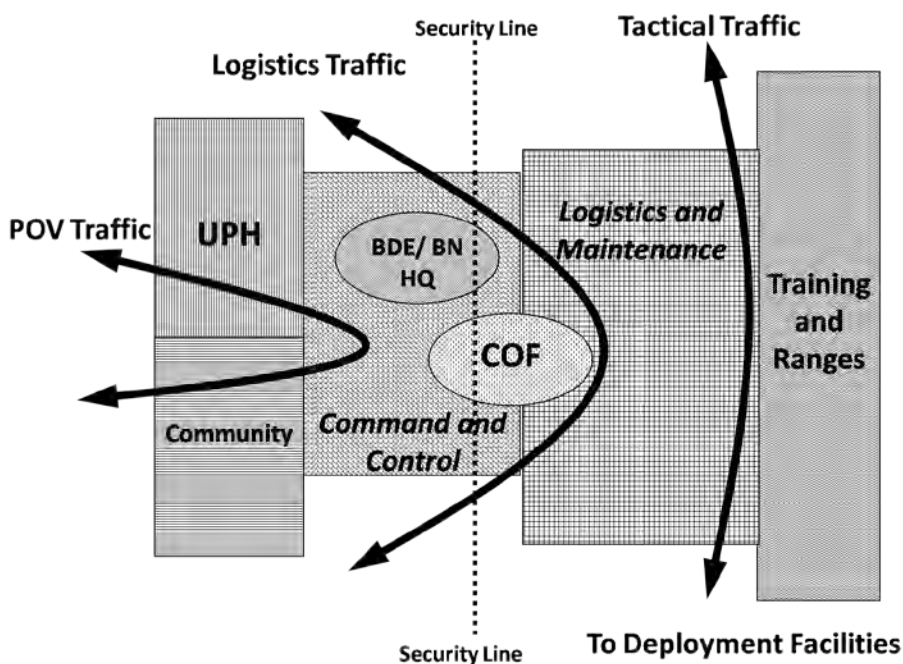
**Figure 4-1: C2F Complex**

Table 4-1 lists the facility category codes that may be in a C2F complex for an MTOE organization. Facility category code 17119 is normally included in the battalion (BN) headquarters. Facility category code 14179 is normally adjacent to the COF. Facility category codes 21470 and 44224 are normally part of the TEMF element of the C2F complex. Because of the significant strength associated with the headquarters staff, the COF normally requires a special design.

Table 4-1: C2F Complex		
CATCD	CATEGORY DESCRIPTION	UM
14161	Emergency Operations Center	GSF
14162	Sensitive Compartmented Information Facility	GSF
14183	Battalion Headquarters Building	GSF
14185	Company Headquarters Building	GSF
14179	Overhead Protection (with the company HQ)	GSF
14190	Command And Control Facility	GSF
17119	Organizational Classroom (with the battalion HQ)	GSF
21410	Vehicle Maintenance Shop	GSF
21470	Oil Storage Building	GSF
44224	Organizational Storage Building	GSF
85210	Organizational Vehicle Parking	SY
85215	Nonorganizational Vehicle Parking	SY

## 2. Brigade Complex (MTOE)

A brigade complex for an MTOE brigade (BDE) provides operations and maintenance facilities for a modular brigade. A brigade complex is appropriate in troop areas. Figure 4-2 depicts a notional layout for a heavy brigade combat team, here sited in a logical arrangement between the unaccompanied enlisted personnel housing (UEPH) and community area and the training and ranges area. Note that the UEPH, community and training and ranges area are not part of the brigade complex.



POV = privately owned vehicle

Figure 4-2: Notional Brigade Complex

The principles behind the brigade complex site plan are applicable to other modular brigades and other tactical units and organizations. The brigade complex has three elements governed by different Standard Designs, the BDE/BN HQ, the COF, and the TEMF.

The site plan provides: 1) proximity among operational elements, 2) controlled access for logistics support, 3) isolation for operational activities, and 4) ease of movement to training areas and deployment facilities, while 5) avoiding conflicts with other areas and internal conflicts between the complex's administrative and industrial activities.

For the Active Component BCT complex, the total land required is 145 to 200 acres, which includes the requirement for POV parking. A single battalion, including a separate BN HQ, COF, and TEMF with hardstand and POV parking, requires from 8 acres for a small battalion to 19 acres for a large battalion.

A brigade complex consists of three major elements: the C2 element, the COF element, and the TEMF element. The TEMF may also be a standalone complex, apart from a brigade complex. Table 4-2 lists facility category codes for an MTOE Brigade Complex and its elements.

Table 4-2: Brigade Complex			
CATCD	CATEGORY DESCRIPTION	UM	ELEMENT
14161	Emergency Operations Center	GSF	C2
14162	Sensitive Compartmented Information Facility	GSF	C2
14182	Brigade Headquarters Building	GSF	C2
14183	Battalion Headquarters Building	GSF	C2
14185	Company Headquarters Building	GSF	COF
14179	Overhead Protection	GSF	COF
17119	Organizational Classroom	GSF	C2
21115	Tactical Unmanned Aerial Vehicle (TUAV) Hangar for Class I and Class II UAVs	GSF	TEMF
21408	Component Cleaning Facility	GSF	TEMF
21410	Vehicle Maintenance Shop	GSF	TEMF
21411	Repair Bay, Non-DOL/DPW	GSF	TEMF
21412	Maintenance Storage	GSF	TEMF
21413	Administration and Shop Control	GSF	TEMF
21414	General Item Repair Shop, Non-DOL/DPW	GSF	TEMF
21415	Compact Item Repair Shop, Non-DOL/DPW	GSF	TEMF
21416	Missile Maintenance Building	GSF	TEMF
21417	Vehicle Paint and Prep Shop, Non-DOL/DPW	GSF	TEMF
21470	Oil Storage Building, Non-DOL/DPW	GSF	TEMF
44220	Storage Building, General Purpose, Installation	GSF	TEMF
44224	Organizational Storage Building	GSF	TEMF
45210	Open Storage Area, Installation	SY	TEMF
85210	Organizational Parking	SY	TEMF
85215	Nonorganizational Parking	SY	ALL

*Command and Control (C2) Element*

The BDE and BN HQs are the regular duty location for the brigade staff and battalion staff, respectively. The biggest part of each headquarters consists of general functional areas. The primary exceptions are the operations center (OC), the SCIF, and the NOC in the brigade headquarters, which are mission functional areas; and the organizational classroom in the consolidated BDE/BN HQ or the BN HQ, which also is a mission functional area.

While the buildings in the C2 element have an administrative character, they should have adjacency, as defined in Chapter 5, subsection III.C., to other elements of the complex whenever possible. Adjacency to the other elements facilitates internal coordination and provides ready access to the TEMF element, where the deployable vehicles and equipment of the C2 element are stored and maintained.

*Company Operations Facility (COF) Element*

COFs provide administrative and supply facilities for unit personnel functions, and storage of personnel equipment. These facilities serve as the primary staging, training, and deployment center for personnel and their individual equipment. The Army Standard COF is a single building for each battalion. It is a dominant building within the brigade complex, and the bridge between the C2 element, where plans and orders are prepared, and the TEMF element, where orders become actions.

In addition to the COF itself, the standard includes a covered hardstand (CATCD [14179](#)). The hardstand provides a protected area for equipment maintenance and inspections. In extreme cold weather areas and areas routinely subject to hurricanes or typhoons, installations may provide an enclosed area attached to the readiness module in lieu of the covered hardstand.

A small-battalion COF may require three or more acres. A large COF for an infantry battalion may require six or more acres, including POV parking.

A combat aviation brigade (CAB) has different requirements. See section V.A.3, Aviation Unit Complexes, for information on CAB COF requirements.

*Tactical Equipment Maintenance Facility Element or Complex*

Whether it is part of a brigade complex or a standalone complex, the TEMF element is normally a battalion-level facility set. A TEMF element will normally consist of CATCDs [21410](#), [21470](#), [44224](#), [85210](#), and [85215](#). The TEMF may also include CATCD [21412](#) for units with Class I or II unmanned aircraft systems (UAS). It also includes facilities in facility category code [44226](#) for battalions with a distribution company that also have a supply support activity (SSA) mission such as the brigade support battalion (BSB) of a BCT. Installations with more than one BCT may operate a consolidated SSA. The SSA must be within 5 miles of the BSB that operates the SSA.

Facility category codes [21408](#) and [21411](#) through [21415](#) are normally functional areas within a building classified as a Vehicle Maintenance Shop, facility category code [21410](#). Use CATCDs

21408 and 21411 through 21415 only when classifying a standalone building. Use CATCD 21410 when the building contains most of the required functional areas.

A small TEMF complex for a unit such as a brigade troops battalion (BTB) requires from 5.5 to 7 acres, depending on the site. A large TEMF complex for an infantry battalion will require 12 or more acres.

### 3. Aviation Unit Complex

An aviation unit complex is normally a battalion-level complex that provides operations, administration, and maintenance space for one or more aviation battalions. It consists of the buildings and pavements necessary to support aviation units using the airfield. USACE Mobile District, the COS for aviation facilities, tailored the Army Standard to create four Standard Designs for this complex specific to battalions of a CAB because the Army assigns most aviation assets to the battalions of the CABs. The COS provides information on a variety of facility categories; the ISPCM addresses only those facility category codes specifically associated with MTOE aviation units in this section. An aviation unit complex, as defined here, includes components of the brigade complex described in section V.A.2., Brigade Complex (MTOEs) of this chapter that are not included in the COS aviation complex, because CABs have unit complex requirements that cross COS and complex lines. In addition, the notional site plan in Figure 4-2 does not apply to CABs.

A typical modular aviation brigade has a brigade headquarters, four aviation battalions, and an aviation support battalion (ASB). Typically, there will be a general support aviation battalion (GSAB), an assault battalion, and two attack battalions. The assault and attack battalions normally have a headquarters and headquarters company (HHC), three identical helicopter companies, an aviation maintenance company, and a forward support company. The GSAB has three aviation companies: one command aviation company, one heavy lift company, and one medical evacuation company. It also has an aviation support company and a forward support company, and may have an air traffic control section.

Table 4-3 provides a list of the typical organization of a CAB.

Table 4-3: Typical Combat Aviation Brigade			
UNIT	DESCRIPTION	COF	LOCATION
BDE HHC	HHC Heavy Combat Aviation Brigade (CAB)	1	HHC COF
ASSAULT BN	HHC, Assault Battalion	1	HHC COF
ASSAULT BN	Assault Company (UH-60) (X3)	3	HANGAR
ASSAULT BN	Aviation Maintenance Company (AVUM) (UH-60)	1	HANGAR
ASSAULT BN	Forward Support Company, Assault Battalion	1	TEMF
ATTACK BN 1	HHC, Attack/Reconnaissance Battalion	1	HHC COF
ATTACK BN 1	Attack Reconnaissance Company (AH-64) (X3)	3	HANGAR
ATTACK BN 1	Aviation Maintenance Company (AVUM) (AH-64)	1	HANGAR
ATTACK BN 1	AH-64 Forward Support Company, AH-64	1	TEMF
ATTACK BN 2	HHC, Attack/Reconnaissance Battalion	1	HHC COF
ATK BN 2	Attack/Reconnaissance Company (AH-64) (X3)	3	HANGAR
ATK BN 2	Aviation Maintenance Company (AVUM) (AH-64)	1	HANGAR
ATK BN 2	Forward Support Company, AH-64	1	TEMF
GSAB	HHC, General Support Aviation Battalion	1	HHC COF
GSAB	Command Aviation Company (UH-60)	1	HANGAR
GSAB	Aviation Maintenance Company (AVUM) (GSAB)	1	HANGAR
GSAB	Air Traffic Services Company (Heavy)	1	ASB COF
GSAB	Heavy Helicopter Company	1	HANGAR
GSAB	Medical Company, Air Ambulance (HH-60)	1	HANGAR
GSAB	Forward Support Company, GSAB with ATS	1	TEMF
ASB	Headquarters And Support Company (ASB) (Heavy Brigade)	1	HHC COF
ASB	Distribution Company (ASB) (Heavy Brigade)	1	ASB COF
ASB	Aviation Maintenance Company (Heavy)	1	HANGAR
ASB	Signal Network Support Company	1	ASB COF

*AVUM = aviation unit maintenance*

Aviation battalions are a special case relative to company operations facilities. In an ideal setting, all of the HHCs for a CAB and subordinate battalions would be in a single COF near the brigade HQ. The aviation battalions have their companies, less their HHC and forward support companies, in the aviation maintenance hangar. The four forward support companies share a COF near the TEMF, and the ASB would have a COF for its companies near the airfield. Air traffic services, when present, would have its COF located in the ASB COF building. Table 4-3 provides the COF location.

Aviation brigades are a special case relative to TEMF facilities. Ideally, the brigade HHC, the ASB and, when present, the UAS company share a large TEMF. The four aviation battalions share a second large TEMF. If the CAB has a UAS company and is located away from the brigade, provide the CAB with a small TEMF at its complex.



There are some variations in CAB organization, so confirm the structure of the CAB or battalions during requirements analysis. Table 4-4 is a list of the building categories that may be associated with an aviation unit complex. The facility category codes from 21113 through 21130 are normally functional areas within a building classified as facility category code 21110. Use these only when classifying single-function standalone buildings.

Table 4-4: Aviation Unit Complex Buildings		
CATCD	CATEGORY DESCRIPTION	UM
14112	Aviation Unit Operations	GSF
14161	Emergency Operations Center	GSF
14162	Sensitive Compartmented Information Facility	GSF
14182	Brigade Headquarters Building	GSF
14183	Battalion Headquarters Building	GSF
14185	Company Headquarters Building	GSF
17119	Organizational Classroom	GSF
17210	Simulator Building Motion	GSF
17211	Simulator Building Non-Motion	GSF
21110	Aircraft Maintenance Hangar	GSF
21113	Aircraft Parts Storage	GSF
21114	Aircraft Maintenance Bay	GSF
21115	Tactical Unmanned Aerial Vehicle Hangar, for Class III and Class IV UAS	GSF
21116	Hangar Shop Space	GSF
21117	Avionics Maintenance Shop, Installation	GSF
21120	Aircraft Component Maintenance Shop	GSF
21130	Aircraft Paint Shop	GSF
21140	Aircraft Engine Test Building	GSF
21141	Aircraft Engine Test Structure	GSF
21408	Component Cleaning Facility	GSF
21410	Vehicle Maintenance Shop	GSF
21411	Repair Bays	GSF
21412	Maintenance Storage	GSF
21413	Administration and Shop Control	GSF
21414	General Item Repair Shop	GSF
21415	Compact Item Repair Shop	GSF
21416	Missile Maintenance Facility	GSF
21417	Vehicle Paint and Prep Shop	GSF
21470	Oil Storage Building	GSF
44224	Organizational Storage Building (or Unit Deployment Storage Building)	GSF

Aviation unit complexes may require splitting elements between the airfield and troop portions of the installation to conserve buildable sites near the airfield. The Class III and Class IV UAS hangar, CATCD 21115, is one of the elements requiring a position relative to the flightline and taxiways. The Class III and Class IV UAS are large enough to require flightline access.

Table 4-5 is a list of pavements that may be associated with an aviation unit complex.

Table 4-5: Aviation Unit Complex Pavements		
CATCD	CATEGORY DESCRIPTION	UM
11310	Fixed Wing Parking Apron, Paved	SY
11311	Fixed Wing Parking Apron, Unpaved	SY
11320	Rotary Wing Parking Apron, Paved	SY
11321	Rotary Wing Parking Apron, Unpaved	SY
11330	Aircraft Maintenance Parking Apron, Paved	SY
11331	Aircraft Maintenance Parking Apron, Unpaved	SY
11340	Hangar Access Apron, Paved	SY
11341	Hangar Access Apron, Unpaved	SY
11370	Aircraft Washing Apron, Paved	SY
11371	Aircraft Washing Apron, Unpaved	SY
85210	Organizational Vehicle Parking	SY
85215	Nonorganizational Parking	SY

Generally, there are no standard sizes for aircraft parking aprons. Aviation engineers design aprons individually to support specific aircraft and missions at specific sites. The engineer will base the actual dimensions of an apron on the number of authorized aircraft, maneuvering space, and the type of activity the apron serves.

For fixed wing aircraft parking (CATCD 11310), provide rigid pavement areas with standard aircraft tie-downs spaced 20 feet (6 meters) apart on center throughout the usable parking apron area for parking, maintenance, and hangar access apron areas. These tie-downs also serve as the static grounding points. The engineer will design parking aprons to permit 85 percent of authorized aircraft to park under their own power (75 percent operational parking and 10 percent maintenance operational checks [MOCs]). The remaining 15 percent of aircraft are parked in maintenance buildings. When an area is inadequate to permit this capability, operational parking capacity may be reduced to not less than 50 percent of the 85 percent, with the balance of the 85 percent provided as surfaced manual parking area.

For rotary wing aircraft parking (CATCD 11320), provide apron space for 85 percent of the authorized aircraft. This assumes that 75 percent of the aircraft will be operational and 10 percent will be in for MOCs. Assume the remaining 15 percent of the authorized aircraft will be in maintenance facilities. Authenticate any substantial difference to this allowance and submit a request through command channels to exceed this allowance.

Aircraft maintenance parking (CATCD 11330), which provides for mass aircraft parking, is authorized for Aviation Intermediate Maintenance (AVIM) shop units, which have a mission for maintenance of aircraft from other facilities or aviation units. For planning purposes, an apron area of up to 14,000 SY (11,700 square meters [SM]) is normally sufficient to meet this requirement. Maintenance personnel manually park aircraft on this apron. Criteria do not allow separate maintenance parking aprons for aviation units that have their own AVIM capability.



Provide hangar access aprons (CATCD 11340) as a supporting item for each authorized hangar. Size the access aprons for the type of hangar and aircraft accommodated, and meet the requirements of site development, as shown on a Department of the Army (DA)-approved general site plan. The aviation engineer will design the access apron as rigid pavement. Access aprons will be as wide as the hangar doors.

Criteria authorize a washing apron (CATCD 11370) for each aircraft maintenance hangar. The engineer will size washing aprons according to the number and type of aircraft to be washed, local environmental conditions (i.e., soil and climate), and scheduling. Provide the wash apron with 110-volt electrical service, 1-inch (25millimeter [mm]) water service, and compressed air. Provide the wash apron with drainage facilities including a facility for wash-waste treatment, and including a holding tank with a capacity of at least 3,000 gallons (11,400 liters). Provide tank size to the extent required for effluent, suitable for discharge into a sanitary system. Provide a collection area for petroleum, oils, and lubricants (POL) waste and spillage, when required, in conjunction with the wash apron.

### *Site Planning*

Hangars and supporting aprons require direct access to airfield taxiways and aprons. Site other facilities in an aviation brigade complex in a manner that does not diminish the future expansion potential of the airfield. Consider airfield noise in selecting sites for projects to support the Soldiers of aviation units. UAS hangars for Class III and IV systems and their associated pavements must be oriented in a manner that shields the UAS from prop and rotor blast from the main airfield pavements.

## **B. Airfield Complexes**

This section discusses the unique planning requirements of an airfield complex, and the six classes of airfields. The airfield complex consists of a runway (which is the primary airfield pavement), the other airfield pavements, the navigational aids that support the airfield, and the buildings that support the airfield.

Airfields have horizontal and vertical considerations and constraints beyond the boundaries of the airfield. Review this section in conjunction with planning and programming for, or adjacent to, an airfield.

### **1. Unique Planning Requirements**

An airfield complex consists of the buildings, pavements, and navigational aids necessary to support fixed or rotary wing aircraft operations. It is distinct from an aviation unit complex, which supports the aviation units stationed at the airfield; see subsection C. There are fixed wing airfields and rotary wing airfields; however, a fixed wing airfield may accommodate a rotary wing aircraft. Airfields affect and are affected by factors outside the physical boundaries of the airfield. Be aware of the many intricacies of planning an airfield complex:

**Federal Aviation Administration (FAA):** Military airfields in the continental United States (CONUS) must comply with FAA guidelines and regulations. Regulations require coordination with and, in many cases, approval from FAA for horizontal or vertical construction adjacent to runways and airfields, and in and adjacent to runway approaches. Outside the continental United States (OCONUS) areas, coordinate with the appropriate national agency through designated channels.

**Functional Proponent:** The Army proponent for aviation matters is the G-3 at Headquarters, Department of the Army (HQDA). The functional proponent for developing the scope and requirements for Army aviation complexes at installations is the Aviation Division, Directorate of Plans, Training, and Mobilization (DPTM) of the installation staff or the Operations section (G/S-3) of the senior aviation organization.

The DPTM, as the primary functional proponent, is responsible for determining mission support requirements for aviation facilities, operations, safety, and air traffic. At locations where there is no DPTM or G/S-3 office, facility planners must coordinate with the commander of the aviation units supported. Work closely with the airfield commander/manager when planning space or programming facilities at or around the airfield.

**Aviation Engineering Study:** Regulations require an aviation engineering study to plan the aviation complex site in detail, as well as to calculate the requirements for most airfield pavements, including clearances, navigational aids, and some buildings. The study may indicate a requirement for acquisition of property rights for some navigational aids. Obtain airfield facility requirements from the approved aviation engineering study. Factors that alter the operational characteristics of the airfield, such as changes in mission, assigned aircraft, or FAA air space management policies require an update to the study.

When planning facilities near any runway, review the approved study for clearance requirements; the lateral clearance from the runway centerline is the major factor. For example, a Class A runway lateral clearance requirement is 500 feet (152.4 meters); therefore, **no parallel taxiways, buildings, aircraft parking aprons, vehicle parking areas, roads, railroad tracks, etc., can be sited within this zone.**

**Environmental Study:** Development of an aviation complex, including expansion of an existing aviation complex, requires compliance with a variety of environmental policies and regulations. The National Environmental Policy Act of 1969 (NEPA) requires all Federal agencies to consider the potential environmental impacts of certain proposed projects and activities, as directed by DOD Directives 6050.1, Environmental Effects in the United States of DOD Actions; 6050.7, Environmental Effects Abroad of Major Department of Defense Actions; and AR 200-2, Environmental Effects of Army Actions.

See the following for detailed information:

- AR 385-64, Ammunition and Explosives Safety Standards
- Technical Manual (TM) 5-803-4, Planning of Army Aviation Facilities
- TM 5-820-1, Surface Drainage Facilities for Airfields/Heliports
- TM 5-820-2, Drainage and Erosion Control, Subsurface Drainage Facilities for Airfield Pavements
- TM 5-820-3, Drainage and Erosion Control Structures for Airfields and Heliports
- TM 5-823-4, Marking of Army Airfield-Heliport Facilities
- TM-5-825-1, General Provisions for Airfield/Heliport Pavement Design
- TM-5-825-3-1, Rigid Pavement Design for Airfields, Elastic Layered Method
- TM-5-825-2-1, Flexible Pavement Design for Airfields (Elastic Layered Method)
- TM 5-826-2, Army Airfield Flexible Pavement Evaluation
- TM 5-826-3, Army Airfield Rigid Pavement Evaluation

## 2. Classes of Airfields

The Army divides airfields into six classes. The classes relate to the type and weight of aircraft, and affect both runway design and the design of supporting traffic pavements within the airfield complex.

- Class I and Class II airfields are heliports or helipads that support rotary wing aircraft operations only. Do not plan or program this class of airfield when an installation has an adequate fixed wing runway unless the number of daily operations creates operational limitations or conflicts.
- Class I airfields are capable of supporting rotary wing aircraft up to 25,000 pounds (11,340 kilograms [kg]).
- Class II airfields are capable of supporting rotary wing aircraft over 25,000 pounds (11,340 kg).
- Class III and Class IV airfields support fixed wing aircraft operations. Subject to traffic limitations, Class III and IV airfields can support all rotary wing operations.
- Class III airfields support Class A runways. A Class III airfield will support all fixed wing aircraft currently in the Army inventory, and may support U.S. Air Force (USAF) C-130 aircraft with a waiver.
- Class IV airfields support Class B runways. A class B runway will support all aircraft in the current USAF inventory.
- Classes V and VI are contingency runways normally associated with theaters of operations, or with major training areas.

## 3. Runways

The runway is the central feature and chief pavement of the airfield complex. The requirement for a runway also establishes the requirement for supporting airfield pavements, airfield buildings, navigational aids, airfield fixtures, and utilities. Operationally, the runway includes the prepared landing surface, shoulders, overruns, and various cleared areas and airspace.

Runways that support instrument-only landings are instrument flight rules (IFR) or “instrument” runways. Runways that do not support IFR are visual flight rules (VFR) runways and require that

the pilot has a clear visual approach to land. A “limited use” runway has lateral clearances that are less than standard, and the Army uses these only for low-density VFR operations.

### *Rotary Wing Runways*

Rotary wing runways are not normally necessary when a fixed wing runway is available, except when the number of operations per day precludes shared use of the fixed wing runway. For more about runway lengths, consult Rotary Wing Runway, Paved (CATCD [11120](#)).

### *Fixed Wing Runways*

Figure 4-3 lists the runway class required by various aircraft types. Runway Class A (Airfield Class III) and Runway Class B (Airfield Class IV) descriptions indicate the runway size, Class A being shorter and narrower than Class B.

Runway Classification by Aircraft Type				
Class A Runways		Class B Runways		
C-1	OV-1	A-4	C-141	P-3
C-2	OV-10	A-6	E-3	RQ-1
C-12	T-3	EA-6B	E-4	S-3
C-20	T-28	A-10	E-6	SR-71
C-21	T-34	AV-8	E-8	T-1
C-22	T-41	B-1	R/F-4	T-2
C-23	T-44	B-2	F-5	T-6
C-26	U-21	B-52	F-14	T-37
C-32	UV-18	C-5	F-15	T-38
C-37	V-22	C-9	F-16	T-39
C-38	DASH-7	KC-10	F/A-18	T-42
E-1	DASH-8	KC-135	F-22	T-43
E-2		C-17	FB-111	T-45
		C-130	F-117	TR-1
		C-135		U-2
		C-137		VC-25
				JSF (F-35)

Figure 4-3: Runway Classification by Aircraft Type

The basic Class A Runway is 5,300 linear feet (1,615 meters) at sea level. An engineering study is necessary to determine the actual length requirement because factors such as elevation and temperature affect takeoff and landing distances. Class A runways are appropriate for airfields that support Army fixed wing operations exclusively.

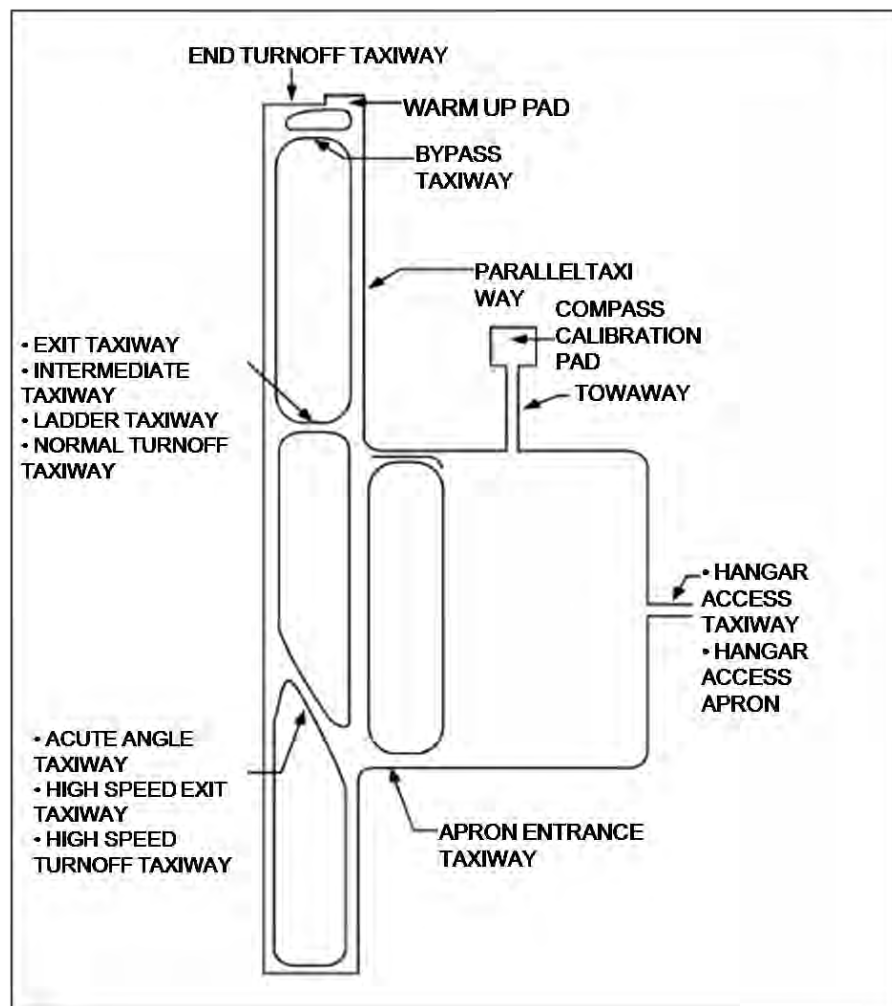
The Air Force major command (MAJCOM) determines the required length for Class B runways. For additional information on runway lengths, consult Fixed Wing Runway, Paved (CATCD 11110). Class B runways are appropriate at power projection platforms and other installations

that must support USAF aircraft on a regular basis.

#### 4. Supporting Airfield Pavements

The requirement for a runway establishes the requirement for supporting airfield pavements. The size, quantity, and location of supporting facilities are based on missions, resident aviation units (if any), and airfield studies, as discussed above.

Airfield pavements, except for hangar access aprons, maintenance aprons, washing aprons, and parking aprons, are other-than-unit-level facilities.



**Figure 4-4: Airfield Pavements**

Figure 4-4 illustrates the relationships among various airfield pavements. Normally, fixed wing airfields may have both fixed and rotary wing taxiways and parking. Rotary wing airfields will have only fixed wing taxiways, and parking by exception.

Aviation engineers calculate minimum runway and auxiliary pavement requirements based on type of aircraft, required capacity, normal weather patterns, and elevation. FAA AC 150/5060-5,

Airport Capacity and Delay, provides methodologies for calculating runway capacity in terms of annual service volume (ASV) and hourly IFR or VFR capacity. Initiate planning efforts to analyze the need for more than one runway when aviation studies determine that traffic demand for the primary runway will reach 60 percent of its established capacity (FAA guidance).

An airfield complex may have a combination of the pavements listed in Table 4-6, to support flight and airfield operations. The pavement categories depend on the type and number of supported aircraft.

Table 4-6: Airfield Complex Pavements		
CATCD	CATEGORY DESCRIPTION	UM
11110	Fixed Wing Runway, Paved	SY
11111	Fixed Wing Runway, Unpaved	SY
11120	Rotary Wing Runway, Paved	SY
11121	Rotary Wing Runway, Unpaved	SY
11130	Rotary Wing Landing Pad, Paved	SY
11131	Rotary Wing Landing Pad, Unpaved	SY
11151	Runway Overrun Area	SY
11212	Fixed Wing Taxiway, Paved	SY
11213	Fixed Wing Taxiway, Unpaved	SY
11221	Rotary Wing Taxiway, Paved	SY
11222	Rotary Wing Taxiway, Unpaved	SY
11350	Aircraft Runway Holding Apron, Paved	SY
11351	Aircraft Runway Holding Apron, Unpaved	SY
11380	Aircraft Loading Apron, Paved	SY
11383	Aircraft Loading Apron, Unpaved	SY
11610	Aircraft Compass Swing Base	SY
85215	Nonorganizational Parking, Paved	SY

### *Taxiways*

A taxiway is an all-weather surface designed and constructed for the safe and efficient powered ground movement of aircraft among runway systems and other paved aircraft operational, maintenance, and parking facilities. For Class A runways, paved surfaces are 50 feet (15 meters) wide; and for Class B runways, paved surfaces are 75 feet (23 meters) wide. At short field and training assault landing zones, 50 feet (15 meters) is the standard width. Criteria authorize a basic width of 50 feet (15 meters) at helicopter-only facilities. When dual-use taxiways support fixed wing operations, use appropriate fixed wing taxiway criteria.

### *Aprons*

Aprons are prepared surfaces, other than runways and taxiways, where personnel park or move aircraft about the airfield area. Engineers design aprons to support specific types of aircraft, and to meet operational requirements such as maintenance and loading/unloading activities. The permanent peacetime operation and maintenance of Army aircraft requires the construction of apron areas to ensure the safe, efficient, and economical accomplishment of the mission.

There are three categories of Army aircraft aprons. Some are unit-level facilities, and some are other-than-unit-level facilities.

- Unit parking aprons support fixed wing and rotary wing aircraft assigned to the site. This category is a unit-level facility and is part of the aviation unit complex.
- General-purpose aprons (when no tenant units are assigned to an aviation facility) provide transient aircraft parking for personnel loading. This is an other-than-unit-level facility and is part of the airfield complex.
- Special-purpose aprons provide for specific operations, such as safe areas for arming/disarming aircraft, and other specific mission requirements that demand security or separation, or distinct handling procedures for specialized aircraft or missions. This is an other-than-unit-level facility and is part of the airfield complex.

Generally, there are no standard sizes for aircraft parking aprons. Aviation engineers individually design aprons to support aircraft and missions at specific sites. The engineers base the actual dimensions of an apron on the number of authorized aircraft, maneuvering space, and the type of activity the apron serves. The engineers determine parking apron dimensions for combined Army and Air Force facilities on the largest aircraft assigned.

A loading apron (CATCD [11380](#)) is a paved surface for loading cargo aircraft, loading personnel for medical evacuation and transient aircraft operations, or providing an apron area for arming and disarming aircraft weapons; loading and unloading ammunition; special handling; or decontamination of chemical, biological, and radiological (CBR) warfare items; and for special security operations. Criteria may authorize an apron area in support of the airfield operations building for purposes of handling the special loading and unloading of personnel, for medical evacuation flights, and for transient aircraft operations; the apron area is not to exceed 7,000 SY (5,850 SM).

Criteria may authorize special-purpose aprons to provide safe areas for arming and/or disarming aircraft weapons, loading and unloading ammunition, special handling and/or decontamination facilities for CBR warfare items, and for special security areas. Criteria provide special-purpose aprons for defueling operations at Army aviation facilities as well as grounding points for all special-purpose aprons.

The engineering study will predicate design of the aprons on the largest supported aircraft, allowing adequate space for fire support equipment, defueling vehicles, and related apparatus. Justify the scope of the apron area and the type of supporting facilities for these special-purpose aprons based on mission requirements. Observe safety clearances appropriate to the requirements of the apron. Airfield maps and plans will identify the purpose of the apron, and will show the required safety clearance distances.

Criteria authorize aircraft (engine run-up) holding aprons (CATCD [11350](#)) for each runway. The engineering study will size the area of the holding apron to accommodate the assigned and



transient aircraft that normally use the runway. Aprons will not exceed 3,750 SY (3135 SM) each without submitting special justification. Holding aprons should be programmed with, and as a part of, the parallel taxiway system.

Criteria may authorize one compass calibration pad (CATCD 11610), also called an aircraft compass swing base, at Army airfields or heliports with 15 or more aircraft permanently assigned and at Army depots with aircraft maintenance missions assigned. The compass calibration pad is a paved area that the aviation engineers will locate in an electronically quiet zone of the airfield. Compass calibration pads are typically circular and sized to accommodate one of the assigned or mission aircraft.

### 5. Navigational Aids, Fixtures, and Utilities

The requirement for a runway, by definition, establishes the requirement for supporting navigational aids, airfield fixtures, and utilities. Airfields require a number of navigational aids and other airfield fixtures and utilities.

Use the approved aviation engineering study to obtain requirements for planning and programming navigational aids, fixtures, and utilities. Navigational aids, fixtures, and utilities support specific functions or pavements at the airfield. The aviation engineering study will identify the requirements for navigational aids, fixtures, and utilities relative to the supported functions or pavements.

Table 4-7 lists the primary fixtures and utilities reported in the real property inventory (RPI). In many cases, these facilities are a platform or structure supporting or housing a device or item that is installation or unit property. Do not add one of these devices or items to the RPI; ensure that the installation or unit property is correctly distinguished from the real property.

Table 4-7: Other Airfield Complex Fixtures and Utilities		
CATCD	CATEGORY DESCRIPTION	UM
13410	Radio Beacon	EA
13430	Ground Control Approach System	EA
13440	Instrument Landing System	EA
13450	Navigational Lighting	EA
13470	Wind Direction Indicator	EA
12110	Aircraft Direct Fueling Facility	GM
12120	Aircraft Fuel Truck Loading Facility	GM
13610	Runway Lighting	LF
13612	Approach Lighting System	LF
13613	Visual Approach Slope Indicator	LF
13615	Rotary Wing Parking Pad Lighting	LF
13620	Taxiway Lighting	LF
13621	Holding Apron Lighting	LF
13670	Parking Apron/Hardstand Lighting	LF

EA = each    GM = gallons per minute    LF = linear feet



### 6. Buildings

The requirement for a runway establishes the requirement for supporting airfield buildings.

Table 4-8 lists the building categories that may be associated with an airfield complex. Airfields often have some or all of the functions represented by these category codes located in the same building, which may also contain aviation unit activities.

Use the respective category codes for each separate function present when airfield missions are in a consolidated building, as these facilities require **visibility** for operational reasons. See Chapter 3 regarding visibility.

Table 4-8: Airfield Complex Buildings		
CATCD	CATEGORY DESCRIPTION	UM
13310	Flight Control Tower	GSF
13320	Navigation Building, Air	GSF
14110	Airfield Operations Building	GSF
14111	Airfield Fire and Rescue Station	GSF
14115	Weather Station	GSF

Figure 4-5 shows a typical layout of a fixed wing airfield complex.

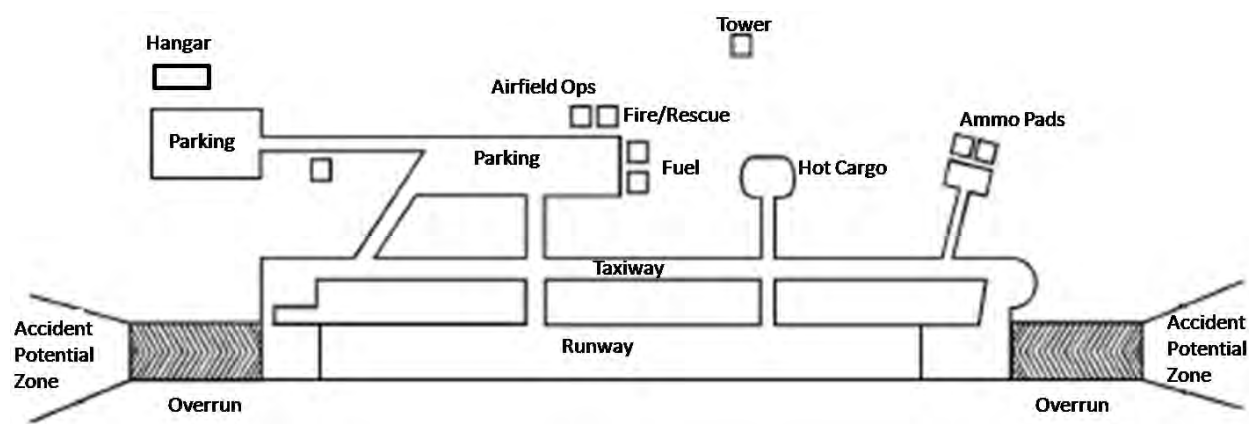


Figure 4-5: Typical Airfield Complex

### 7. Site Planning

Work closely with aviation operations personnel, the aviation safety officer, and the air traffic and airspace officer when planning this complex. Usable sites that have direct access to airfield aprons and taxiways are in limited supply. Reserve such sites for aviation unit facilities and other tenants requiring such access.

Airfields are compatible with ranges, training areas, and industrial areas. They are generally incompatible with community, professional/institutional, and residential areas. Be sensitive to the noise impacts of airfields on UEPH in troop areas or adjacent to troop areas.

The prepared area of a 5,000-foot (1,524-meter) Class A runway requires nine acres (AC; 3.6 hectares). The amount of land needed for runway operation exceeds prepared areas; planners must consider lateral clearance zones, runway overrun areas, clear zones (CZs), accident potential zones (APZs), and approach/departure zones. There are no categories for most of these other land areas, so the planner must clearly indicate in planning and programming documents the total area required for runway operations.

When planning facilities near the runway, the lateral clearance from the runway centerline is the major factor. Class A runways require a lateral clearance of 500 feet (152.4 meters). See information in facility category code [11151](#), Runway Overrun Area, for details on airspace and other considerations.

Runways supporting tactical fixed wing and rotary wing operations are sensitive to light from activities adjacent to the airfield and in the approaches. Site no buildings, parallel taxiways, aircraft parking aprons, vehicle parking areas, roads, railroad tracks, etc., within this zone.

### **C. School Complexes**

Army schools complexes fall into five broad categories: BT/OSUT, AIT, branch schools, NCO academies (NCOAs), and professional schools. Branch schools, NCOAs, and professional schools may be combined on a single TDA.

The Army Training and Doctrine Command (TRADOC) operates training centers and schools at the locations listed in Table 4-9.

Table 4-9: TRADOC Centers and Schools

ARMY INSTALLATION	CENTER OF EXCELLENCE	SCHOOL
Fort Benning	Maneuver	Infantry School
	Maneuver	Armor School
		Ranger School
		Officer Candidate School
Fort Sill	Fires	Artillery
	Fires	Air Defense Artillery
Fort Leonard Wood	Maneuver Support	Engineer School
	Maneuver Support	Military Police School
	Maneuver Support	Chemical School
Fort Lee	Sustainment	Ordnance School <sup>1</sup>
	Sustainment	Quartermaster School
	Sustainment	Transportation School
	Sustainment	Army Logistics University
Fort Rucker	Aviation	Aviation School
		Warrant Officer Career Center
Fort Huachuca	Intelligence	Intelligence School
Fort Gordon	Signal	Signal School
		School Of Information Technology
	Cyber	Cyber Security
Fort Jackson	Basic Training	Basic Training
	Soldier Support Institute	Adjutant General School
	Soldier Support Institute	Chaplain School
	Soldier Support Institute	Finance School
		Drill Sergeant School
		Physical Fitness School
	Soldier Support Institute	Recruiting And Retention School
Carlisle Barracks		Army War College
Fort Leavenworth		Command And General Staff College
		School Of Advanced Military Studies
		Army Management Staff College
Fort Bliss		Sergeants Major Academy
Joint Base Langley-Eustis – Fort Eustis		Aviation Logistics School
		Transportation School (-)
Presidio of Monterey		Defense Language Institute

<sup>1</sup> The Ordnance School also has courses at Fort Jackson, Fort Gordon, Fort Sill, and Fort Benning.

There are four permanent BT/OSUT Army training centers: Fort Benning, Fort Jackson, Fort Leonard Wood, and Fort Sill. Most AIT sites and all Army training centers are collocated with one or more branch schools.

School complexes vary in their specific composition, but most consist of four common elements: 1) general instruction facilities, 2) applied instruction facilities, 3) command and control facilities, and 4) barracks or lodging and dining facilities. Three of the five school categories, BT/OSUT, AIT, and NCOAs, have specific complexes that include barracks, dining facilities, unit operations, and training or training support buildings or facilities.

The common core of school complexes is instructional space. Branch schools and NCO academies that are collocated with BT/OSUT and AIT complexes may share applied instruction facilities. Applied instruction buildings are specialized buildings in facility category codes 17131 through 17138 that support hands-on technical training.

### **1. Site Planning for School Complexes**

Professional/institutional areas are appropriate for professional schools and branch schools. Areas appropriate for TOE units are generally suitable for BT/OSUT and most AIT schools complexes, although it is necessary to ensure separation between school facilities and TOE unit facilities. Because many branch schools share applied instruction buildings with AIT schools and, in some cases general instruction buildings as well, site selection and site planning need to be sensitive to competing requirements, affinities, and potential conflicts.

Students attending branch and professional schools often attend the schools while on temporary duty (TDY) status. TDY student or Army lodging within walking distance reduces traffic during peak hours of the day. Likewise, incorporate food service opportunities into the site, if possible, to reduce the need for student movement during midday meal periods.

Training facilities involving the hands-on performance of tasks other than weapons firing and tactical maneuvers may be located within land use zones appropriate for maintenance, industrial, airfield, or storage purposes.

### **2. Branch and Professional School Complexes**

There is no standard complex for branch and professional schools. Army schools consist of training and administrative buildings. In the training environment, time is a precious commodity. Providing close proximity reduces time spent moving between the classroom, POV parking, unaccompanied personnel housing (UPH) and dining and improves the overall efficiency of the training process. Develop a school complex in close coordination with the proponent.

Table 4-10 lists categories that may form the core of a school complex. They may also include outdoor training areas and simulation buildings or battle laboratories including any or all of the facility category codes in the 172XX series.

<b>Table 4-10: Army School Complex</b>		
<b>CATCD</b>	<b>CATEGORY DESCRIPTION</b>	<b>UM</b>
17120	General Instructional Building	GSF
17131	Compact Item Repair Instructional Building	GSF
17132	General Repair Instructional Building	GSF
17133	Vehicle Repair Instructional Building	GSF
17134	Aircraft Repair Instructional Building	GSF
17135	Laboratory Instructional Building	GSF
17136	Automation Aided Instructional Building	GSF
17137	Material Handling Instructional Building	GSF
17138	Limited Use Instructional Building	GSF
72122	Transient UPH, Advanced Skills Trainees (AST)	GSF
72181	Trainee Barracks	GSF
72210	Dining Facilities	GSF
85215	Nonorganizational Vehicle Parking	SY

### 3. BT / OSUT School Complex

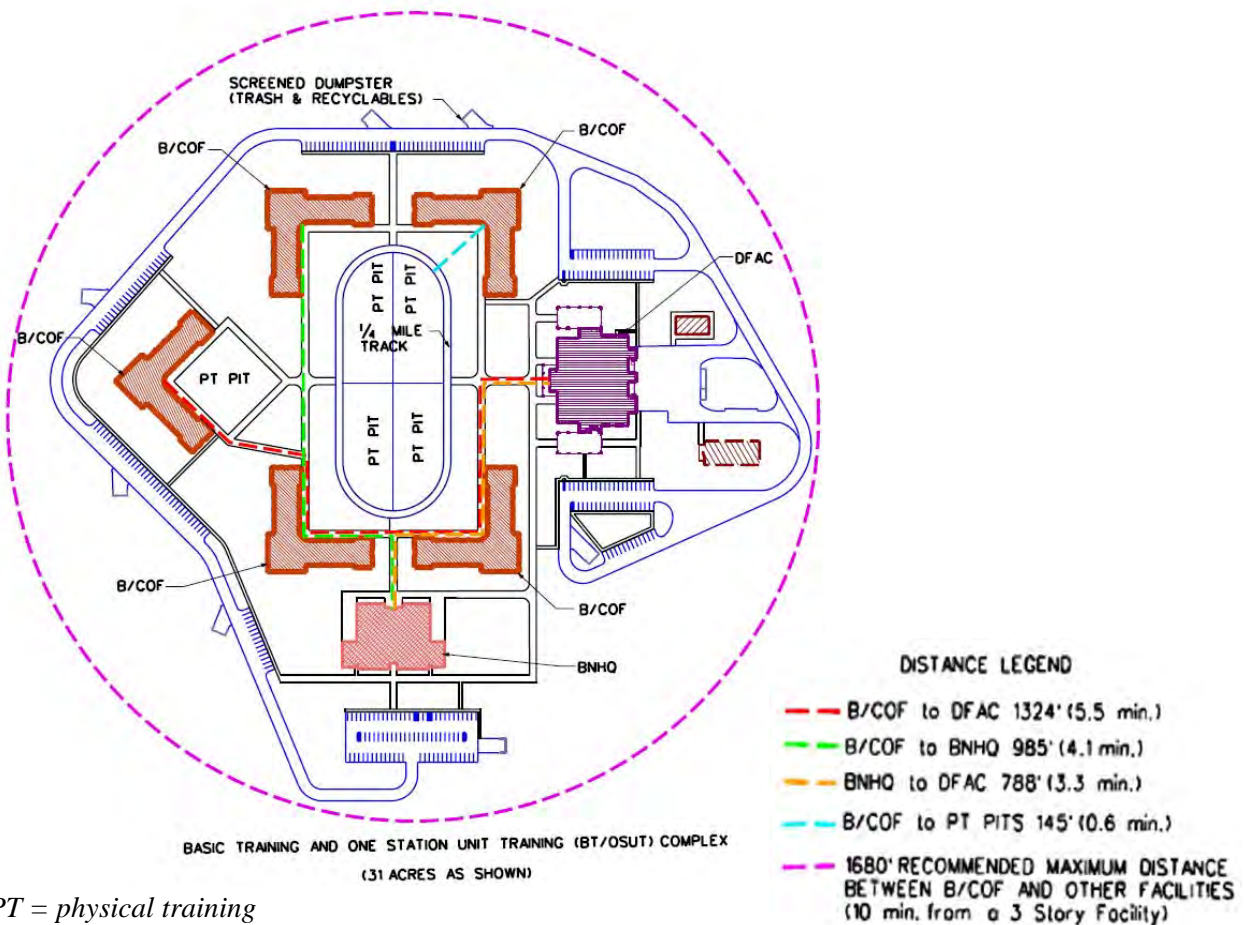
BT is the initial training common to enlisted Soldiers. AIT is the entry-level training after Basic Training where a Soldier learns an MOS. OSUT is a hybrid program for selected MOSs where Soldiers receive basic training and the equivalent of AIT concurrently.

BT and OSUT are intense training programs where instructors instill Army values. Trainees learn common individual and team skills, and achieve the levels of physical fitness and endurance necessary to perform their jobs when they reach a unit. BT/OSUT is a regimented program of instruction that stresses unit integrity and teamwork. Therefore, the BT/OSUT complex consists of all of the facilities to house, feed, and train future Soldiers in battalion sets.

BT/OSUT complexes encompass living, dining, training, and administrative/command operations. BT/OSUT complexes are made up of barracks (B)/COFs, dining facilities (DFACs), a BN HQ, and lawn equipment storage buildings (LEBs).

The arrangement of the buildings, along with outdoor training areas and additional support facilities, allows each battalion to live, eat, train, and work together.

Figure 4-6 shows a typical site plan for a BT/OSUT complex. The typical OSUT battalion requires about 31 acres of buildable land.



*PT = physical training*

**Figure 4-6: BT / OSUT Complex Site Plan**

BT/OSUT complexes provide space to support the training program, and provide office space for the cadre. They do not address requirements for UEPH or senior NCO housing for assigned permanent party personnel.

Table 4-11 lists the core facilities of a BT/OSUT battalion complex.

Table 4-11: BT / OSUT Complex		
CATCD	CATEGORY DESCRIPTION	UM
14182	Brigade Headquarters Building	GSF
14183	Battalion Headquarters Building	GSF
17119	Organizational Classroom	GSF
21925	Engineer Maintenance Facility	GSF
44224	Organizational Storage Building	GSF
72181	Trainee Barracks	GSF
72210	Dining Facility	GSF
75027	Running Track	EA
85215	Nonorganizational Vehicle Parking	SY
89127	AC / Heat Plant Building	GSF

A BT/OSUT complex may also have any of the facilities in Table 4-10 needed to support the MOS portion of OSUT.

In addition to the barracks for BT/OSUT trainees, Army Training Centers have a requirement for a reception station. A reception station provides space for billeting and processing recruits in preparation for entry into basic training or one station unit training. A reception station Army Standard and Standard Design are under development.

#### 4. AIT School Complex

AIT is the entry-level training after BT where a Soldier learns an MOS. The AIT complexes encompass living, dining, training, and administrative/command operations. AIT complexes are composed of multiple facilities, including Bs/COFs, DFACs, a BN HQ, support facilities, and outdoor areas.

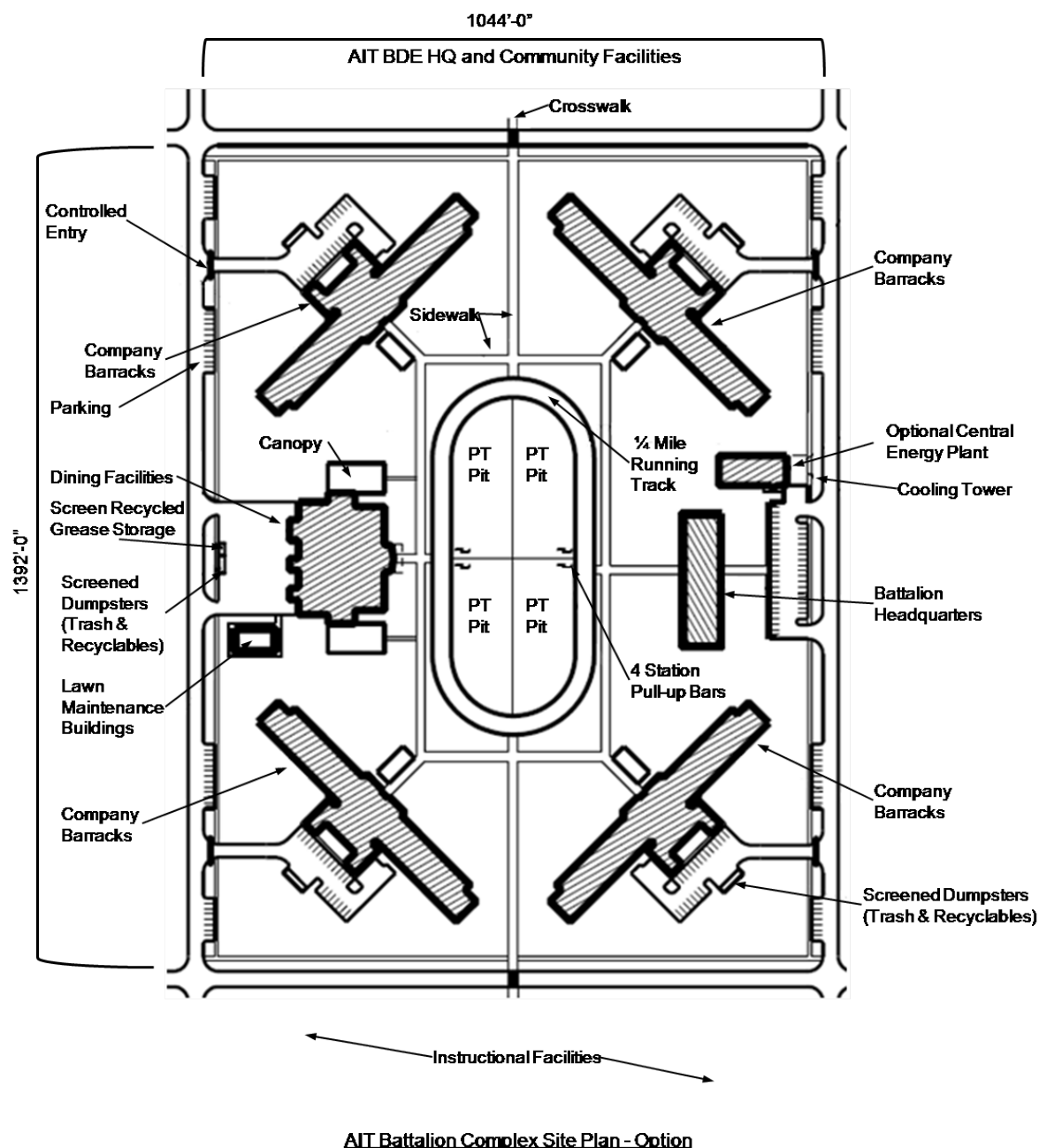
Different requirements apply to Air Force and Marine Corps students attending AIT under Inter-Service Training Review (ITRO); see Appendix F, CATCD [72121](#), subsection F.2.

The Army programs new AIT complexes as a unit set rather than as individual buildings. The battalion drives the overall functionality of the complex. Functional, operational, and spatial relationships critical to meeting battalion training requirements are embedded in the operational layout of the facilities.

The standard AIT complex provides for living, dining, fitness, and limited general training space in support of training. Because each AIT school is defined by the nature of the specialties it trains, the general instruction and applied instruction buildings associated with an AIT school are developed in a requirements analysis based on the prescribed training loads and course content.



Figure 4-7 depicts a typical site plan for an AIT complex. An AIT battalion complex requires at least 35 acres, exclusive of general and applied instruction buildings. When present, an AIT brigade will normally have two or more battalions.



**Figure 4-7: AIT Complex**

The overall composition of the AIT complex varies depending on MOSs supported. Table 4-12 lists the core facility categories of an AIT complex.



Table 4-12: Advanced Individual Training Complex

CATCD	CATEGORY DESCRIPTION	UM
14182	Brigade Headquarters Building	GSF
14183	Battalion Headquarters Building	GSF
17119	Organizational Classroom	GSF
17120	General Instructional Building	GSF
17131	Compact Item Repair Instructional Building	GSF
17132	General Repair Instructional Building	GSF
17133	Vehicle Maintenance Instructional Building	GSF
17134	Aircraft Maintenance Instructional Building	GSF
17135	Laboratory Instructional Building	GSF
17136	Automation-Aided Instructional Building	GSF
17137	Material Handling Instructional Building	GSF
17138	Limited Use Instructional Building	GSF
21925	Engineer Maintenance Facility	GSF
44224	Organizational Storage	GSF
72121	Transient UPH AIT	GSF
72122	Transient UPH AST	GSF
72170	UPH Senior NCO	GSF
72210	Dining Facility	GSF
75027	Running Track	EA
85215	Nonorganizational Vehicle Parking	SY

### 5. NCO Academy Complex

The NCOA is a dedicated complex of buildings used for conducting individual and collective training for NCOs. The NCOA incorporates a variety of facilities that serve the needs of Soldiers who live, eat, sleep, train, and learn within the academy, as well as the needs of support Staff and Instructors. NCOA facilities typically include the following: general instruction classroom, automation aided instructional classroom, Advanced Skills Training (AST) barracks room, multipurpose room, laundry room, scrub room, administrative space, special-purpose space, storage space, soldier fitness room, DFAC, fixed-seat auditorium, learning resource center, instructor offices, parade/drill field, covered training area, running course, physical training pits, practical exercise training area, arms vault, organizational vehicle parking, non-organizational vehicle parking, and administration support facilities.<sup>2</sup>

NCOA complexes have been created in the RPLANS hierarchy. Allowances are generated at the complex level if NCOA school and student units have been assigned to an NCOA station in ASIP that can be associated with the complex in HQIIS. Additionally, assets need to be assigned in HQIIS at the complex level for RPLANS to take them into account when calculating excesses

<sup>2</sup> U. S. Army Headquarters Training and Doctrine Command and Institute for Non-Commissioned Officer Professional Development, *Standard Facility Planning Criteria for Non-Commissioned Officer Academy*, March 2012, Page 6.

and deficits. Complexes were created in HQIIS in coordination with TRADOC. NCOA complexes consist of the following category codes:

Table 4-13: NCO Academy Complex		
CATCD	CATEGORY DESCRIPTION	UM
17120	General Instruction Building	GSF
17136	Automation Aided Instructional Facility	GSF
44223	Arms Storage, Battalion and Above	GSF
44224	Organizational Storage	GSF
61050	Administration, General Purpose	GSF
72122	Transient UPH, AST	GSF
72210	Dining Facility	GSF
75027	Running Track	EA
85210	Organizational Parking	SY
85215	Nonorganizational Parking	SY

Five internal functions make up the core of activities at an NCOA: living, operations, instruction, outdoor training, and NCOA support. These are represented in Figure 4-8.

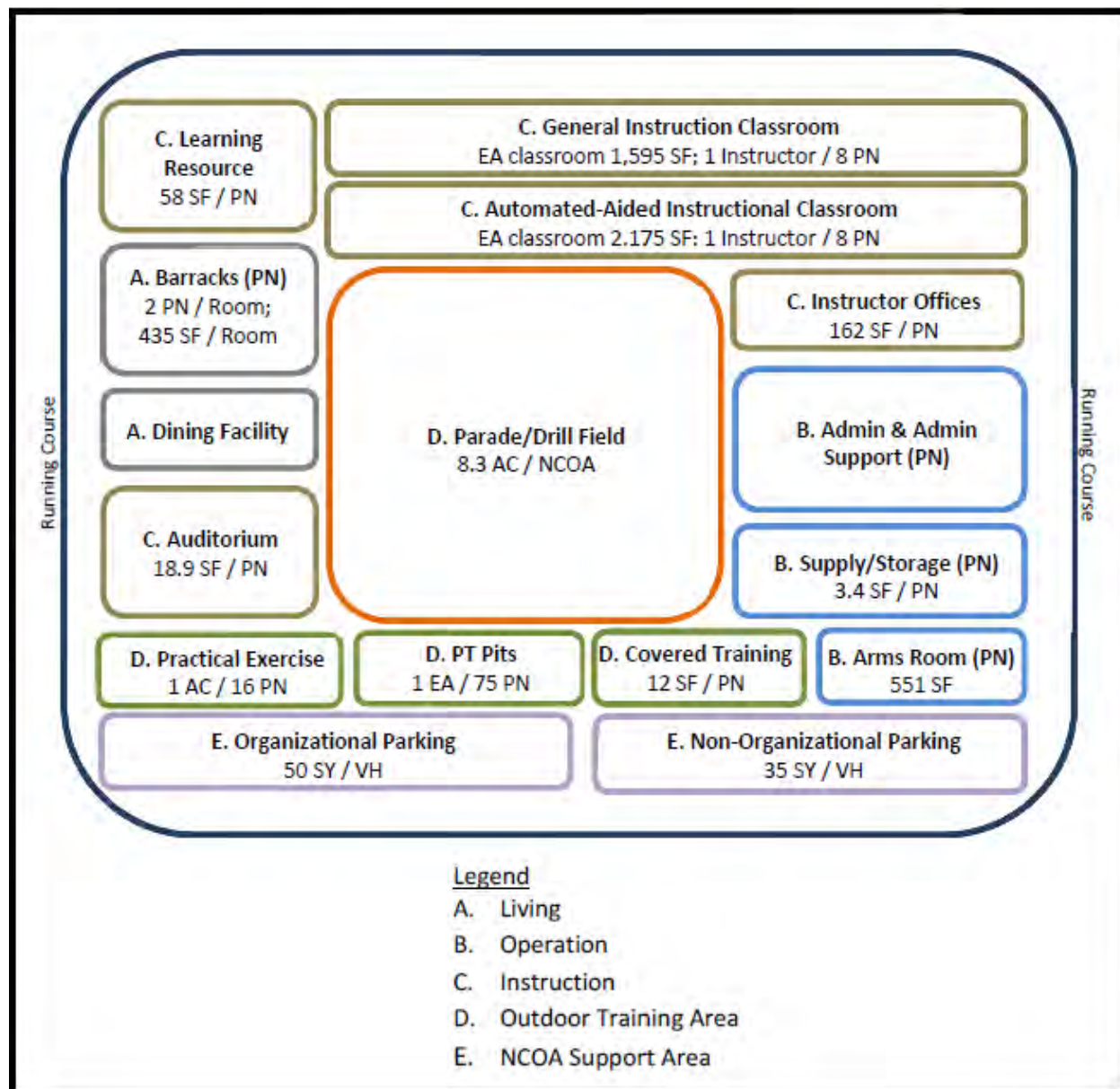
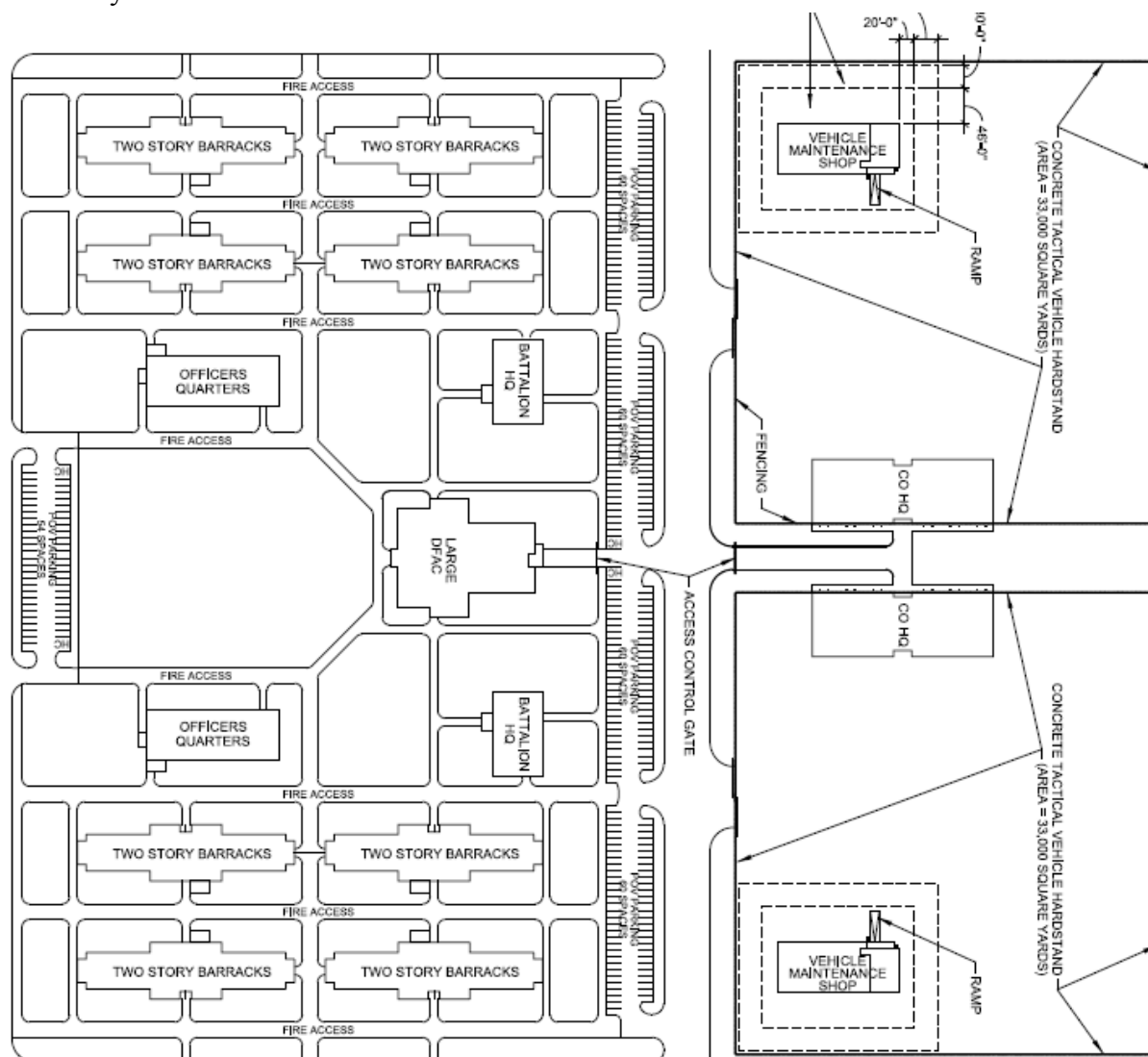


Figure 4-8: NCOA Internal Functions

### D. Operational Readiness Training Complexes

An ORTC provides mission-essential housing, dining, administration, and operational facilities. The ORTC accommodates transient training and mobilization/demobilization activities at power projection platforms, power support platforms, and post-mobilization maneuver training complexes.

These complexes consist of buildings that support units during rotational, mobilization, or predeployment training away from their home stations. The Standard Design uses a battalion building block that can support up to 640 Soldiers per battalion in open bays, plus up to 112 senior leaders at two per room between the barracks and the senior leaders' quarters. Figure 4-9 shows a standard ORTC two-battalion complex. A two-battalion set requires approximately 46 acres. A complete brigade, consisting of six battalion blocks and a BDE HQ requires approximately 137 acres.



**Figure 4-9: ORTC Two-Battalion Complex**

The complex provides barracks, senior leaders' barracks, a BN HQ, and a DFAC. It also provides a maintenance area with a battalion maintenance building, company operations building for a battalion and a vehicle hardstand.

Table 4-14 lists the categories included in ORTC complexes up to brigade size.

Table 4-14: ORTC Complex		
CATCD	CATEGORY DESCRIPTION	UM
14184	Battalion Headquarters Building Transient Training	GSF
14186	Company Headquarters Building Transient Training	GSF
14187	Brigade Headquarters Building Transient Training	GSF
21406	Vehicle Maintenance Transient Training	GSF
72114	AT Enlisted Barracks	GSF
72212	Dining Facility Transient Training	GSF
72412	AT Officer Quarters	GSF
85210	Organizational Vehicle Parking	SY
85215	Nonorganizational Vehicle Parking	SY

Figure 4-10 shows an ORTC brigade complex consisting of six battalion complexes.

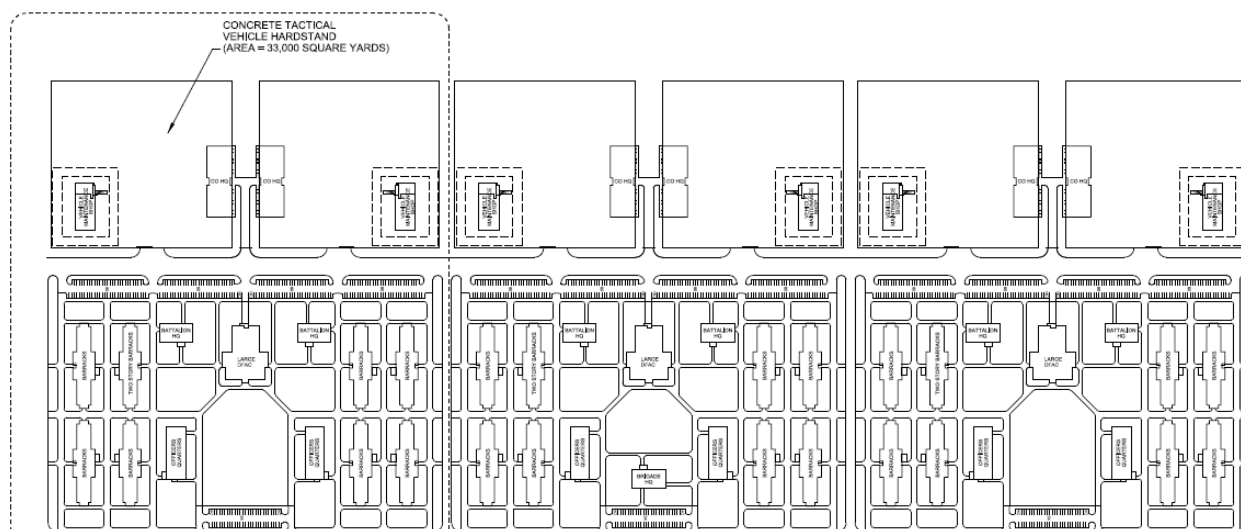


Figure 4-10: ORTC Brigade Complex

## E. Community-Oriented Complexes

### 1. Chapel Complexes

A chapel complex is a campus capable of supporting the full slate of chaplaincy programs. It consists of a worship-supporting component and a religious education-supporting component. Because they may consist of separate buildings, the chapel components that make up a complex are addressed in three separate Army Standards and three separate Standard Designs. Functionally, the components will be placed together on a single site, or even in the same facility.

Table 4-15: Chapel Complex		
CATCD	CATEGORY DESCRIPTION	UM
73017	Chapel	GSF
73018	Religious Education Facility	GSF
73019	Family Life Center	GSF
85215	Nonorganizational Vehicle Parking	SY

Legacy chapels are often dispersed throughout the installation and frequently include little or no space for the religious education component. Legacy religious education facilities frequently do not include space adaptable to or compatible with worship support. The goal is to align these functions over time to provide an appropriate mix of worship support and religious education support in buildings and campuses that have the flexibility to meet the needs of the community in a flexible, convenient, and reverent manner.

Work closely with the chaplain's office to develop requirements and investment strategies that support modernization of religious support facilities. It may be beneficial to replace multiple smaller chapels with a few larger ones to provide the levels of service and support envisioned by the Army Standards for these facility types.

The intent of the chapel complex is to serve the military community as a whole, including AIT trainees. There is a separate Army Standard and Standard Design for Initial Entry Training (IET) communities at the four Army training centers that conduct BT and OSUT. The IET chapel is not part of the chapel complex.

## 2. Soldier and Family Service Center (SFSC) Complexes

The SFSC is a hub, or “campus,” that includes five main functions:

- Military Personnel Department (MPD)
- Army Community Service Building (ACS)
- Reception Barracks Building (RBB)<sup>3</sup>
- Soldier Readiness Processing Center (SRPC)
- Family Readiness Center (FRC)

The SFSC campus should provide areas for a number of services, including child care, military in-out processing, youth activity-related functions, basic medical and dental care, military housing, financial and legal consultation, leisure travel services, purchasing recreation and theme park tickets, fast food eateries, and lodging for government and military personnel.

The SFSC features a UEPH module housing component with common area space for C2 for temporary lodging until Soldiers are fully processed and assigned into their units. It is not intended to add installation requirements or be a replacement for permanent or training barracks.

Aside from the reception barracks, this campus is primarily administrative in nature. It should accommodate the Army-required functions for processing that include military personnel, in-out processing, housing, finance, Army Career and Alumni Program (ACAP), transition branch, retirement services, Reserve Component (RC) career counselor, reassignments branch, customer services, and casualty and education counselor.

Table 4-16: Soldier and Family Service Center		
CATCD	CATEGORY DESCRIPTION	UM
61055	Waiting Area, In-Out Processing <sup>4</sup>	GSF
74033	Army Community Services Center	GSF
85215	Nonorganizational Vehicle Parking	SY

Ideally, the SFSC campus should provide comprehensive, one-stop professional and family support services.

When possible, locate the SFSC campus near the community center to provide easy access to the exchange and commissary, the library, and other community activities. Proximity to Army lodging is also a plus.

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<sup>3</sup> This refers to temporary billets for incoming unaccompanied personnel and is distinct from the barracks at a reception center for recruits at Army Training Centers that host basic training.

<sup>4</sup> The definition of this CATCD in DA PAM 415-28 reads, in part, “Use this CATCD if the entire building is dedicated to in-processing and out-processing operations.”

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## I. INTRODUCTION

A fundamental aspect of space management is evaluating the inventory, which includes utilization, condition, and adequacy. This chapter focuses on facility utilization metrics and studies (evaluating the degree of use of facilities), and evaluating the functional adequacy of the space. This manual does not address the process of evaluating condition.

Effective space management depends on an accurate and consistent application of the concepts and procedures in this chapter.

## II. FACILITY UTILIZATION

### A. Definition

Facility utilization is an expression of how much of a facility's capability or capacity is used relative to its design capacity. Different facility categories have different metrics, based on the unit of measure that best depicts the overall status of the facility with regard to occupancy or other means of use. Utilization metrics can be applied only when criteria quantify the target capacity or capability in objective terms. In some cases, it is difficult to express utilization in a meaningful way, other than used/unused (e.g., a scale house that supports deployment missions is necessary even if it is used only infrequently).

### B. Reporting Utilization

AR 405-70, Facility Utilization, requires commanders to report annually to HQ IMCOM the utilization rate of key installation facility categories. AR 405-70 Appendix C identifies reporting requirements that include land, administrative space, storage and warehouse facilities, and unused or underutilized facilities. The reports are required to identify the steps the commander is taking to improve utilization. Utilization of administrative, storage and unaccompanied personnel housing facilities is a rated area in the ISR-S SSP. Historically, this is a component of SSP 405, master planning. The current rating scale is:

- Green: 95 percent to 100 percent Average Utilization
- Amber: 85 percent to 95 percent Average Utilization
- Red: 75 percent to 85 percent Average Utilization
- Black: Less than 75 percent Average Utilization

The ratings are based on top-loaded data from HQIIS. While the rating represents a utilization average, individual facilities or organizations may have utilization rates that are above or below the ISR-S rating.

DOD requires periodic physical surveys of real property. The utilization rate is one of the items of information to be validated during physical inventory.

The PRISMS is the Army enterprise space utilization system. The Cloud-based system provides centralized access to digital floor plans, imagery, and space utilization data, and can support “What If” scenarios when evaluating stationing, reutilization, or repurposing options in response to evolving requirements.

### C. Space Utilization Metrics

Space utilization metrics measure the use of buildings. They are an expression of how well a tenant fits a building and, at the installation level, how well the installation is using the buildings it has. Space utilization rates help to define alternatives for the planning, programming, assignment, reassignment, and disposal of facilities by highlighting buildings and facility categories that are not appropriately utilized, and by identifying organizations with excess or insufficient space, based on Army criteria and standards.

Determining space utilization requires that two sets of data be available, and that these use consistent definitions and measurements: facility capacity by functional area, and unit requirements by functional area.

Facilities other than buildings may have specialized metrics for determining utilization rates. For example, many training ranges use range days available compared with range days used. In general, the ISPCM does not address these type facilities because there are separate metrics managed and tracked by the proponent.

#### 1. General Utilization Metrics

The basic formula for measuring the utilization of occupied work spaces where the utilization metric is measured in square feet is:

$$(\text{Required Area} \div \text{Assigned Area}) \times 100 = \text{Percent Utilization}$$

For facility categories where the utilization metric is measured in PN or spaces (SP), the basic utilization metric is:

$$(\text{Required Capacity} \div \text{Assigned Capacity}) \times 100 = \text{Percent Utilization}$$

Utilization rates fall into four broad categories. Facilities may be **underutilized**, **optimally utilized**, **fully utilized**, or **overcrowded**.

The following are IMCOM definitions for optimally utilized, underutilized, fully utilized, and overcrowded buildings.

**Optimal utilization** occurs when the utilization rate is in a range that allows sustainment and modernization to take place over time without displacing all of the occupants simultaneously. The optimal utilization rate varies depending on the facility category. It generally falls between 85 percent and 95 percent utilization. Monitor buildings to ensure that utilization stays in the optimal range, if possible.

A building with a utilization rate below the optimal utilization rate is **underutilized**.

Underutilized buildings may present opportunities to redistribute space, or consolidate tenants or activities.

A building with a utilization rate above the optimal rate but less than or equal to 100 percent is **fully utilized**. Seek alternatives that will draw the utilization rate back toward the optimal rate.

A building with a utilization rate above 100 percent is **overcrowded**. Seek opportunities to redistribute space, or provide other long-term relief to the occupants of overcrowded buildings. If a building is overcrowded, verify that the occupancy does not exceed allowable occupancy based on fire, health, or safety regulations.

***Principle:** Distribute space equitably, and satisfy requirements effectively and efficiently.*

Required area, in particular, needs to be understood in the context of planning criteria. Most criteria, especially those derived from newer Army Standards, set a net area authorized per increment of population, function, or mission. Standard designs, in turn, develop notional or, in some cases, prescribed layouts that provide an appropriate net allocation to each approved function. For legacy buildings, the goal is to provide space consistent with the design intent of the Standard Design.

Normally, a final step in Standard Design application is a net-to-gross conversion method that places limits on the total footprint of **new construction** allowed to provide the prescribed net functional spaces. Gross area does not provide a viable basis for evaluating utilization of buildings, even though it is the level at which Army planning systems operate. Only a comparison of NUA available with NSF authorized by functional area yields an accurate result when evaluating utilization in existing facilities.

While it is important to assign appropriate quantities of the proper types of space, and to communicate the basis and intent of the space allocated to the tenant, it is not always possible to enforce the wise use of allocated space. For example, a unit may choose to make a 1,000 NSF conference room the commander's office and turn the 250 NSF command office into a conference room. If both spaces are otherwise justified by the mission and structure of the organization, they are considered fully utilized<sup>1</sup>. Chapter 6 discusses developing facility requirements. Chapter 7 discusses principles of assigning facilities.

Some standard buildings are designed to support units with populations that fall within a defined range. In this case, a building is **properly utilized** if the assigned user falls within the design range of the building. For example, a medium BN HQ is intended to support a battalion with a staff of from 36 to 50. If the staff of the assigned unit falls within that range, the building is

<sup>1</sup> If, however, the unit asks for more space because the conference room is too small, the answer is "No."

properly utilized. If the building is assigned to a battalion with a staff of 35, it is not properly utilized. When these types of unit buildings are considered in aggregate, the utilization can be expressed in terms of the percentage of assignable increments to authorized tenants. If eight battalions need a headquarters building, and 10 functionally adequate buildings are available, the installation has a utilization rate of 80 percent.

The facility category discussions in Appendix F have utilization metrics in subparagraph C.3 for categories with a meaningful metric.

## **2. Utilization Metrics for Storage**

In determining the utilization of storage buildings, there are abstract and practical aspects to storage space. In the absence of other limitations, every storage building has a hypothetical capacity, which is the net storage space multiplied by the stack height. The actual capacity is less than the hypothetical capacity because of factors such as limitations on the stacking height of the commodity being stored, safety limitations, the load-bearing capacity of floors, or the maximum stack height that available MHE can support. The limitations also are a function of the type of storage methods the occupant uses to fulfill its mission. See Chapter 3 regarding measurements for storage.

DOD requires installations to submit a Storage Space Management Report (DD Form 805) annually. The form, a fill-able portable document format (PDF) with built-in formulas, is available online at [www.dtic.mil/whs/directives/infomgt/forms/eforms/dd0805.pdf](http://www.dtic.mil/whs/directives/infomgt/forms/eforms/dd0805.pdf). The procedures for this report support calculating utilization of storage in four steps:

- Determine Gross Storage Space
- Determine Net Storage Space
- Determine Occupied Space and Vacant Space
- Determine Utilization Rate

## **D. Facility Utilization Studies**

The detailed discussion of each real property category of buildings with criteria in Appendix F includes a list and, where appropriate, a description of each functional area associated with that category. When conducting a Facility Utilization Study (FUS), it is useful to designate functional areas on drawings at room level to facilitate adequacy and utilization calculations.

Facility utilization studies are time-consuming when done in-house, and can be expensive when done by contract. Program FUSs on a rolling basis to ensure a periodic survey of every facility. If scheduled cyclically, do utilization surveys by facility category to balance utilization rates among units. For example, do a survey of administration buildings to develop a table of percent utilization by unit.

However, when conducting surveys by facility category, survey multiuse facilities in their entirety, even if only a portion of the facility falls within the target category. This helps to

identify whether activities have encroached on adjacent areas, or are using space in different facility categories to offset shortages in the target facility category. This information is also necessary to compute accurate net-to-gross ratios.

***Note:** When conducting surveys by facility category, require complete surveys of multiuse facilities, even if only a portion of the facility falls within the target category code.*

Require that all CADD data meet Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) specifications for a FUS.

Ideally, facility utilization studies will result in data within a space management system such as the Proactive Real Property Interactive Space Management System (PRISMS). PRISMS is the approved space utilization tool for the Army. It classifies rooms or spaces with use codes that provide standard descriptions of functional areas to ensure consistency throughout the inventory. Even when FUS data is not stored in a spatially enabled space management system, use consistent terminology to describe like functional areas that occur in different buildings in different facility categories; this will facilitate comparisons. For example, a private office in a research laboratory is functionally equivalent to a private office in an administration building. In such cases, an organization that is allowed administrative space (CATCD 61050) by RPLANS should have its administration requirement decreased in RPLANS to offset the fact that personnel positions assumed to need administrative space are being provided comparable space in another facility type.

### III. FUNCTIONAL ADEQUACY

In the context of the ISPCM, functional adequacy is a comparison of the available functional areas in a building with the required functional spaces of a tenant. Functional adequacy can be applied at two levels. Absolute functional adequacy exists when a facility is fully consistent with the parameters set forth in an Army Standards and Standard Designs. In the space management context, particular functional adequacy exists when a building supports all functional requirements by the using activity, organization, or unit, even if all functional areas in the Standard Design are not present. In the latter case, a building that is functionally adequate for one user may be inadequate for another because of differences in mission, organization, or functions.

Appendix F of this manual provides functional adequacy matrices immediately after the facility category discussion when appropriate criteria are available from Army Standards and Standard Designs.

The category discussions in Appendix F provide functional adequacy requirements for presence for building categories without standards or Standard Designs.

### A. Definition

Functional adequacy is a comprehensive, objective measure of the ability of a facility to satisfy the functions associated with the design-use category code or codes for that facility. Some facility categories are addressed by more than one Army Standard or Standard Design. A facility that is adequate in terms of one set of criteria may be inadequate in terms of another. For example, the BDE HQ identified for an AIT brigade in Army Standards for an AIT complex does not meet functional adequacy requirements for a TOE Brigade as identified in the BDE/BN Army Standard.

Functional adequacy as defined here is based on the metrics in Army Standards and Standard Designs and may, therefore, differ from the mission rating in the Installation Status Report – Infrastructure (ISR-I).

There are two elements of functional adequacy related to functional areas or elements: presence, and quantity or capacity.

Presence addresses whether the building has all the required functional areas. Quantity/capacity addresses whether the functional areas are sufficient in size or capacity to meet the intended purpose. For example, a company HQ may have an arms room (presence) that is only 100 NSF, which means it is functionally inadequate (quantity/capacity).

In addition to functional areas, functional adequacy may depend on functional elements or critical attributes that are operational factors, special-environment needs, or land use considerations that are not spatial in nature. These may include special networks, raised flooring, humidity control, electromagnetic shielding, temperature control, acoustic attenuation, proximity to related functions, or other such factors. Technical enablers for any of these capabilities or environments may require space within the building. For functional adequacy analysis in this situation, the focus is on the capability, and not just the space used to support the capability. For example, SIPRNET may be required. A building that has the SIPR closet but is not cabled to deliver SIPR is functionally inadequate, even though the necessary space to install SIPRNET is present. The functional adequacy matrices address nonspatial elements when they are critical to the functional adequacy of a building.

***Note:** The functional adequacy matrices address nonspatial elements when they are critical to the functional adequacy of a building.*

### B. Determining Functional Adequacy

Functional adequacy is a function of presence, and of quantity/capacity for individual buildings. The ISPCM functional adequacy matrices address presence, and quantity or capacity by



functional area for individual buildings. The ISR-I mission rating gives an indication of the functional status of the building. The mission ratings in ISR can result in a red rating even when all required functional areas are present and of sufficient size if they are in poor condition, in need of repair, or are missing nonstructural components that can be installed. For example, missing or nonfunctional lighting, phone jacks, local area network (LAN) ports, weapons racks, cages, and Intrusion Detection Systems are all factors that affect the mission rating but can be readily mitigated. For the purposes of space management, a building in poor condition is functionally adequate only if the conditions that render a low rating in ISR-I mission can reasonably be mitigated through sustainment, repair, or installation of conforming components or systems. In assigning space, the cost of mitigation should be addressed as part of the facility occupation plan (See Chapter 7, Assigning Space).

***Note:** The Installation Status Report (ISR,) Part 1, mission, quality, and quantity ratings are **not** the sole factors in determining functional capability for space management. .purposes.*

Normally, an engineer or space utilization specialist will determine the functional capability of a building by applying the criteria in Appendix F to the applicable categories.

The following definitions of functional adequacy apply when a building is appropriately assigned (a facility is considered appropriately assigned if the design use category code corresponds to a facility category for which the designated user has a validated requirement):

**Fully Mission Capable:** All elements of the most current construction standard exist in the facility. No modernization is needed. Construction standard is defined as a published Army facility standard and, if one exists, standard facility design. If appropriately assigned, facilities in this category should fully support the operational requirements of the assigned user.

**Partially Functional:** Essential/critical functional elements exist, but not all functional areas in the current standard or Standard Designs are present. Noncritical elements might be missing, but the defect or deficiency is such that corrective action is possible with local resources. If appropriately assigned, facilities in this category should support all critical operational functions of the assigned user with minimal operational impact.

**Reparably Dysfunctional:** Some essential/critical functional elements are missing or fail to meet quantity or capacity standards, but the nature of the defect or deficiency is such that corrective action is possible with Operations and Maintenance, Army (OMA) Restoration and Modernization funds, or other OMA funds within the statutory threshold. If appropriately assigned, facilities in this category cannot support all critical operational functions of the assigned user for extended periods of time without mitigation. This category does not apply if mitigation to meet functional adequacy requires an expansion of the footprint that cannot be accomplished within the existing site boundaries, or in a manner that satisfies the required

presence metric. Evaluate facilities in this category for restoration and modernization or conversion to another facility category.

**Irreparably Dysfunctional:** Essential/critical functional elements are missing or fail to meet quantity or capacity standards, and the nature of the defect or deficiency is such that corrective action is possible only through MILCON replacement, total renovation, or major expansion. All World War II-era wood and relocatable buildings are included in this category. If appropriately assigned, facilities in this category cannot support all critical operational functions of the assigned user for extended periods of time.

**Nonfunctional:** Facility is off-line because of renovation, irreparable environmental conditions or structural faults, planned or programmed demolition, or other factors that preclude its use. Facilities in this category should not be assigned for occupancy or use.

### C. Evaluating Presence

**Presence requirements for adequacy**, as depicted in Table 5-1, refers to whether all of the mandatory functional areas as defined by subparagraph A.4., in the Appendix F category discussions, or the functional adequacy matrix ‘**PRESENCE**’ column for each category with matrices in Appendix F, are physically present.

Evaluate presence by comparing the functional areas in a facility with the functional area table or matrix for that facility category in Appendix F. Each functional area has a standard of presence for evaluation that is based on whether that functional area is required and, if required, the degree of proximity that is necessary. Evaluate presence against the standard for each functional area.

Table 5-1 lists the range of choices used throughout the ISPCM, and Appendix F in particular.

Table 5-1 Standards of Presence
Presence Requirements for Adequacy
A - Required, Collocated
B - Required, Adjacent
C - Required, Vicinity
D - Not required, if present collocated
E - Not required
F - Occupant Dependent

A presence requirement of “A” applies when a functional area is mandatory for all buildings in the category, and that functional area must be collocated with the other mandatory functional areas. By definition, a functional area is collocated if it is in a common building with other mandatory functional areas, or connected by an enclosed walkway or corridor. If access control is required, a functional area in one building is **not** collocated with functional areas in a connected building if movement between the connected buildings requires additional staffed security checkpoints, unless the same access control would be required within a single building.

An electronic or biometric security device such as keypad or card reader on a door is not a checkpoint when defining collocated functions.

A presence requirement of “B” applies when a functional area is required, but may be in an adjacent building. Adjacency implies that it is reasonably possible, under normal conditions, to move between the buildings by foot in less than five minutes (less than about 1,300 feet). Buildings may be adjacent even if it is necessary to go through staffed security checkpoints when transiting buildings.

A presence requirement of “C” applies when a functional area is required, but may be near other buildings that provide related required functional areas. As used here, vicinity implies that it is reasonably possible, under normal conditions, to move between the buildings without a vehicle. As a rule of thumb, vicinity exists when the buildings are more than five but less than 15 minutes apart by foot, which is more than 1,300 feet but less than about 3,500 feet.

A presence requirement of “D” applies when a functional area is not required but, if present, cannot fulfill its intended purpose unless it is collocated.

A presence requirement of “E” applies when a functional area associated with an Army Standard is not mandatory.

A presence requirement of “F” applies when a functional area is dependent upon the occupant. Some occupants allowed a particular facility category do not require all of the functional areas or critical attributes associated with that category. When a functional area is dependent upon an occupant and the assigned user does not need that functional area or attribute, the building is functionally adequate even when the area is not present. For example, a SCIF is a required functional area for a BDE HQ, but not all brigades have missions or capabilities that require SCIF space. A building without a SCIF is functionally adequate for a permanent brigade HQ when the building is assigned to a brigade that does not require a SCIF. Rate the presence of a SCIF as not applicable (N/A) for that building. If the needs of the occupant change, or if the installation reassigns the building to an occupant that needs a SCIF, the functional capability code would change to F3 or F4, if there were no SCIF present. In this case, the rating is dependent on the cost of new work to provide the missing functionality.

#### **D. Evaluating Quantity**

Quantity refers to whether the functional areas are of a sufficient size or capacity to meet the requirements. The quantity/capacity columns of Table 5-2, Sample Functional Adequacy Matrix, show: the functional area description, the presence standard, and the quantitative standard and minimum for acceptability. If installations elect to use the matrix as an evaluation tool, the presence and quantity/capacity columns provide space to make notes on the status of each functional area.

In some cases, the quantity is a fixed value regardless of the size of the tenant activity. For example, the metric for the size of the arms room is indexed to the size of the readiness module and is the same for any company of a given size. This does not preclude a unit from validating a larger requirement, because the goal in sizing the arms room in the standard was to meet the needs of eighty percent of the companies in the Army. In the event that a unit requires an area or capacity **larger** than the metric indicates, do not rate the building reparably dysfunctional or lower unless there are no viable stationing alternatives for the unit or organization.

In some cases, the quantity or capacity required is dependent upon the tenant activity. In those cases, apply the metric to the supported population, or use a requirements analysis to determine the appropriate size required. Do not rate the building reparably dysfunctional or lower for quantity unless there are no viable stationing alternatives for the unit or organization.

Finally, do not rate a facility functionally inadequate for quantity solely because of the size of a building if the composite needs of the using organization are satisfied by multiple buildings that meet the presence requirements as outlined above, and contained in the functional adequacy matrix in appendix F.

### E. Functional Adequacy Matrix

Appendix F provides a functional adequacy matrix (FAM) for facility categories with criteria derived from an Army Standard or Standard Design. Planners may use these matrices, which are designed to serve as an evaluation tool, as a guide when determining the functional adequacy of an existing building. Each FAM condenses the critical functional area and criteria data for the associated category into a worksheet format. There is no requirement to use the FAMs, or if they are used, to keep them on file.

Table 5-2: Sample Functional Adequacy Matrix is an example of a functional adequacy matrix provided in Appendix F. Some facility categories, such as BN HQ (CATCD [14183](#)), have distinct criteria from different Army Standards. In those cases, there may be more than one FAM. The matrices provide requirements and evaluation standards for each functional area and critical attribute based on the criteria outlined in the Army Standard and/or Standard Design.

Each FAM has an upper portion and a lower portion. The upper portion of the FAM has four parts going from left to right. The first section, “Functional Area” identifies the functional areas by type (mission, general, or support) and gives a description. The second part, “Presence,” identifies the requirement and provides a status column to allow the user to mark whether the facility satisfies the presence requirement. The third section, “Quantity or Capacity,” lists the standard size/capacity and the lower limit. It also provides a status column where the user can note whether the condition is met or, alternatively, enter the actual value (e.g., in the status column of “Arms Vault,” a user might enter 350 NSF, if that is the size of the existing arms room). The fourth section, “Assign Rating/Notes,” provides a limited amount of space for notes.

The lower portion of the FAM lists the definitions of the presence codes on the left and provides space for additional notes.

When determining functional adequacy using the FAM, first evaluate all functional areas and critical attributes for “presence,” and assign the appropriate rating for each. The FAM provides space in the “**NOTES**” column to record findings.

Second, evaluate the quantity/capacity of the functional area based on the metric, and determine whether the building meets the standard for each item. The matrix shows the standard and lower limit. The “**LOWER LIMIT**” column shows the minimum acceptable value for the Fully Mission Capable category. If the “**LOWER LIMIT**” column states “none,” the standard is the lower limit. When the matrix indicates a lower limit, the column shows the appropriate functional capability code if the building does not meet the lower limit.

For category codes with criteria but without a FAM, appendix F provides a “Functional Areas and Adequacy Requirements” table that gives presence requirements but does not quantify the functional areas that can assist in determining adequacy. Evaluate general functional areas for quantity using the criteria in Appendix A, and mission functional areas in accordance with Appendix F for that facility category.

TABLE 5-2: Example Functional Adequacy Matrix

FUNCTIONAL AREA / ATTRIBUTE		PRESENCE		QUANTITY / CAPACITY			NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Private Offices	A		3 per company module	No Lower Limit		
Mission	Arms Vault	A		400 NSF	200 NSF		
Mission	Company Storage	A		300 NSF	No Lower Limit		
Mission	NBC Storage	A		100 NSF	No Lower Limit		
General	Conference Room	D		300 NSF	No Lower Limit		
Mission	Commo Storage	A		100 NSF	No Lower Limit		
Support	Private Restrooms	A		4 Per Company	NLT 2		
Mission	Supply Storage	A		100 NSF	No Lower Limit		
General	Open Office	A		630 NSF	330 NSF		
Presence Requirement for Adequacy:				Additional Notes			
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present: collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

For multiuse buildings (i.e., those consisting of multiple facility categories), rate each category separately. Evaluate each portion of the building using the appropriate FAM or functional description from Appendix F. Support functional areas need not be present in each space assigned a different facility category if the function is satisfied by space within the building as a whole.

While there is no requirement to retain evaluation forms, installations that choose to use the FAMs may keep the completed forms in organizational records as documentation in support of requirement edits in RPLANS, conversion requests, or programming actions, if desired.

**Principle:** Know the inventory.

*One way to know the inventory is having awareness of the functional adequacy of the buildings on the installation.*

Engineering judgments may lower a rating further if a combination of defects and deficiencies taken as a whole warrant a more comprehensive restoration or modernization effort than any single factor would rate in isolation.

Develop projects for the highest-priority buildings rated F3 or F4. Based on projected funding availability, enter projects ready for a programming action into the Project Prioritization System (PPS) and, when appropriate, prepare a DD Form 1391.

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## I. INTRODUCTION

Space planning, as addressed in the ISPCM, is the process of applying the basis for authorization and the basis for calculation from the criteria to a specific organization or population, with its specific set of equipment and missions, to obtain actual facility requirements for that organization or population. Space planning supports the space management process by determining the amount and type of space required for a specific unit, organization, mission, or function. Planning results in a calculated requirement. It provides the planner with the data necessary to take one of two actions: assign existing facilities, or program new facilities. The possibility exists, as well, that the planning effort will confirm the status quo.

Chapter 3 addressed quantifying and describing the space available to satisfy requirements. This chapter explains how to determine requirements by applying approved criteria to the strength or population, equipment, and/or missions that the facilities will support. See Chapter 7 for a practical example of comparing requirements with an existing building using an Army Standard design.

Space planning for military units and Army organizations requires a good understanding of Army organizations and force structure. This chapter discusses some basic information about UICs as they relate to space planning. There are numerous other resources available to assist planners in gaining more detailed knowledge. Army Knowledge Online (AKO) is a valuable resource for presentations and slides about organizations and equipment. Unit Web sites also can be helpful in gaining a clearer understanding of how units and organizations operate.

It is important to document the process outlined in this chapter in detail because the information is the basis for justifying requirement edits in RPLANS. Requirement edits that are not adequately justified will be disapproved or modified by IMCOM.

There is an example of the progression from the ASIP troop list to battalion requirements near the end of this chapter, in subsection VII, Force Example. This progression outlines how to group units with other units to obtain the doctrinally correct requirement.

### A. Allowance and Requirement Definitions

An **allowance** is an objective estimate, based on automated analysis of corporate data and using official policy and approved criteria, of the amount of a specific facility category that a particular unit or organization needs to 1) support authorized personnel and their normal activities, 2) store, operate, or maintain authorized equipment, and 3) perform approved missions and conduct associated training.

Allowances in RPLANS are based on new-construction standards.

A requirement is an allowance adjusted by the master planner to reflect actual facility needs. A requirement reflects strength or population, equipment, mission(s), and other conditions not fully addressed in the process of generating allowances. A requirement may be greater than or less than the RPLANS allowance. The following may have to be dealt with during the requirements development process:

- Modified versus Objective Table of Organization and Equipment (MTOE vs. OTOE)
- Contracted activities
- Contingency missions
- Capacity issues with legacy facilities
- Physical or information security
- Transient populations
- Tenants-other-than-Army, including state or local government agencies
- Eligible populations from surrounding areas not captured in the ASIP

Requirements should consider the attributes derived from the force, policy, and criteria that generate an allowance. The master planner determines a requirement when the attributes the RPLANS methodology uses to calculate an allowance do not properly address the units, populations, missions, or equipment that are the basis for calculation.

By default, requirements in RPLANS are set equal to the calculated allowance until changed by the master planner and approved by IMCOM. The planner enters requirements in RPLANS via the edit process and submits them to the IMCOM or the National Guard Bureau (NGB) for review/approval. When approved, these requirements are reflected in the next RPLANS update and become the requirement for determining quantity ratings in the ISR-I.

IMCOM has published and periodically updates guidance for preparing and submitting requirements edits.

## **B. RPLANS Allowances and Space Management**

The Army uses RPLANS as a decision support system for a variety of facility-related analyses. For space planners, the allowances in RPLANS provide a programmatic baseline for starting requirements analyses<sup>1</sup>. An allowance is not a blanket entitlement, nor does the absence of an allowance constitute an inflexible denial of a requirement. The subparagraph titled “Programmatic Application” for category codes in Appendix F gives a summary of the RPLANS methodology. For requirements analysis, a more detailed understanding of the RPLANS allowance is necessary.

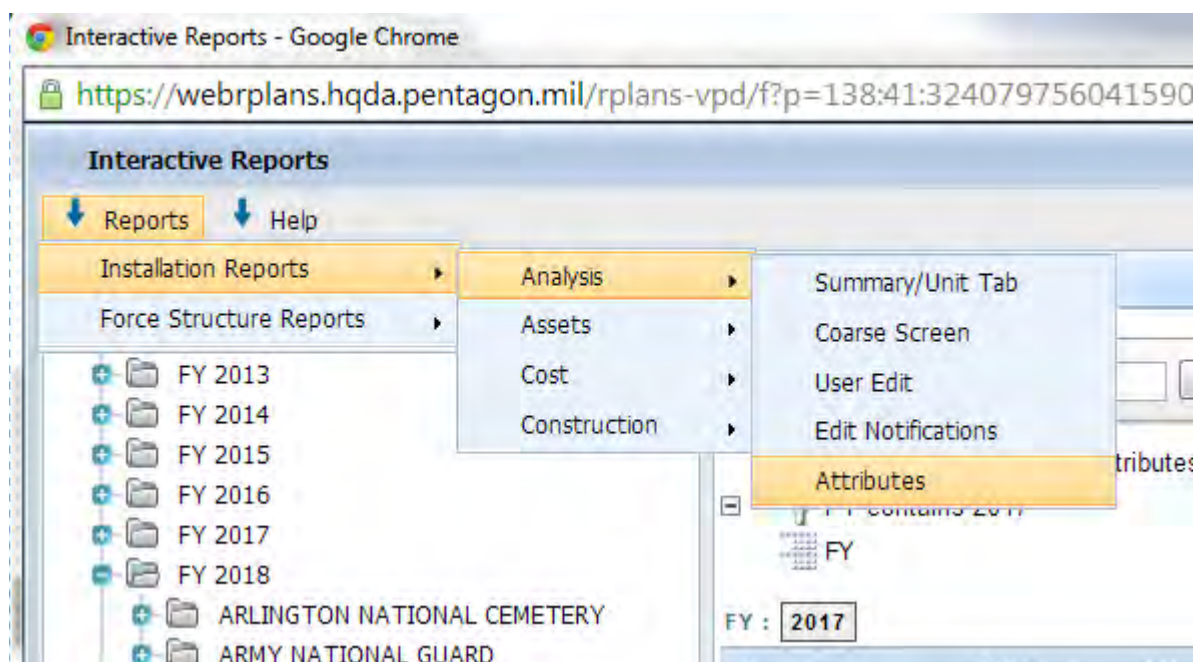
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<sup>1</sup> Because RPLANS allowances are based on new-construction standards, a clear understanding of the distinction between gross square feet (GSF), net square feet (NSF), and net usable area (NUA) as described in Chapter 3 is vital.

The “Programmatic Application” discussion for each facility category in Appendix F with criteria summarizes how RPLANS calculates allowances for that facility category. Check the relevant category code information in RPLANS when performing requirements analysis or other space management-related tasks if more detail is necessary.

“Category\_Code\_Characteristics.xls” under the help menu and “Space Planning Criteria” under the Planning Menu explain how RPLANS generates the allowance for a particular facility category. “Category\_Code\_Characteristics.xls” identifies the calculation method (algorithm, allowances equal assets, or allowances equal zero) and the calculation level or levels for each category code. The “Space Planning Criteria” section provides a link to each category code and, for category codes with a calculation methodology, explains how RPLANS generates an allowance, and includes criteria sources.

It may also be useful to review the RPLANS attributes of the UIC, complex, site, or base that is the object of the analysis. The requirements justification should address how the attributes supporting the allowance failed to account for all of the factors affecting the requirement, or should spell out how the space provided fails to meet the required functional attributes associated with the criteria that drove the allowance calculation. Legacy facilities will often contain space configurations unlike the space configuration on which an RPLANS algorithm is based, and the actual net square footage and net usable area create a requirement that is greater than the RPLANS allowance. View attributes by selecting the desired level in the RPLANS hierarchy, and then selecting Attributes report under the Reports menu, as shown in Figure 6-1.



**Figure 6-1: Attributes Report in RPLANS**

Use this information from RPLANS to determine whether a particular situation is addressed in the RPLANS methodology. When an item is addressed in a calculation methodology, compare the planning assumptions and attributes that contribute to the allowance with the situation on the ground. If there is no allowance at the level being evaluated, use the information in RPLANS to determine why there is no allowance. Use the CATCD narrative in Appendix F to determine whether a requirement is appropriate.

As noted above, RPLANS allowances are based on new-construction standards. When there is an Army Standard or Standard Design, the allowance is based on a specific composition and distribution of functional areas. Existing buildings may not contain all of the functional areas addressed in the criteria used to calculate the allowance. Conversely, not every unit or organization will require all of the functional areas included in a Standard Design. The CATCD narrative in Appendix F enumerates and describes the required functional areas.

### **C. Requirements and Requirements Analysis Focus**

In principle, requirements are determined based on missions, equipment, personnel, or populations, or a combination thereof. Requirements exist independent of facilities. Possession of facilities does not justify a requirement, just as the absence of facilities does not prove the absence of a requirement. Conversely, any true requirement is satisfied somewhere. It may be in the wrong type of space, it may be in too little space, or it may be happening without the benefits of an assigned facility. If a tenant says it has a requirement, it should be able to show where and how the requirement is currently being satisfied.

Although space planning is an ongoing activity, specific events or situations can trigger a focused requirements analysis. These include stationing scenarios or the anticipated arrival of new organizations; changes to the organization, structure, or mission of existing units or organizations; new or revised installation missions; changes to criteria; changes to Army services or programs; and GSF and NSF/NUA reconciliation.

The nature of the triggering event influences the specific actions necessary to complete a requirements analysis. The event may result in a unit-focused analysis, a population- or mission-focused analysis, or a facility type-focused analysis.

#### **1. Unit Focus**

Unit-focused analysis determines unit-level requirements by facility category for a single unit (e.g., a company) or for a group of units that function as a cohesive organization (e.g., a battalion or a brigade). Unit-focused analysis frequently involves multiple facility categories or a facility complex, even if the unit is not currently occupying an Army Standard complex. The facilities in this case are normally for the exclusive use of the unit or organization to which the analysis applies. Organizations can be very complex and involve multiple UICs in the ASIP.

In a unit-focused analysis, provide requirements in detail for all unit-level facility categories that apply to the unit or units the analysis addresses. Detailed requirements analyses may provide justification for special needs or circumstances, including a requirement for facilities where the planning level is other-than-unit. This is particularly true for units and organizations that provide services to others.

## 2. Mission or Population Focus

A mission- or population-focused analysis determines requirements for **other-than-unit**-level categories.

A **mission-focused** requirement is a capability the installation or one of its tenants is required to provide that is not dependent on any one unit, but rather represents the aggregate requirement for all units with a particular mission. Examples include training facilities and ranges or airfields.

A **population-focused** requirement relates to services the installation or one of its tenants provides to individuals without regard to the units or organizations to which they belong, such as the library program or child development centers. The basis-for-authorization paragraph for facility categories in Appendix F identifies the eligible population, the desired level of service, or other factors that drive the requirement. While facilities belong to a particular unit or organization, they directly serve a particular population beyond the owning unit on a shared or customer service basis. Examples include medical facilities and community support activities.

Use a detailed requirements analysis to determine whether the available facilities are sufficient for their intended purpose, or to provide justification for additional space requirements to meet the local situation.

## 3. Facility Focus

A facility-focused analysis determines requirements across the installation for a particular facility category. It may involve either unit-level or other-than-unit-level facilities. The intent is to determine requirements in breadth for one or more facility categories.

The need for a facility-focused analysis often occurs when there is a major shift in Army organization or structure (e.g., the development of the modular Army); a change to a criterion; a centrally managed or funded investment initiative; a comprehensive review of the TAB conducted as part of a broader master planning effort; or a re-evaluation of a facility category in response to shifting utilization rates.

## D. Special Space, Storage Space, and Instructional Space

Regardless of the focus that generates a requirements analysis, there are common considerations for special space and storage space within general functional areas, and for instructional facilities linked to schools and training centers.

This chapter addresses these considerations in subsection VI, Special Considerations.

## II. SPACE PLANNING PROCESS

This segment provides a brief overview of the requirements analysis process. Subsections III through V discuss the steps in more detail, depending on the particular focus of the analysis, whether unit-focused, population- or mission-focused, or facility-focused. While the reasons for a focused requirements analysis vary, the basic space planning process, introduced here, is always the same. The process focuses on “the force.”

“The force” is a general term that refers to the missions, equipment, personnel, or populations that installations support with facilities and services. ASIP is the starting place for working with the force, but an understanding of the force requires research into the applicable criteria for the facility categories that are the object of the analysis.

The force is not a fixed number but varies by facility category. Each facility category with criteria has a basis for authorization (the information that delineates what types of units or populations are eligible for facilities in that category), qualifying attributes (the characteristics, missions, or other factors that, when present, indicate that an organization or unit meets the eligibility criteria), and a basis for calculation (what attributes are used to perform calculations and how they are used). The space planning process has four steps as it relates to the force: define the force, identify facility allowances, compare the actual structure with allowance assumptions, and apply criteria to determine requirements.

### A. Define the Force

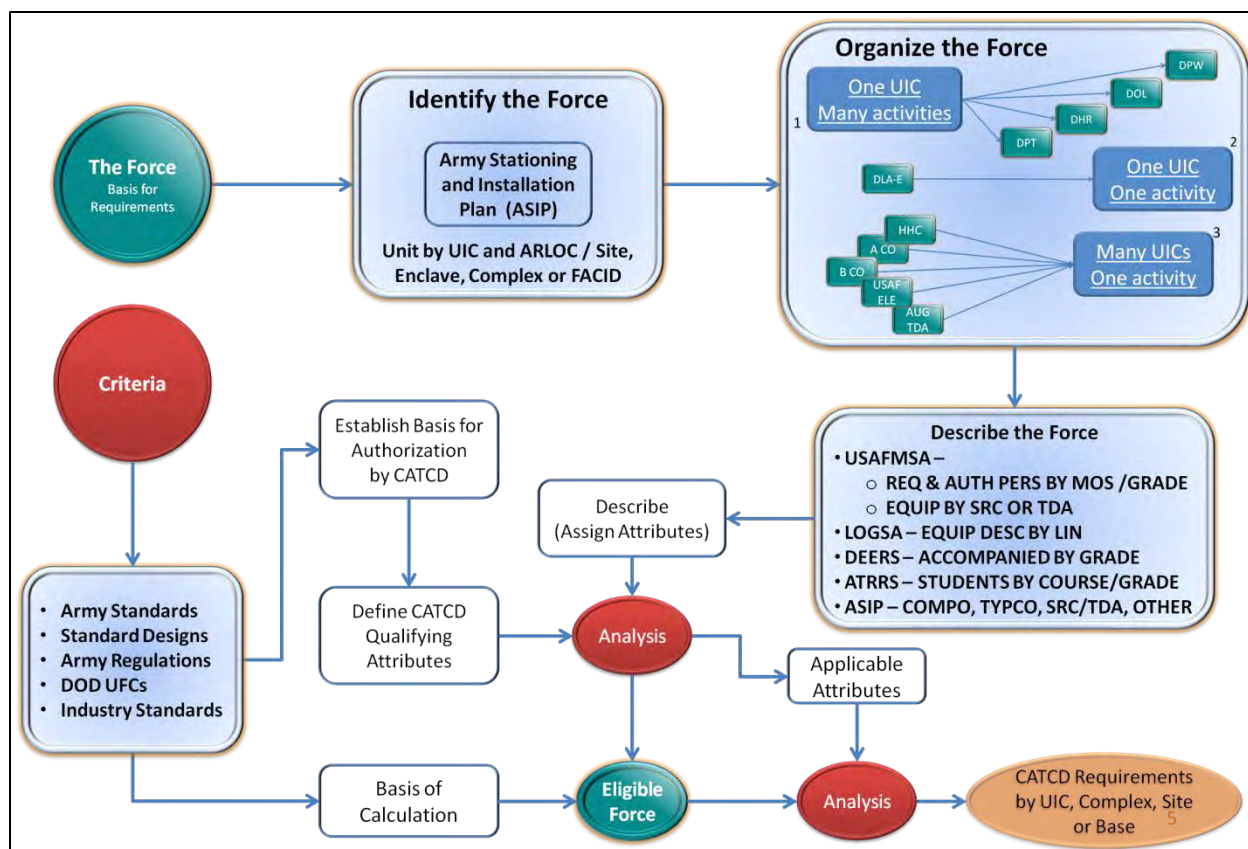
Defining the force has three parts: identify the force, organize the force, and describe the force.

Figure 6-2 shows an overview of the elements of the force.

***Principle:*** Know the force: the strength or population, equipment, missions, and units supported by the facilities.

*Defining the force in detail provides an objective foundation for determining requirements.*





ARLOC = Army location; SRC = Standard Required Code; USAFMSA = United States Army Force Management Support Agency; COMPO = Composition (Active or Reserve); TYP CO = Type of company (TDA or TOE); LIN = line item number; DEERS = Defense Enrollment Eligibility Reporting System; LOGSA = Logistics Support Agency; ATRRS = Army Training Requirements and Resources System

**Figure 6-2: The Elements of the Force**

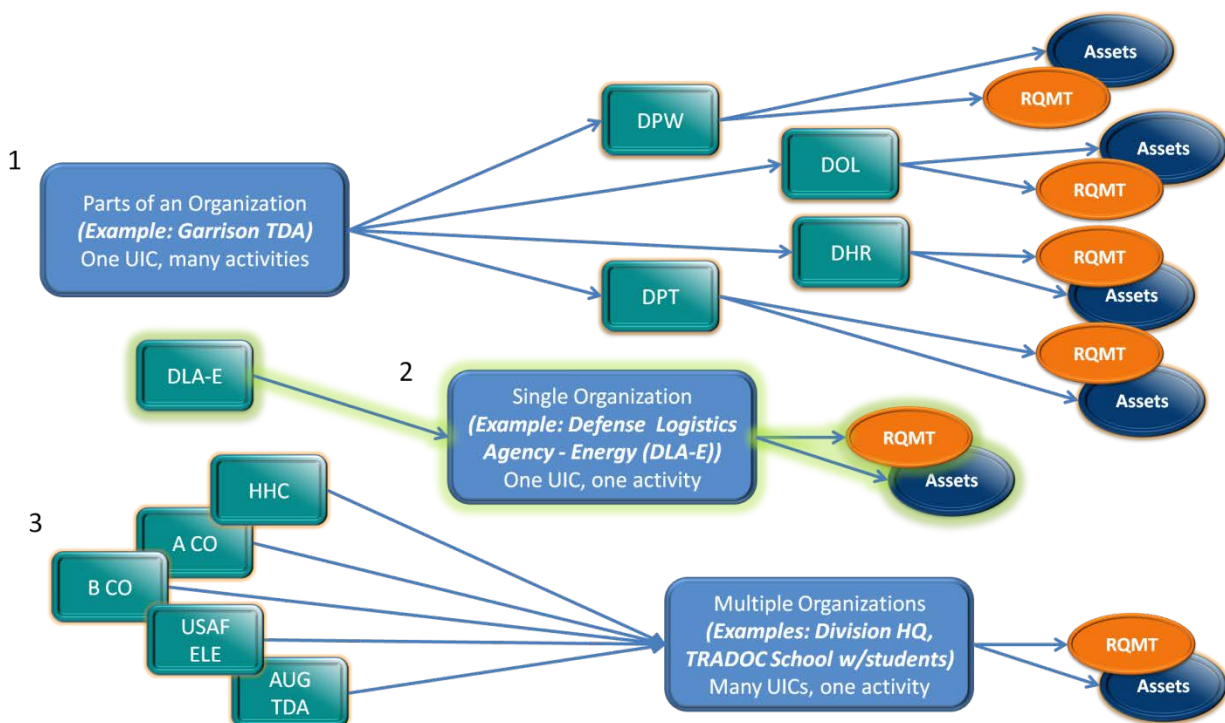
### 1. Identify the Force

To define the force, it is first necessary to **identify** the force. For an existing structure, this is done by UIC in the ASIP for each ASIP STACO. The ASIP uses the UIC for each Army organization and, when possible, the corresponding identifier for other service and DOD activities. For each UIC, the ASIP lists the projected population for seven years, broken out by officer, enlisted, U.S. civilian, and other civilians. U.S. civilians are DOD direct hires. Other civilians include local nationals, non-Appropriated Fund activity employees, Army and Air Force Exchange System (AAFES) employees, contractors, and other similar personnel who require some form of work space but are not entitled to other benefits on the basis of their employment status. In the process of identifying the force, the ASIP provides additional information that helps to organize and describe the force. Ultimately, it should be possible to link every activity that occupies space with a UIC in the ASIP. If the space planning process identifies organizations or activities that are not represented by an ASIP UIC, notify the garrison PAIO to initiate corrective action.

It is often necessary for a gaining installation to perform analysis on incoming units located at another installation. The procedures outlined here apply to these as well. The UICs of the relocating units should be in the ASIP at the losing installation, even though the move may not yet be captured in the ASIP. A search in the ASIP by UIC should produce the necessary information to initiate the analysis. In other cases, units may be restructuring or may be new to the Army structure. In such cases, the information necessary for planning may be available from PAIO, the Army Force Management System Web site (FMSWeb), or IMCOM. Coordination with the engineer staff of the appropriate ACOM may also prove helpful, but verify with IMCOM that direct coordination with the ACOM is authorized.

## 2. Organize the Force

Second, it is necessary to **organize** the force by aggregating for analysis the individual units and organizations with a distinct UIC in the ASIP that share facilities assigned to or under the control of a single commander or equivalent. In practice, this is the process of linking each UIC in the ASIP that requires space with the related UIC that manages the space it occupies. In principle, there are three cases that must be accommodated, as illustrated in Figure 6-3 and described below.



**Figure 6-3: Organize the Force**

Some organizations, such as garrisons and large TRADOC schools, have multiple elements represented by a single UIC at a single base that are assigned and manage their own share of the required facilities. For example, the Directorate of Public Works (DPW) operates from facilities related to its function, and the Directorate of Plans, Training, and Mobilization (DPTM) manages



facilities related to their/its function. In that case, there is one UIC for many management elements (see No. 1 in Figure 6-3). The division of facilities within an organization can often be tracked by the user extension associated with its UIC from HQIIS assets data in RPLANS.

The second case represents situations where a single UIC represents a single management element – a true one-to-one relationship.

The third case occurs when multiple UICs represent a single set of facility requirements. This includes cases, such as battalions, where RPLANS calculates allowances at the company level but the criteria policy specifies battalion-level facilities. It also includes cases where RPLANS looks at battalion-level attributes that are aggregated from the company level, as with tactical equipment maintenance facilities (TEMF). The ASIP provides some information to help identify relationships, including the Troop Program Sequence Number (TPSN), MAJCOM assignment, and more. However, the TPSN is of value for only a limited number of UICs, and applies exclusively to TOEs and some TDAs. MAJCOM is helpful only when all the UICs have the same assignment code. In other situations, such as division or corps headquarters, joint activities, or TDA activities with complex missions and embedded elements from other organizations, there may be no common data elements to confirm the relationships. Direct interaction with the units is the best way to verify relationships. One effective technique to accomplish this step is to export the ASIP into Excel and insert columns to add the organizational relationships. Figure 6-4 shows an excerpt of an ASIP with a hierarchy of command/parent/brigade/battalion added. The added column headings are highlighted in green in the figure.

UICCC	STACO	NAME	COMMAND	PARENT	BRIGADE	BATTALION	COMPC	TYPCO	CARSS	UNMBF	BRNCH	UNTD5
WC1NA1	22722	FORT POLK	CIDC	CID	6 MP GROUP	6 RGN	1	1		90	MP	DET CID ELMT
WDKVD6	22722	FORT POLK	FORSCOM	18th AIR CORP	704 MI BDE	308 MI BN	1	1		308	MI	BN MI BN (CIJ)(EAC) (3
WDKV1D	22722	FORT POLK	FORSCOM	18th AIR CORP	704 MI BDE	308 MI BN	1	2		308		AUG 308TH MI BN
WG4W9C	22722	FORT POLK	FORSCOM	USAMD	MEDDAC	HHC	1	2		1		AUG HHC MEDICAL BDE A
W00170	22722	FORT POLK	FORSCOM	18th AIR CORP	704 MI BDE	308 MI BN	1	3		704		BDE MI BDE
W0762C	22722	FORT POLK	IMCOM	CENTRAL RGN	GARRISON	USAG FT POLK	1	3		W076		OFC USAED, SOUTHWEST
W0DA60	22722	FORT POLK	AMC	ARMY SUST CMD	406th AFSB	POLK BLST	1	3		W0DA		CMD USA SUSTMT CMD
W0DA74	22722	FORT POLK	AMC	ARMY SUST CMD	406th AFSB	POLK BLST	1	3		W0DA		CMD USA SUSTMT CMD
W0DAW4	22722	FORT POLK	AMC	ARMY SUST CMD	406th AFSB	POLK BLST	1	3		W0DA		CMD USA SUSTMT CMD
W0GW23	22722	FORT POLK	AMC	ARMY SUST CMD	406th AFSB	POLK BLST	1	3		W0GW		HQ AMC
W0H986	22722	FORT POLK	AMC	AMCOM	AMCOM	AMCOM POLK	1	3		W0H9		AVIATION MISSILE CMD
W0KE35	22722	FORT POLK	IMCOM	CENTRAL RGN	GARRISON	USAG FT POLK	1	3		W0KE		AGY USA LEGAL SERVICE
W0VP65	22722	FORT POLK	TRADOC	TRADOC	CAC FT LEAV	CAC FT LEAV	1	3		W0VP		CTR USA CAC FT LEAV

**Figure 6-4: Hierarchy Added to ASIP**

The process of setting the hierarchy up the first time can be difficult and time consuming. Assistance from the PAIO and units is essential to ensure accuracy. Once established, it is easy to maintain when updated concurrently with the quarterly ASIP updates. Once the hierarchy is fully populated, it is possible to produce a complete major-unit ASIP for the installation.

Figure 6-5 is an extract illustrating a portion of the view users can create using the Pivot Table functionality that is built into Excel.

	A	B	C	D	E	F
3	COMMAND	PARENT	BRIGADE	BATTALION	UICC - UNIT DISPLAY	Sum of TOT FY19
270	MEDCOM					1,377
271		CHPPM				15
272			CHPPM-WEST			15
273				CHPPM-LA BRANCH		15
274				W03HEA - USA CHPPM		15
275		USAMD				1,362
276			MEDDAC			1,288
277				MEDDAC FT POLK		1,164
278				!2NK01 - OTHER ACTIVS		234
279				@2NK00 - CONTRACTORS		62
280				W2NKAA - ACT USA MEDDAC FT POL		855
281				W2NKNA - ACT USA MEDDAC FT POL		13
282				WTU		124
283				!0VF20 - DOD AGY		124
284			VET CMD			74
285				VET CMD		74
286				W3ZT90 - CMD USA SE RGN DENTAL		74
287	TRADOC					62

Figure 6-5: Major Unit Pivot Table Extract

### 3. Describe the Force

**Describing** the force involves extracting those attributes of units, organizations, and populations relevant to criteria, and using them to populate algorithms. **Facility criteria** indicate the information or attributes that are relevant in **describing** the force for each facility category. In principle, criteria look at functional and operational requirements of various uses or users and describe the functional areas and functional capabilities necessary to satisfy the requirement in an Army Standard or other criteria document. The factors that determine the basis for calculation also form the basis for determining functional **adequacy**.

The “**Describe the Force**” process entails identifying or deriving attributes relevant to criteria about each UIC in the ASIP. Moreover, describing the force involves determining which attributes are qualifying attributes for one or more categories existing within the unit represented by that UIC and, when present, capturing the value of those attributes.

Because attributes depend on a wide range of external factors, such as marriage rates, location, programs of instruction, and others, developing attributes is a complex process. RPLANS is the primary tool for identifying and displaying attributes. The attributes report in RPLANS will show the attributes for each UIC, complex, site, and base. Figure 6-1 shows the menu path to obtain an attributes report. Figure 6-6 is an extract from a sample attributes report.










Attributes Report			
<div>  <input type="text"/> <input type="button" value="Go"/> Reports <span>1. Base Attributes 2017</span> <input type="button" value="Actions"/> </div>			
<div> <div>  Saved Report = "Base Attributes 2017" </div> <div>  Attribute Type not like '-' </div> <div>  FY contains 2017 </div> <div>  FY </div> </div> <div> <input checked="" type="checkbox"/>     </div>			
FY : <span>2017</span>			
Location Name	Attribute Type	Attribute Name	Attribute Value
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	COMPO	1
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Command Assignment	FC
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Organization Type	3
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Service	A
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Station Code	22722
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Type Code	2
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Force Structure	Unit Package Identification Designator	AUG HHC MEDICAL BDE A
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Company Grade Officer Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	E1-E4 Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	E5 Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	E6 Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	E7-E9 Authorized Strength	1
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Field Grade Officer Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	General Officer Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Number of Administrative Personnel	1
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Number of Other Civilians	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Number of US Direct Hires	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Senior Officer Authorized Strength	0
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Unaccompanied Rate Company Grade Officer	39
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Unaccompanied Rate E1-E4	52
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Unaccompanied Rate E5	23
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Unaccompanied Rate E6	19
0001 AUG HHC MEDICAL BDE A, RETENTION DET 9C	Personnel	Unaccompanied Rate E7-E9	17

Figure 6-6: Attributes Report Extract

At this point, the attributes for each element of the force are compared with the **qualifying attributes** identified by the criteria for each facility category as the **basis for authorization** to identify the eligible force, which is the segments of the force that possess the qualifying attributes for each facility category.

The **basis for calculation** is then applied to the available attributes of the **eligible force** to determine the **baseline facility requirement**. It is important to realize that the qualifying attributes are not necessarily those used to apply the basis for calculation. For example, the qualifying attributes for a BN HQ are the presence of a commander in the grade of Lieutenant Colonel, and the presence of a Command Sergeant Major, but the applicable attribute for the calculation methodology is the number of authorized personnel on the battalion staff.

This process is repeated for each segment of the force until all segments and all facility categories have been considered.

## **B. Components of the Force**

The force consists of three major components: Army units and organizations, tenants-other-than-Army, and supported populations. Army organizations and tenants-other-than-Army should be listed in the ASIP with a unique UIC. The General Help section in the ASIP provides a useful introduction to UICs and related terms.

Some elements of the supported population may be identified in the ASIP. However, this also includes family members, retirees, and other personnel eligible for Army services and benefits that live in a defined catchment area around an installation. Some of these supported populations are reported in ASIP, but others are calculated in RPLANS using business rules and data about marriage rates within the military population.

### **1. Army Units and Organizations**

Army units and organizations are divided into two primary categories, TOE entities and TDA entities.

TOE units are composed entirely of Soldiers. There are many different types of TOE units, but there are usually multiple occurrences of each type. For example, there are many infantry battalions that have the exact same structure. TOE units may be active (COMPO 1), Army National Guard (COMPO 2), or Army Reserve (COMPO3). The National Guard and Army Reserve units are often referred to collectively as Reserve Component (RC) units.

Each TDA organization is unique and has been “built” to perform a specific mission or function. TDAs may consist of a combination of Soldiers, Army civilians, and contractors. There are some RC TDA organizations, but they are the exception.

UICs for Army units and organizations consist of six characters. With only minor exceptions, UICs begin with the letter “W,” followed by five additional characters. TOE unit UICs begin with the letter “W” and another letter of the alphabet. TDA organization UICs begin with the letter “W” followed by a number. Army UICs do not use the letters “I” and “O,” to avoid confusing them with “1” and “0.”<sup>2</sup>

A UIC that ends with the letters “AA” is a parent. Any UIC that begins with the same four characters is a subordinate element of that parent. Some TOE units, normally at brigade level or higher, have requirements for civilians to support operations in a garrison setting. As noted above, TOE units do not have civilians in their authorization document. The authorization for these positions is normally reflected in a document called an augmentation TDA. An augmentation TDA begins with the first four characters of the TOE parent and ends with the number, normally “99.” This information can be useful in grouping units that share facilities. In

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<sup>2</sup> As an exception to this rule, some ASIP UICs use “I” and “O.” The letter “I” is the first letter in student UICs in the ASIP. Subsection VI.b. in this chapter provides additional information about student UICs. The letter “O” is sometimes used for elements of the National Guard to reflect state affiliation.

the third case illustrated in Figure 6-3, above, all of the elements except the Air Force could have UICs that began with the same four characters.

Each TOE or TDA unit or organization has an authorization document that outlines the number of personnel it is authorized, as well as the types and quantities of equipment it is authorized. The authorization documents can be obtained from the unit, from the PAIO, or directly from FMSWeb.<sup>3</sup>

## **2. Tenants-Other-Than-Army**

The term “tenants-other-than-Army” (TOTA) covers a wide range of organizations and may include other service units, DOD activities, other government agencies, joint activities, personnel, contractors, state and local government entities, private organizations, military student populations, and public schools that support on-post families and transient populations. Other military services have documents that correspond to TOEs or TDAs that can be helpful in understanding their requirements.

Some of these activities are authorized facilities support only on a space-available basis. In addition to the ASIP, there should be an interservice support agreement, a contract, a real estate agreement or a combination of these that document the type of facilities to be provided and the conditions for their use. Support agreements should be on file in the installation resource management office. Real estate agreements should be available through real property. The PAIO is a good source of information on TOTA.

UICs for TOTA vary depending on the type of tenant. Other service or DOD UICs typically begin with “F” for Air Force, “N” for Navy, “M” for Marine Corps, “C” for Coast Guard, or “D” for such DOD activities as the Defense Logistics Agency (DLA). In some cases, other service UICs may consist of as few as four characters. Business rules govern the creation of ASIP UICs for organizations or populations that do not have their own UIC system. For example, contractors have a UIC that begins with “@,” followed by the second, third, and fourth characters from the UIC of the supported activity. The UIC “@12K01” would be a contractor supporting the TDA W12KAA. The “General Help” section of ASIP provides detailed rules for UICs for TOTA.

## **3. Supported Populations**

Many installations have the mission of providing services to units and personnel in the region that are not residents of the installation. This may include RC Soldiers, military personnel such as recruiters, ROTC instructors, and liaisons to other government agencies or to industry. It may also include mobilizing reservists, retirees, and transient personnel. Information about some of these populations may be contained in ASIP. Organizations that support these populations can usually provide more information about the workload they generate.

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<sup>3</sup> FMSWeb access requires users to have a common access card (CAC) and a secret clearance.



### C. Identify Facility Allowances

The second step related to the force in the space planning process is to identify facility allowances.

RPLANS generates allowances at the UIC level for many facility categories. The Category Code Characteristics data under the Help menu in RPLANS provides the calculation level or levels for each facility category. Use the Space Planning Criteria (SPC) from RPLANS and the discussions in Appendix F to determine whether the allowances in RPLANS adequately address requirements, or if an edited requirement is appropriate.

Programmatic allowances calculated by RPLANS are neither entitlements nor exclusions. When the unit personnel, equipment, or mission meets the established criteria, the lack of an allowance in RPLANS does not preclude an activity from having a requirement when the activity has a mission to perform.

Similarly, the fact that an activity has an allowance does not automatically translate to a requirement. When activities have allowances, confirm the population or strength, equipment, and/or missions the allowance assumes actually exist.

RPLANS users can identify allowances either by facility category or by location. Figure 6-7 illustrates the results of drilling down from a summary TAB in RPLANS. Figure 6-8 illustrates a Selected Locations TAB – TAB by Unit.

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FY : 2018

Base Name	Category Code	Category Code Description	UM	Perm Asset	Pgm Constr	All Perm Asset	Allow
↓ FORT DRUM	14110	AFLD OPS BLDG	SF	16,921	0	16,921	5,300
↓ FORT DRUM	14112	AVN UNIT OPS	SF	26,938	0	26,938	47,412
↓ FORT DRUM	14114	CIDC FLD OPS BD	SF	8,098	0	8,098	17,982
↓ FORT DRUM	14129	TNG AIDS CTR	SF	81,000	71,856	152,856	30,082
↓ FORT DRUM	14182	BDE HQ BLDG	SF	88,538	40,020	128,558	175,300
↓ FORT DRUM	14183	BN HQ BLDG	SF	332,249	21,147	353,396	367,600
↓ FORT DRUM	14184	BN HQ BLDG TT	SF	11,237	11,215	22,452	35,375
↓ FORT DRUM	14185	CO HQ BLDG	SF	1,127,706	49,962	1,184,756	1,627,640

Catcode : 14182, UM : SF

FY	Source Level	Source	Allowance
2018	UNIT	WBDAAA - 02/0010 IN HHC HQ, INF BDE CMBT	34,400
2018	UNIT	WD8YAA - 01/0010 IN HQ HQ, INF BDE CMBT T	34,400
2018	UNIT	X06224 - FA HHB, FIB	34,400
2018	UNIT	WE7VAA - 0010 AV HHC, COMBAT AVN BD	34,400
2018	UNIT	WD8ZAA - 0010 CS HHC SUSTAINMENT BRIGA	37,700

1 - 5

Select the allowance to drill down to unit level allowances for brigade HQ

Figure 6-7: Getting to Unit Allowances from a Base Level TAB

**Selected Locations Tab**

Date: 1/25/2014

TAB by BASE   TAB by SITE   TAB by CPLX   **TAB by UNIT**

Go   Actions

☒ Base Name contains 'FORT DRUM'   ☒ ☒  
☒ Current Use CATCODE contains '14182'   ☒ ☒  
☒ FY contains 2018   ☒ ☒  
☒ Remove Zero Records   ☒ ☒  
☐ Accountable Org Name   ☒ ☒  
☐ Accountable Sub Org Name   ☒ ☒  
☐ Base Name   ☒ ☒  
☐ FY   ☒ ☒

1 - 5

Accountable Org Name : **INSTALLATION MANAGEMENT COMMAND**   Accountable Sub Org Name : **ATLANTIC RE**

UIC	Unit Name	Current Use CATCODE	Category Code Description	UM	All Perm Asset	Allow
WBDAAA	02/0010 IN HHC HQ, INF BDE CMBT	14182	BDE HQ BLDG	SF	0	34,400
WD8YAA	01/0010 IN HQ HQ, INF BDE CMBT T	14182	BDE HQ BLDG	SF	0	34,400
WD8ZAA	0010 CS HHC SUSTAINMENT BRIGA	14182	BDE HQ BLDG	SF	0	37,700
WE7VAA	0010 AV HHC , COMBAT AVN BD	14182	BDE HQ BLDG	SF	0	34,400
X06224	FA HHB , FIB	14182	BDE HQ BLDG	SF	0	34,400

Figure 6-8: TAB by Location - Unit TAB

### D. Compare Actual Structure with Allowance Assumptions

Third, compare the actual structure, population, or mission with the assumptions behind the allowance. Subsection VII of this chapter provides an example. At times, TOE units that have distinct UICs in RPLANS may be combined on a single MTOE. This is normally the case with maneuver branch units such as infantry, artillery, armor, or aviation. In other cases, UICs may be broken out to document different parts of a single organization that share facilities. There are also cases where separate companies and detachments have to be aligned under a battalion and their attributes aggregated to generate a requirement for certain types of facilities, such as a TEMF. The ASIP and RPLANS do not always capture these relationships. The goal is to identify all the UICs in the ASIP that represent a single facility requirement on the ground so they can be analyzed as a whole.

### E. Apply Criteria to Determine Requirements

Finally, apply criteria to the unit's allowances to determine requirements.

**Principle:** Adhere to Army criteria and guidelines in developing requirements.

The application of the process varies for each of the situations that trigger a requirements analysis. Subsections III through V apply this process to each of the three major types of space planning triggers.

If the RPLANS calculation methodology does not interpret the needs of the activity for some special circumstance, the space planning task will include calculating the requirements manually based on the population or strength, equipment, and /or mission.

***Principle:*** *Know the force: the strength or population, equipment, missions, and units.*

Here is where the principle of "knowing the force" is critical: In cases where RPLANS does not generate an allowance but a unit claims a requirement, use subparagraph C.2., Requirements Calculations, in the facility category discussions in Appendix F to validate the basis for a requirement, and calculate the requirements for that activity manually.

For example, RPLANS calculates allowances for CATCD 14185, Company Headquarters Building, for TOEs that identify the unit as a company. Lacking this, RPLANS will also identify units with a commander and first sergeant as a company if they have certain additional functions such as operations, supply/armorer, chemical, biological, radiological, and nuclear (CBRN), maintenance, food service, and communications on the unit document. There are, however, units that don't meet these screening criteria that nevertheless have missions and authorized staffing that suggest that a COF is appropriate. Subsection VII, Force Example, contains an illustration of this.

### III. UNIT-FOCUSED REQUIREMENTS ANALYSIS

A new unit, a change in unit structure or mission, or a major reorganization leads to a unit-focused requirements analysis.

#### A. Define the Force

Determine the eligible strength or population for unit-level facilities by identifying the appropriate UIC or UICs in the ASIP and obtaining the corresponding authorization documents. The FMSWeb has TOE information for military units and TDA information for other organizations.

The installation PAIO that maintains the ASIP, or the Force Modernization staff, can provide TOE and TDA files from FMSWeb. Planners at installations with large troop concentrations or multiple TDA organizations may find it beneficial to have direct access to FMSWeb.



### 1. Using ASIP for a Unit-Focused Analysis

ASIP is the official database of record that documents Army-authorized strengths and populations. The goal of ASIP is to document everyone who works for the Army, regardless of where they are in the world. ASIP also reports all other tenants on Army installations under the TOTA category. TOTA examples include contractors, other services, other government agencies, and private organizations.

The ASIP unit strengths reflect the authorized strength. ASIP documents authorized positions for Army TDA and TOE units anywhere in the world, and for reported TOTA on Army installations.

***Note:** The ASIP unit strengths reflect the authorized strength for Army TDA and TOE units, as well as reported tenants-other-than-Army.*

The ASIP provides authorized strengths by UIC. For unit-level facilities, determine whether the organization is a TOE unit, a TDA organization, or a non-Army tenant. Determine the UIC or UICs for the units, organizations, or activities that will use the facilities.

Use the ASIP to develop a preliminary list of UICs and their authorized strengths according to E-date (E-date is the date upon which the authorized strength is effective). A UIC may have more than one E-date. The ASIP has an E-Date detail report that lists known changes. Use the current E-date for planning or stationing, and the E-date chronologically furthest out for programming.

### 2. Verify the Strength or Population

Verify the strength or population data of standard manning documents with the parent organization of the unit or units involved to account for any unit-unique circumstances. Determine whether there are contractors, augmentation TDAs, or other non-TOE elements that require space with the parent unit.

The PAIO is able to provide assistance in gathering information for stationing actions involving units not currently at the installation. The PAIO is also able to assist in identifying non-Army tenants and associating them with their organizational parent, if they have one.

### 3. Stationing Scenario

For example, in a stationing scenario, IMCOM might ask a planner if their installation could provide space for the 14th Transportation Battalion (Movement Control), UIC WA5CAA. Table 6-1 lists the unit composition for the 14th Transportation Battalion.

Include all of the elements of a unit in a requirements analysis. Analysis based only on WA5CAA would miss more than half the population associated with the unit.

<b>Table 6-1: Sample Unit Composition-14th Transportation Battalion (Movement Control)</b>				
<b>MAJOR UNIT</b>	<b>UIC AND DESCRIPTION</b>	<b>MIL</b>	<b>TOT CIV</b>	<b>TOT POP</b>
14th Trans	WA5CAA HHD, MVT CTL BN (E)	54	0	54
	WA5CIE AUG TC DET AUG	0	3	3
	WA5CIF HHD, MVT CTL BN (E)	5	0	5
	WA5C99 AUG TC DET AUG	0	10	10
	WC8NAA DET Movement Control	21	0	21
	WDB6AA DET Movement Control	21	0	21
	<b>Total</b>	<b>101</b>	<b>13</b>	<b>114</b>

For TOE units, organizations, or activities, obtain TOE data from the unit or from FMSWeb. For TDA organizations, obtain the current TDA from FMSWeb. For other service or DOD activities, request manning documents from the human resources or force structure representative of the activity. For non-Army tenants, it may be necessary to conduct detailed interviews to obtain information on authorized strengths and organizational structure.

Organizational charts or diagrams are valuable tools for understanding the facility requirements of tenant activities. Request them from the unit or organization. In many cases, information about how units are organized is available on the Internet. This can be helpful during preliminary data gathering, but always verify the information with the unit.

Using the information gathered, develop unit summaries, including an organization chart to company level for TOE units, or branch level for TDA organizations. From these, develop an organizational diagram or chart. For units already stationed at an installation, contact the unit to verify or correct the resulting unit organizational chart.

## **B. Identify Facility Allowances**

RPLANS provides allowances by UIC for Army units and organizations based on TOE or TDA information. It also provides allowances by TOE for units located elsewhere. TAB reports will list the category codes for the categories a unit or organization normally requires, along with the criteria-standard allowance.

For TOTA, RPLANS does not have access to staffing document levels of detail. RPLANS uses other planning factors or attributes to assign allowances for these activities. Consequently, it is necessary to verify the nature of the missions and develop preliminary allowances based on the category discussion in Appendix F.

Figure 6-9 is an example from RPLANS of unit allowances for a Reconnaissance and Surveillance Squadron (or Battalion) of a Brigade Combat Team.

1 - 8

FY : 2018

<u>UIC</u>	<u>Unit Name</u>	<u>Category Code</u>	<u>Category Code Description</u>	<u>UM</u>	<u>Allow</u>	<u>Rqmt</u>
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	14183	BN HQ BLDG	SF	13,700	15,100
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	14185	CO HQ BLDG	SF	45,800	45,800
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	17119	ORG CLASSROOM	SF	4,400	4,400
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	21115	TUAV HANGAR	SF	1,800	1,800
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	21410	VEH MAINT SHOP	SF	57,031	57,031
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	21470	OIL STR BLDG	SF	480	480
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	44224	ORG STR BLDG	SF	350	350
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN	85210	ORG PARK PAVED	SY	9,548	9,548

1 - 8

**Figure 6-9: Reconnaissance Squadron Allowance**

The squadron has a headquarters troop (company) and three reconnaissance and surveillance troops that receive additional allowances at company level. The following table shows these allowances for one of the troops. It is necessary to combine the allowances for all of the companies with the battalion-level allowances to get the full picture.

1 - 3

FY : 2018

<u>UIC</u>	<u>Unit Name</u>	<u>Category Code</u>	<u>Category Code Description</u>	<u>UM</u>	<u>Allow</u>	<u>Rqmt</u>
WJRWA0	03/0038 AR SQ RECON & SURVEILLAN, TRP A	44224	ORG STR BLDG	SF	700	700
WJRWA0	03/0038 AR SQ RECON & SURVEILLAN, TRP A	72111	ENLISTED UPH	SF	6,222	6,222
WJRWA0	03/0038 AR SQ RECON & SURVEILLAN, TRP A	72111	ENLISTED UPH	SP	17	17

1 - 3

**Figure 6-10: A Troop, Reconnaissance Squadron Allowances**

In this case, the procedure would have to be repeated for each company, and then the data for all of the companies would have to be consolidated. The same information can be obtained from RPLANS by using the Selected Locations TAB/TAB by Unit and filtering on the first four characters of the UIC. Figure 6-11 provides an illustration of the result of this technique.

TAB by BASE   TAB by SITE   TAB by CPLX   **TAB by UNIT**

Go   Actions

☐ FY contains 2019 ☒ ☒  
☐ UIC contains 'wjrw' ☒ ☒  
☐ Remove Zero Records ☒ ☒  
☒ Accountable Org Name ☒ ☒  
☒ Accountable Sub Org Name ☒ ☒  
☒ Base Name ☒ ☒  
☒ FY ☒ ☒

1 - 18

Accountable Org Name : **INSTALLATION MANAGEMENT COMMAND**, Accountable Sub Org Name : **CENTRAL REGION**, Base Name : **JBLM-LEWIS MAIN**, FY : **2019**

UIC	Unit Name	Current Use CATCODE	Category Code Description	UM	Allow	Rqmt
WJRWAA	03/0038 IN SQ LRS CO, RECONN & S	14183	BN HQ BLDG	SF	0	15,100
WJRWAA	03/0038 IN SQ LRS CO, RECONN & S	14185	CO HQ BLDG	SF	45,800	45,800
WJRWAA	03/0038 IN SQ LRS CO, RECONN & S	21470	OIL STR BLDG	SF	720	720
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN, TRP A	44224	ORG STR BLDG	SF	700	700
WJRWAA	03/0038 IN SQ LRS CO, RECONN & S	44224	ORG STR BLDG	SF	350	350
WJRWB0	03/0038 AR SQ RECON & SURVEILLAN, TRP B	44224	ORG STR BLDG	SF	700	700
WJRWCO	03/0038 AR SQ RECON & SURVEILLAN, TRP C	44224	ORG STR BLDG	SF	1,400	1,400
WJRWTO	03/0038 AR SQ RECON & SURVEILLAN, HHT	44224	ORG STR BLDG	SF	2,450	2,450
WJRWNA	C/0038 IN CO LRS CO, RECON & SU, C 38 IN CO LRS CO RECON & SU ( NONADD )	61050	ADMIN GEN PURP	SF	324	324
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN, TRP A	72111	ENLISTED UPH	SF	6,222	6,222
WJRWB0	03/0038 AR SQ RECON & SURVEILLAN, TRP B	72111	ENLISTED UPH	SF	6,222	6,222
WJRWCO	03/0038 AR SQ RECON & SURVEILLAN, TRP C	72111	ENLISTED UPH	SF	19,032	19,032
WJRWTO	03/0038 AR SQ RECON & SURVEILLAN, HHT	72111	ENLISTED UPH	SF	8,784	8,784
WJRWAA	03/0038 AR SQ RECON & SURVEILLAN, TRP A	72111	ENLISTED UPH	SP	17	17
WJRWB0	03/0038 AR SQ RECON & SURVEILLAN, TRP B	72111	ENLISTED UPH	SP	17	17
WJRWCO	03/0038 AR SQ RECON & SURVEILLAN, TRP C	72111	ENLISTED UPH	SP	52	52
WJRWTO	03/0038 AR SQ RECON & SURVEILLAN, HHT	72111	ENLISTED UPH	SP	24	24
WJRWAA	03/0038 IN SQ LRS CO, RECONN & S	85210	ORG PARK PAVED	SY	9,548	9,548

Figure 6-11: Unit Allowances for a TOE Battalion

### C. Compare Actual Structure to Allowance Assumptions

Facility allowances are not entitlements to space, but they provide an effective starting point for determining a requirement. RPLANS bases allowances on new-construction standards.

Especially for TOE units, the Army has standards or Standard Designs that convert area or capacity into block diagrams or floor plans. The standards or Standard Design will often provide the minimum net area required for each functional area.

The Army Standards and Standard Designs are on the Web at the Army COS site, <http://mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx>. Appendix F, where appropriate, provides a functional adequacy matrix for those categories with Standard Designs. In some cases, the category discussion details in Appendix F provide tables showing the net areas associated with each functional area.

Allowances and requirements are not always the sum of the parts. In some cases, it is necessary to combine attributes from more than one company to get a true requirement.

**Note:** Allowances and requirements are not always the sum of the parts.

**Note:** Often, the best strategy is to provide existing facilities to smaller units, and program requirements for larger units.

### 1. TOE Units and Organizations

Review the algorithms for all facilities on the allowance list, and note the assumptions behind the allowance. Use the category discussion from Appendix F to identify the planning factors that trigger the allowance, and verify that the organization has an authorization for the factors that would drive a requirement.

RPLANS calculates allowances by UIC or TOE number based on the OTOE. The actual authorization for people and equipment is in an MTOE. A comparison of these two documents may reveal differences that affect requirements. One battalion had an attribute value of 121 for battalion staff but had an ASIP population of only 58. That difference significantly lowers the battalion's requirements for a BN HQ/COF.

***Note:** Check discrepancies between OTOE and MTOE for factors that determine the area or capacity the allowance represents.*

*The organization's structure may lead to a requirement that is the same as the allowance, or one that is either greater than or less than the allowance.*

### 2. TDA Organizations

TDA organizations present a greater challenge. Many are dispersed across multiple locations. For example, the U.S. Army Trial Defense Agency (UIC W0KEAA) has more than 450 authorized personnel at more than 50 locations worldwide. Other TDAs have industrial missions where customer demands drive requirements and workloads vary significantly.

In other cases, multiple TDAs may occupy the same space because they interact on a regular basis. This is especially true within the Army Materiel Command (AMC). TDA activities often have large numbers of contractors, and many have other service or other federal agency elements that work within their space, as well. In some cases, AMC has organizations that consist of both TOE and TDA elements that do not follow the augmentation TDA model; examples occur within the Army Sustainment Command and the Mission and Installation Contracting Command.

Preparing a unit composition table similar to Table 6-1, above, that aggregates the organization, including all non-TDA elements, is more challenging for TDA organizations than it is for TOE units and organizations, but for that reason doing so is vitally important to a correct and comprehensive requirements analysis.

***Note:** Preparing a unit composition table is very important to effective requirements analysis.*

### 3. Tenants-Other-Than-Army

ASIP provides only installation-reported strength or population for TOTA. ASIP displays the authorized strength for officers, warrant officers, enlisted personnel, U.S. Direct Hire (USD)

civilians, and other civilians. This includes all employees of the federal government who are U.S. citizens hired with Appropriated Funds.

All civilian personnel not meeting these criteria are “Other Civilians.” Non-Appropriated Fund (NAF) civilians, local nationals filling positions in TDA and TDA Augmentations to MTOE in foreign countries, and state and local government employees count as Other Civilians.

Direct interviews with TOTA are essential to obtain the necessary information to determine facility requirements. In principle, such tenants should have some type of manning document that reflects their organizational structure and tells what their authorized strength is.

It is possible to obtain authorization documents from the Air Force and Navy, but it is important to ask in their language. Air Force UICs in ASIP normally begin with the letter “F.” Air Force units have a Unit Manning Document (UMD); the Air Force refers to a UIC as a Personnel Authorization Symbol (PAS). Navy UICs in ASIP normally begin with the letter “N.” The Navy refers to its UICs by the same term, but while the Army community generally pronounces the acronym with one syllable per letter, the Navy generally pronounces the acronym as a two-syllable word with a long “U” and a hard “C.” Its manning documents come from the Total Force Manpower Management System (TFMMS). In practice, these organizations may be reluctant to share this information. Apply the information in Appendix F to these organizations on the same basis as for Army activities or organizations.

#### **4. Stationing Scenarios**

The Army frequently considers stationing scenarios involving units or organizations not included in the ASIP. Use ASIP or RPLANS to identify the current location of the unit if the move scenario involves existing units. When the unit or organization is not in ASIP, use the TOE number in FMSWeb to find the unit or a like organization to use as a proxy. Use the proxy unit or organization as the basis for determining requirements consistent with the process for either TOE or TDA organizations.

#### **D. Apply Criteria to Determine Requirements**

The final step in the requirements process is to apply the criteria for each facility category to the actual unit structure.

Use the planning subparagraph (C.) from the detailed facility category discussion in Appendix F as a guide. Where Standard Designs apply, using the design as an interview tool can be an effective technique. Show the potential user the applicable diagram from Appendix F. Explain that the drawing represents the new-construction solution for their unit. Ask them, “If you had a facility like this, would it satisfy your requirements?” An affirmative answer brackets the requirement. If the user replies in the negative, ask for specific examples of the outstanding issues.

*Principle: Encourage users to participate.*

Develop requirements by functional area. Apply the unit of measure that relates to utilization metrics when they are available. One technique that can help in developing these requirements is to interview the tenant using that organization's own manning documents and classifying each position or paragraph by general functional area, mission functional area, or space not required. An example of the latter case would be personnel who work in a UPH DFAC (CATCD 72210). While they work in a space, the size of the space is determined by the intended seating capacity and facility throughput, not the number of personnel involved in providing food service. Positions identified as general functional areas may generate an Administrative Building, General Purpose (CATCD 61050) in RPLANS but represent personnel working in general functional areas that are part of another facility category, such as a research laboratory. If the laboratory has adequate space in general functional areas to satisfy the mission, and does not meet the criteria for dividing out separate category codes as described in Chapter 3, the requirement for administrative space can be reduced or set to zero, as appropriate.

## IV. POPULATION- OR MISSION-FOCUSED ANALYSIS

For other-than-unit-level facilities, determine the eligible population or the mission drivers by reviewing the basis for allowance for the category in Appendix F. The basis for allowance information contained in the criteria paragraph (B.) of the facility category discussions identifies the eligible population or missions.

For an established installation, this type of analysis is most likely to occur as a result of a change in policy, criterion, mission, or a user request.

### A. Identify Eligible Population or Supported Mission

For other-than-unit facility categories, determine whether the RPLANS methodology is at complex, site, or base level. Criteria for most other-than-unit facility categories are based either on population (community facilities), or mission (operational facilities such as airfield support). Some are based on a combination of population and mission attributes.

For **population-driven** facilities, the eligible population varies depending on the facility category. It may be all military personnel; military personnel and dependents, or a percentage of dependents; military personnel, dependents, and U.S. civilians; or other similar groups of people. The facility category descriptions in Appendix F define the eligible population for these types of facilities.

Use RPLANS or ASIP to identify military and civilian populations. Consult the installation proponent for the facility category. For example, family programs and Morale, Welfare, and



Recreation (MWR) facilities normally fall under the purview of the director of Family and Morale, Welfare, and Recreation Programs (DIR FMWR) on the garrison staff. This oversight includes programs such as NAF support, child and youth services, recreation programs, arts and crafts, library services, outdoor recreation, sports programs, ACS, family advocacy programs, financial readiness, volunteer programs, exceptional family member programs, and the SFAC.

Chapels provide a simple example of a population-driven algorithm. The criteria identify the presence of a garrison as the basis for authorization, and military population plus military dependents in CONUS as the basis for calculation.<sup>4</sup> Figure 6-12 is an extract of the base attribute report<sup>5</sup> that shows that a garrison is present and provides military population and military dependents.

<u>Location Name</u>	<u>Attribute Type</u>	<u>Attribute Name</u>	<u>Attribute Value</u>
FORT RILEY	Cost	Sustainment Area Cost Factor	1.03
FORT RILEY	Force Structure	Has Garrison	1
FORT RILEY	Force Structure	Has Medical Organization	1
FORT RILEY	Personnel	Number of Chaplains	38
FORT RILEY	Personnel	Number of Family Life Chaplains	1
FORT RILEY	Personnel	Number of Other Civilians	2643
FORT RILEY	Personnel	Number of US Direct Hires	2783
FORT RILEY	Population	Military Population	16774
FORT RILEY	Population	Nr of Unaccompanied Enlisted Personnel	5294
FORT RILEY	Population	Number of Installation Signal Personnel	68
FORT RILEY	Population	Number of Military Dependents	26139
FORT RILEY	Population	Number of PCS Enlisted Students	6
FORT RILEY	Population	Number of Permanent Party Military	16391
FORT RILEY	Population	Number of Permanent Party Other Civilians	2017
FORT RILEY	Population	Number of Permanent Party US Direct Hire	2782

**Figure 6-12: Attribute Report Extract**

For mission-driven facilities, coordinate with the proponent staff at the installation. For example, training facilities and ranges normally fall under the DPTM or equivalent staff. It will have records of units and organizations from outside the installation that use the facilities.

<sup>4</sup> There are additional provisions, omitted here, for initial entry training posts and OCONUS locations.

<sup>5</sup> The attributes report is available in RPLANS interactive reports by highlighting the desired base, site, complex, or UIC in the hierarchy and selecting Reports/Installation Reports/Analysis/Attributes from the RPLANS menu.



## B. Identify Facility Allowances

Use RPLANS to determine the allowance, and review the basis for the allowance in the RPLANS SPC. For facilities where the RPLANS algorithm is “allowance equals assets,” review the criteria in Appendix F for the facility category.

For facility categories with algorithms in RPLANS, view the allowance in the summary TAB at the appropriate level. Continuing with the example from the previous paragraph, the TAB extract in Figure 6-13 shows an allowance for chapels of 110,500 GSF.

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	<u>Base Name</u>	<u>Category Code</u>	<u>Category Code Description</u>	<u>UM</u>	<u>Perm Asset</u>	<u>Pgm Constr</u>	<u>All Perm Asset</u>	<u>Allow</u>	<u>Rqmt</u>
↓	FORT RILEY	73010	FIRE STATION	SF	22,183	0	22,183	22,183	32,000
↓	FORT RILEY	73011	DET FIRE ST SPT	SF	20,725	0	20,725	20,725	9,831
↓	FORT RILEY	73015	CONFINEMENT FAC	SF	0	0	0	0	0
↓	FORT RILEY	73016	POLICE/MP STA	SF	43,612	0	43,612	43,612	43,612
↓	FORT RILEY	73017	CHAPEL	SF	39,768	23,052	62,820	110,500	110,500
↓	FORT RILEY	73018	RELIG ED FAC	SF	12,452	0	12,452	36,500	36,500
↓	FORT RILEY	73019	FAM LIFE CTR	SF	11,637	0	11,637	5,330	8,007

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Figure 6-13: RPLANS Base-Level TAB Extract

Figure 6-14 shows the table that RPLANS uses to determine the appropriate allowance based on the attributes “military population” and “military dependents.”

CATCODE: 73017 - (CHAPEL)		
View in a printer friendly page		
Description		
Criteria		
Allowance Methodology		
Installation Population	SF	Chapel Authorization
Up to 6000	17,900	Chapel
6001 to 10,000	22,600	Chapel Center
10,001 to 14,000	32,900	Chapel Complex
14,001 to 18,000	45,200	Chapel Complex
18,001 to 20,000	50,500	Chapel Complex
20,001 to 22,000	55,500	Chapel Complex
22,001 to 24,000	60,500	Chapel Complex
24,001 to 26,000	65,500	Chapel Complex
26,001 to 28,000	70,500	Chapel Complex
28,000 to 30,000	75,500	Chapel Complex
30,001 to 32,000	80,500	Chapel Complex
32,001 to 34,000	85,500	Chapel Complex
34,001 to 36,000	90,500	Chapel Complex
36,001 to 38,000	95,500	Chapel Complex
38,001 to 40,000	100,500	Chapel Complex
40,001 to 42,000	105,500	Chapel Complex
42,001 to 44,000	110,500	Chapel Complex
by 2,000s	5,000	
Note: For each additional 2,000 add 5,000 GSF		
References		

**Figure 6-14: Chapel Step-Function Table**

The sum of military population (16,774) and military dependents (26,139) in Figure 6-12 is 42,913, which falls in the range of 42,001 to 44,000 in Figure 6-14, leading to the allowance. Standard Designs can help planners understand the functional spaces associated with the allowance.

Many population-based community support facilities have step-function table criteria in gross area, without a clear link to functional areas. See, for example, Skill Development Center, Nonautomotive, CATCD [74022](#) in Appendix F. While the step function is the basis for the allowance, actual usage patterns may justify a requirement that falls outside of the step function. Many facilities that have step-function tables are supported by non-Appropriated Funds, so decisions about requirements often have a market component.

### C. Compare Actual Structure with Allowance Assumptions

Allowance assumptions in RPLANS are limited primarily to “above the line” populations in ASIP. Determine whether there are supported populations that are not included in ASIP data. The proponent for the activity will be able to provide information on other supported populations. However, retired military, RC, and other service populations with duty stations at other installations are generally not an authorized component of the eligible population, unless specifically identified in the criteria.

Mission-driven facilities such as ranges, training land, and airfields often support units or activities external to the installation. RPLANS may capture some of these as transient loads, active training loads, and RC training loads. Even when they are in the ASIP, RPLANS cannot fully account for the impacts of mobilization loads and other transient loads. Additionally, some installations have an assigned mission to provide regional support. For example, Fort A. P. Hill, Va., provides ranges and training areas to units throughout the Military District of Washington (MDW) because most installations in that region do not have their own. Verify the impacts with the proponent for the facility category. The DPTM is normally the responsible office for mission-related facility requirements.

### D. Apply Criteria to Determine Requirements

Use the information in Appendix F to determine requirements.

**Principle:** *Adhere to Army criteria and guidelines in developing requirements.*

Many criteria for other-than-unit facilities are contained in step-function tables that do not provide objective functional area detail. In these cases, an in-depth analysis of existing facilities and interviews with the service provider are necessary to document increased requirements. Use Appendix A for calculating the requirement for general functional areas in these cases. Appendix F includes information on authorized functional areas when detailed criteria are available. Compare the required functional areas with the available functional areas to determine the extent to which existing facilities are meeting the functional requirements. Be aware that some of the functions included in the criteria may be met in buildings in different category codes, so it is important to consider the full set of facilities related to a particular activity.

Some categories with population-driven allowances are actually “pay to play” services. In these cases, a market analysis may drive the requirement, rather than actual population data. Consider historic profitability performance in determining whether there is adequate space.

## V. FACILITY-FOCUSED ANALYSIS

The need for a facility-focused analysis often occurs when there is a change to a criterion, a centrally managed or funded investment initiative, a comprehensive review of the TAB conducted as part of a broader master planning effort, or a re-evaluation of a facility category in response to shifting utilization rates. A major restationing action may prompt a facility-focused analysis, especially when an installation is at or near capacity.

Whereas a unit-focused analysis examines a unit's facility requirements in depth, a facility-focused analysis concentrates on one or more facility categories across the installation. The facility-focused analysis considers all facilities in a facility category without regard for the users, and considers all units and organizations with allowances or requirements without regard to assets assigned. The result may be the validation of new construction or the identification of opportunities to redistribute assets to achieve a better operational footprint or improved utilization rates.

For facility-focused analyses, determine whether the facility categories that are the object of the analysis are unit-level or other-than-unit level. Based on that determination, follow the appropriate process above for all eligible units, or for eligible populations or missions.

When a major restationing action prompts a facility-focused analysis, it is usually necessary to consider both unit and other-than-unit facilities.

## VI. SPECIAL CONSIDERATIONS

### A. Special Space and Storage Space in General Functional Areas

There are few, if any, absolutes in the realm of special space and storage space. Common sense and experience are key tools in evaluating requirements for special and storage spaces. Appendix A in the ISPCM has step-by-step procedures for evaluating special space requirements in conjunction with general functional areas.

Use the general functional area basis of allowance as the starting point for determining requirements for special space and storage space. While these are useful in establishing a baseline, use interviews and visits to identify the special space and storage space an organization currently uses. Be attentive to what the unit does or stores in the space it has, and inquire how frequently it is used. Ask for information to establish whether the conditions you are viewing are normal conditions, a "surge," or a low point in the operational cycle.

Ask questions about large or disproportionate requirements. An organization of 100 people asking for a meeting room with a capacity of 125 strains credibility, especially if follow-up questions indicate that it is needed for a quarterly meeting that lasts one day. Sharing space with other agencies is normally a better solution.

Contracting and acquisition activities, research and development organizations, and test and evaluation agencies frequently have justification for additional conference and meeting rooms due to the need to maintain separation between their regular work areas and areas that are frequented by outside organizations such as vendors.

Contracting and acquisition activities must maintain paper copies of all contracting documents for seven years past the end of the contract. That normally translates to a higher density of file cabinets than other activities. They may also require a reception and waiting area that provides controlled access to areas where procurement-sensitive activities occur.

Activities that deal with human resources, provide customer services, or engage in investigative activities may require more special and storage space than other administrative activities, including, and in particular, reception and waiting areas.

Corps of Engineers Districts, Information Systems Engineering Command, and other activities with engineering and design functions generally require storage for maps and drawings and other design documents that tend to be bulky. They also send and receive a large volume of documents, suggesting a need for a larger-than-average distribution and mail room.

Ultimately, planners need to make judgment calls based on common sense, the criteria, and reasonableness. Do not allow tenants to use space that is free to them as a substitute for management of conference rooms or use of appropriate storage containers, racks, or bins. Be the honest broker.

## **B. Instructional Space Considerations**

Training institutions require yet another focus of analysis.

Training loads for TRADOC schools are represented in ASIP with a student UIC that begins with the letter “I.” Each student UIC contains the school code of the sponsoring school. Each student UIC represents a different type of course for the corresponding school. Table 6-2 shows the relationship between types of courses and the last character of a student UIC.

Table 6-2 Student UIC Course Types	
Type Course	Type Indicator
Permanent Change of Station	P
Temporary Duty	Y
Advanced Individual Training	T
Basic Training	B
One Station Unit Training	S
Reception	R

For example, School Code 805 represents the U.S. Army Training Center and Fort Jackson. The student UIC I/805T would represent the students load for all AIT courses conducted at Fort

Jackson. The student UIC I/805B represents the Basic Training load at Fort Jackson, and student UIC I/805R represents the reception station load.

A course presents a specific program of instruction (POI) that produces a defined outcome such as an MOS or an Additional Skill Identifier (ASI). A class is a scheduled iteration of a course. Training institutions generally offer a variety of courses, such as AIT courses that award Soldiers their initial MOS in a military branch, Advanced and Senior Leaders Courses (ALC/SLC) for noncommissioned officers in the same branch, Basic Officer Leadership Courses, and so forth. Each course may have multiple classes in a training year, and may have more than one class in session for each course offered.

Programs of instruction, course length, class frequency, and class size are factors in determining requirements. Together, class size and the number of classes in session at any one time drive GIB classroom requirements. The number and types of applied instruction topics affect the number and size of AIB classrooms required, in addition to course lengths, size, and frequency. For example, the Wheeled Vehicle Mechanic Course at Fort Lee, Va., lasts 12 weeks and one day. It has an optimum class size of 42. It may have 80 or more class starts a year, with multiple classes starting concurrently.

### **1. Active Classes Method for Determining GIB Requirements**

The ATRRS maintains the information necessary to compute GIB requirements for TRADOC schools. The basic method for determining the number of GIB classrooms for a given course has several steps.

First, confirm a GIB (CATCD [17120](#)) requirement. For AIT TDY courses, each class in session normally needs a general-purpose classroom. When evaluating a course, confirm that the course uses GIB as part of its program. For each student UIC, the RPLANS UIC attributes show the percentage of time spent in GIB and each AIB, if any. These percentages are used to calculate classroom requirements. Do not calculate a GIB requirement for courses that have zero percent GIB.

Second, determine adjusted training weeks per year for each course. ATRRS lists course durations by weeks and days. Adjust the duration of any to the next-highest week if it has two or more days beyond a full week. For example, the Radio/Communications Security (COMSEC) Repair course is 22 weeks and one day, with an adjusted length of 22 weeks. The Battalion S-6 Officer Course is five weeks and two days, with an adjusted length of six weeks. The Radio Operator – Maintainer Course is 12 weeks and four days, with an adjusted length of 13 weeks.

Third, determine the number of course weeks per year by multiplying the adjusted length in weeks by the number of class starts. The Radio Operator – Maintainer Course has 26 class starts per year. Multiply 13 weeks by 26 starts for 338 course weeks.

Fourth, determine the number of active classes. This refers to the number of classes that would normally be in progress concurrently. Divide the course weeks by the number of weeks annually that are available for training (50). TRADOC schools do not generally conduct training during a two-week period at Christmas. For the Radio Operator – Maintainer course, divide the course weeks (338) by the available training weeks (50) for 6.76 active classes, which would round up to 7 active classes.

Finally, for each course, determine the appropriate GIB classroom size. ATRRS provides the optimum and maximum class size for each course. Based on the optimum class size, select the appropriate standard-capacity multipurpose classroom from the Army Standard (15, 30, 40, 50, 60, or 70 students). The Radio Operator – Maintainer Course has a maximum and optimum size of 24. It requires a 30-person classroom for planning and programming purposes. When using existing assets, a 24-person classroom or larger will meet the requirement.

## 2. Method for Determining AIB Requirements

Classroom size for AIB classrooms is a function of the type and size of a training station, the number of training stations required to accomplish the training, and the amount of supporting and circulation space necessary to conduct the desired training. Supporting space may include an instructor workstation, individual lockers for Soldiers' equipment, tool storage, parts storage, test equipment storage, and safety equipment such as an emergency eyewash station.

Workstations in maintenance AIB categories may require more instruction space than is required for the corresponding maintenance tasks in operational facilities, e.g. CATCD 17133 requires more space than do the correlating maintenance tasks in a facility category code 21410, TEMF, because of the number of students working around each piece of equipment, and the need to provide additional safety setbacks between vehicles. In training environment situations, there may also be a need to remove major components, place them on the floor, and concurrently have a full-sized model of the same component available at the workstation.

Work closely with the senior instructor to determine the training process and the safety considerations that need to be factored into each training station.

Use the program of instruction, instructor interviews, and site visits to identify or verify the elements that need to be included in the classroom. Use the following formula to determine required instructional area. This allows 20 percent for circulation and growth attributable to changes in training methods or technologies.

$$[(a \times b) + c] \times (d \div a) \times 1.2$$

Where:

- a = the number of students assigned to each piece of practice equipment or workstation
- b = the area required for one student working on or around each workstation or item of practice equipment
- c = the area required for each workstation or piece of practice equipment

- $d$  = the average number of students in a class

Sample:

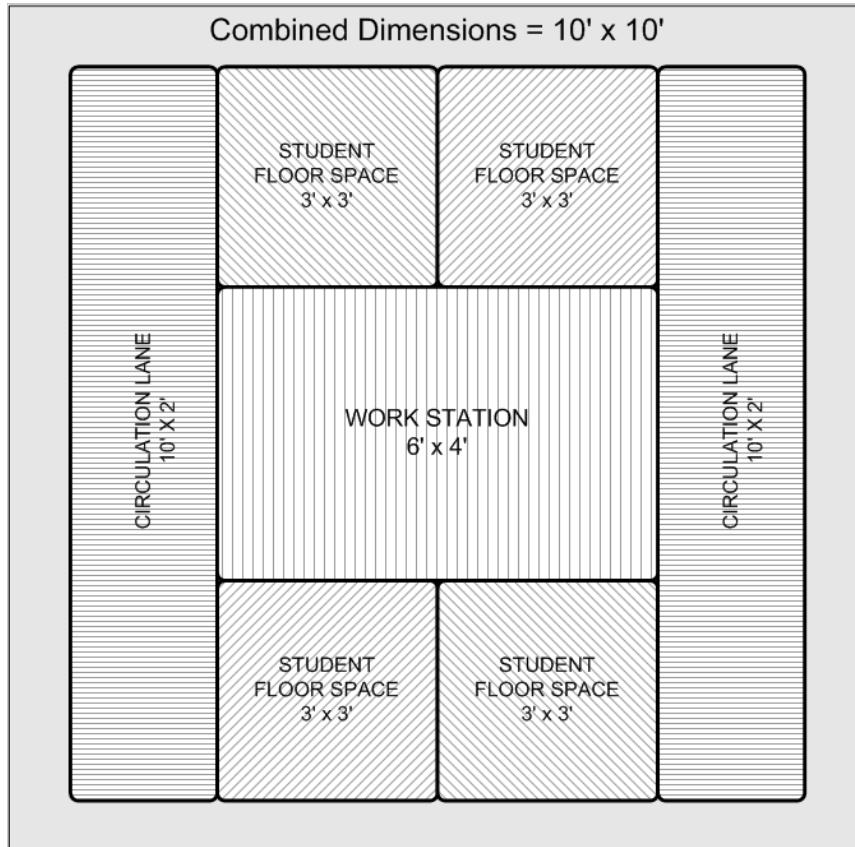
- $A = 4$  students per workstation
- $B = 19$  NSF per student (including circulation on the open end of the workstation)
- $C =$  workstation is 6 feet long by 4 feet wide  $(6 \times 4) = 24$  NSF
- $D = 32$  students per class
- $[(4 \times 19) + 24] \times (32 \div 4) \times 1.2$
- $(76 + 24) \times 8 \times 1.2$
- $100 \times 8 \times 1.2$
- $800 \times 1.2 = 960$  NSF

Provide storage within the classroom but blocked from view for large equipment that is used infrequently. Provide storage for large and medium-size equipment required for daily instruction when there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

Training facilities over 40,000 NSF usually require a loading dock with 3 feet, 6 inches above a lowered truck area. Locate storage for the use of transient programs near the loading dock.

The example in Figure 6-15 requires 9 NSF of floor space for each student, plus 10 NSF per student for circulation on the end of the workstation, and 24 NSF for each workstation, making a workstation equal to 100 NSF. There are four students per workstation. The class is designed for 32 students, which means the classroom requires eight workstations. Do not attribute the 20 percent additional space to an individual workstation in the Figure 6-15 layout, but attribute it to the overall dimensions of the classroom.





**Figure 6-15: Sample Workstation**

The 960 NSF in this example does not include any supporting space for storage, an instructor station, or safety equipment. In this example for Figure 6-15, for existing buildings, assign 576 SF of NUA for the required instructional area, plus space for the required supporting functional areas.

## VII. FORCE EXAMPLE

It is not sufficient to know the units that are part of an organization when determining requirements. It is also important to understand how they are organized, and whether the criteria view them as individual pieces or as a set.

**Principle:** *Know the force: the strength or population, equipment, missions, and units supported by facilities.*

RPLANS generates allowances for **unit-level facility categories** at the UIC level. Sometimes, individual units that receive allowances need to be grouped with other units to obtain the doctrinally correct requirement. This section provides an example to illustrate the process, and

demonstrates how correctly applying the process affects allowances and requirements. Users may want to review CATCDs [14183](#), [14185](#), and [21410](#) in Appendix F in conjunction with this section.

The 504th Military Police Battalion does not have an allowance for a TEMF, but the commander insists one is needed. RPLANS “sees” the Military Police (MP) Battalion as just the Headquarters and Headquarters Detachment (HHD) because there is nothing to link the assigned companies to the battalion. Figure 6-16 shows a TAB extract for the battalion. Note that it also does not have an allowance or requirement for a COF. Because the COF and TEMF standards are for battalion-level facilities, it is therefore necessary to organize the battalion into its proper relationships.

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UIC	Unit Name	Category Code	Category Code Description	UM	Allow	Rqmt	Allow Method
WBXAAA	0504 MP HHD MP BATTALION (	14183	BN HQ BLDG	SF	15,100	15,100	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	17119	ORG CLASSROOM	SF	5,300	5,300	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	21410	VEH MAINT SHOP	SF	0	35,290	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	21470	OIL STR BLDG	SF	240	240	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	44224	ORG STR BLDG	SF	1,400	1,027	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	72111	ENLISTED UPH	SF	6,222	6,222	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	72111	ENLISTED UPH	SP	17	17	ALGORITHM
WBXAAA	0504 MP HHD MP BATTALION (	85210	ORG PARK PAVED	SY	9,532	9,532	ALGORITHM

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**Figure 6-16: 504th MP Battalion TAB Extract<sup>6</sup>**

After meeting with the battalion executive officer, you learn that four companies and a Law and Order Detachment are assigned to the battalion, as shown in Figure 6-17, which also shows the authorized strength for each element, based on the ASIP. To determine whether there is a valid requirement, it is necessary to look inside the companies.

504 MP BN			
	WBXAAA - HHD, 504 MP BN	64	64
	WC4VAA - CO MP CBT SP 66	168	169
	WHL3AA - CO MP CBT SP 170	168	169
	WHNQAA - DET LAW & ORD	45	45
	WHWMAA - CO MP CBT SP 571	168	169
	WJJFAA - CO MP CBT SP 54	168	169
<b>504 MP BN Total</b>		<b>781</b>	<b>785</b>

**Figure 6-17: 504th MP Battalion and Assigned Companies and Detachments<sup>7</sup>**

<sup>6</sup> This image was edited to fit the page.

<sup>7</sup> This figure is not from a standard report. It was produced from ASIP data exported to MS Excel.

Figure 6-18 is an extract for the Selected Locations TAB, TAB by Unit, for the UICs in Figure 6-17. It shows that each of the companies has allowances for other facility categories; none has a TEMF allowance.

<u>UIC</u>	<u>Unit Name</u>	<u>Current Use CATCODE</u>	<u>Category Code Description</u>	<u>UM</u>	<u>Allow</u>	<u>Rqmt</u>
WBXAAA	0504 MP HHD MP BATTALION (	14183	BN HQ BLDG	SF	15,100	15,100
WC4VAA	0066 MP CO MP CO COMBAT SUPP	14185	CO HQ BLDG	SF	17,700	17,700
WHL3AA	0170 MP CO MP CO COMBAT SUPP	14185	CO HQ BLDG	SF	17,700	17,700
WHNQAA	0051 MP DET LAW & ORDER DET	14185	CO HQ BLDG	SF	0	10,587
WHWMAA	0571 MP CO MP CO COMBAT SUPP	14185	CO HQ BLDG	SF	17,700	17,700
WJJFAA	0054 MP CO MP CO COMBAT SUPP	14185	CO HQ BLDG	SF	17,700	17,700
WBXAAA	0504 MP HHD MP BATTALION (	17119	ORG CLASSROOM	SF	5,300	5,300
WBXAAA	0504 MP HHD MP BATTALION (	21410	VEH MAINT SHOP	SF	0	35,290
WBXAAA	0504 MP HHD MP BATTALION (	21470	OIL STR BLDG	SF	240	240
WC4VAA	0066 MP CO MP CO COMBAT SUPP	21470	OIL STR BLDG	SF	360	600
WHL3AA	0170 MP CO MP CO COMBAT SUPP	21470	OIL STR BLDG	SF	360	360
WHNQAA	0051 MP DET LAW & ORDER DET	21470	OIL STR BLDG	SF	240	240
WHWMAA	0571 MP CO MP CO COMBAT SUPP	21470	OIL STR BLDG	SF	360	360
WJJFAA	0054 MP CO MP CO COMBAT SUPP	21470	OIL STR BLDG	SF	360	360
WBXAAA	0504 MP HHD MP BATTALION (	44224	ORG STR BLDG	SF	1,400	1,027
WC4VAA	0066 MP CO MP CO COMBAT SUPP	44224	ORG STR BLDG	SF	2,450	1,882
WHL3AA	0170 MP CO MP CO COMBAT SUPP	44224	ORG STR BLDG	SF	2,450	1,882
WHNQAA	0051 MP DET LAW & ORDER DET	44224	ORG STR BLDG	SF	350	154
WHWMAA	0571 MP CO MP CO COMBAT SUPP	44224	ORG STR BLDG	SF	2,450	1,882
WJJFAA	0054 MP CO MP CO COMBAT SUPP	44224	ORG STR BLDG	SF	2,450	2,450
WC4VAA	0066 MP CO MP CO COMBAT SUPP	61050	ADMIN GEN PURP	SF	1,782	1,782
WHL3AA	0170 MP CO MP CO COMBAT SUPP	61050	ADMIN GEN PURP	SF	1,782	1,782
WHNQAA	0051 MP DET LAW & ORDER DET	61050	ADMIN GEN PURP	SF	1,782	1,782
WHWMAA	0571 MP CO MP CO COMBAT SUPP	61050	ADMIN GEN PURP	SF	1,782	1,782
WJJFAA	0054 MP CO MP CO COMBAT SUPP	61050	ADMIN GEN PURP	SF	1,782	1,782

**Figure 6-18: 504th MP HHD and Assigned Companies Unit TAB Extract<sup>8</sup>**

However, a look at the TAB grouped by category code in Table 6-3 shows an approved requirement for a TEMF of 35,290 GSF. The edit justification in RPLANS notes, in part, “Increase to consolidated BN RQT edit which includes WC4VAA, WHL3AA, WHWMAA, and WJJFAA based on Standard Design team energy addition of 710 GSF to meet EISA compliance.”

<sup>8</sup> Only selected facility categories with UM “SF” are included in this example.

Table 6-2: 504th MP HHD w/Assigned Companies TAB Extract Totals<sup>9</sup>

Category Code	Unit	Allowed	Required
<b>14183 - BN HQ BLDG</b>			
	WBXAAA - 0504 MP HHD MP BATTALION	15,100	15,100
<b>14183 - BN HQ BLDG Total</b>		<b>15,100</b>	<b>15,100</b>
<b>14185 - CO HQ BLDG</b>			
	WC4VAA - 0066 MP CO MP CO COMBAT SUPP	17,700	17,700
	WHL3AA - 0170 MP CO MP CO COMBAT SUPP	17,700	17,700
	WHNQAA - 0051 MP DET LAW & ORDER DET	0	10,587
	WHWMAA - 0571 MP CO MP CO COMBAT SUPP	17,700	17,700
	WJJFAA - 0054 MP CO MP CO COMBAT SUPP	17,700	17,700
<b>14185 - CO HQ BLDG Total</b>		<b>70,800</b>	<b>81,387</b>
<b>17119 - ORG CLASSROOM</b>			
	WBXAAA - 0504 MP HHD MP BATTALION	5,300	5,300
<b>17119 - ORG CLASSROOM Total</b>		<b>5,300</b>	<b>5,300</b>
<b>21410 - VEH MAINT SHOP</b>			
	WBXAAA - 0504 MP HHD MP BATTALION	0	35,290

Because the edit was based on the assigned companies, the next step is to look at the company attributes. Figure 6-19 is an extract from the unit attributes report for WC4VAA – 0066 MP CO MP CO COMBAT SUPP. Notice that RPLANS has identified a total of two administration and shop control personnel, one Class IX Parts Specialist, one Consolidated Bench worker, and 10 repair bay personnel. A review of the other three companies shows identical results.

<sup>9</sup> This table was produced in MS Excel from exported RPLANS Selected Locations TAB, TAB By Unit

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<u>Location Name</u>	<u>Attribute Type</u>	<u>Attribute Name</u>	<u>Attribute Value</u>
0066 MP CO MP CO COMBAT SUPP	Equipment	Number of Supplemental Tool Kits	3
0066 MP CO MP CO COMBAT SUPP	Equipment	Number of Vehicles	55
0066 MP CO MP CO COMBAT SUPP	Equipment	The number of Raven UAVs	2
0066 MP CO MP CO COMBAT SUPP	Force Structure	Number of Companies	1
0066 MP CO MP CO COMBAT SUPP	Force Structure	Number of Companies with 151-200 Personnel	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of 21410 Contact Maintenance Vehicles	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Administration and Shop Control Personnel	2
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Administrative Personnel	11
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Class IX Parts Specialists	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Consolidated Bench Personnel	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Other Civilians	0
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Repair Bay Personnel	10
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of US Direct Hires	0

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Figure 6-19: 66th MP Company Attribute Extract

A check of the HHD shows 53 personnel attributes, as shown in Figure 6-20<sup>10</sup>.

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<u>Location Name</u>	<u>Attribute Type</u>	<u>Attribute Name</u>	<u>Attribute Value</u>
0504 MP HHD MP BATTALION (	Equipment	Number of Supplemental Tool Kits	1
0504 MP HHD MP BATTALION (	Equipment	Number of Vehicles	21
0504 MP HHD MP BATTALION (	Personnel	Number of Other Civilians	0
0504 MP HHD MP BATTALION (	Personnel	Number of SRC Battalion HQ Staff	53
0504 MP HHD MP BATTALION (	Personnel	Number of US Direct Hires	0

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Figure 6-20: 504th MP HHD Attribute Extract

<sup>10</sup> A review of the MTOE, however, shows two wheeled-vehicle mechanics and two general mechanics tool kits authorized. The OTOE narrative notes that the HHD cannot maintain its organic vehicles; therefore, the mechanics would normally be integrated into the supporting maintenance activity to work on the HHD's assigned vehicles. In this case, they would work in the Battalion TEMF. The battalion S4 is authorized a maintenance warrant officer and a senior maintenance supervisor, both of whom would assist in overseeing maintenance operations for the battalion.

Figure 6-21 combines the maintenance personnel attributes of the MP companies.

Attribute Name	Location Name	Personnel
<b>Number of Administration and Shop Control Personnel</b>		
	0054 MP CO MP CO COMBAT SUPP	2
	0066 MP CO MP CO COMBAT SUPP	2
	0170 MP CO MP CO COMBAT SUPP	2
	0571 MP CO MP CO COMBAT SUPP	2
<b>Admin / Shop Control Total</b>		<b>8</b>
<b>Number of Class IX Parts Specialists</b>		
	0054 MP CO MP CO COMBAT SUPP	1
	0066 MP CO MP CO COMBAT SUPP	1
	0170 MP CO MP CO COMBAT SUPP	1
	0571 MP CO MP CO COMBAT SUPP	1
<b>Admin / Shop Control Total</b>		<b>4</b>
<b>Number of Consolidated Bench Personnel</b>		
	0054 MP CO MP CO COMBAT SUPP	1
	0066 MP CO MP CO COMBAT SUPP	1
	0170 MP CO MP CO COMBAT SUPP	1
	0571 MP CO MP CO COMBAT SUPP	1
<b>Admin / Shop Control Total</b>		<b>4</b>
<b>Number of Repair Bay Personnel</b>		
	0054 MP CO MP CO COMBAT SUPP	10
	0066 MP CO MP CO COMBAT SUPP	10
	0170 MP CO MP CO COMBAT SUPP	10
	0571 MP CO MP CO COMBAT SUPP	10
<b>Admin / Shop Control Total</b>		<b>40</b>
<b>Grand Total</b>		<b>56</b>

Figure 6-21: Combined Maintenance Related Personnel Attributes<sup>11</sup>

In RPLANS, TEMF allowances are generated at the battalion level, based on a variety of attributes, but one critical attribute is the number of personnel authorized in the TEMF. TEMFs come in four sizes: small, medium, large, and extra large. A standard TEMF consists of a core area and a repair area. A small TEMF is designed to accommodate a workforce of up to 12 personnel in the core and 12 personnel in the repair areas. The 504th has a combined 12 personnel (eight administration and shop control, and four consolidated bench personnel), which might indicate a small TEMF. However, it has 40 repair bay personnel, which far exceeds the capacity of a small TEMF. Figure 6-22 shows the functional areas and associated space for the core and repair areas of a medium TEMF.

<sup>11</sup> This is not a standard RPLANS report. The figure was created in MS Excel after combining separate attribute reports for each company.

<b>MEDIUM TEMF</b>				
<b>CORE ANALYSIS BY FUNCTIONAL AREA</b>	<b>NUMBER OF PERSONNEL</b>			<b>NSF</b>
Administration & Shop Control	16			2,830
Training Room	0			1,070
Consolidated Bench	20			1,390
Combat Spares	0			970
Tool Room	0			850
Latrine	0			1,320
Break, Conference & Training	0			650
Weapons Vault	0			300
COMSEC Vault	0			300
Secure Storage	0			300
Telecommunications Room (NIPRNet / SIPRNet)	0			400
<b>Core Area (NSF)</b>	<b>36</b>			<b>10,380</b>
<b>REPAIR AREA ANALYSIS BY FUNCTIONAL AREA</b>	<b>NUMBER OF PERSONNEL</b>	<b>NUMBER OF CIRCULATION AREAS</b>	<b>WORK AREAS (512 NSF)</b>	<b>NSF</b>
Repair Areas	40		14	7,168
Maintenance Areas			16	8,192
Welding Areas			2	1,024
Total Work Areas			32	16,384
Secure Tool Storage / (4) Work Benches				384
Circulation Area				768
<b>Total Repair Area (NSF)</b>	<b>40</b>	<b>0</b>	<b>32</b>	<b>17,536</b>
<b>SHOP TOTAL (NSF)</b>				<b>27,916</b>
<b>SHOP TOTAL (GSF) With Non-Assignable &amp; Utilities Factor</b>	<b>NUMBER OF PERSONNEL</b>	<b>NUMBER OF CIRCULATION AREAS</b>	<b>WORK AREAS (512 NSF)</b>	<b>NSF</b>
SHOP TOTAL	76	1	32	
<b>MAXIMUM ALLOWABLE GROSS AREA (GSF)</b>				<b>36,000</b>

**Figure 6-22: Medium TEMF Space Allocation<sup>12</sup>**

Based on the number of personnel requiring repair bay workspace, a medium TEMF is appropriate. However, if using an existing maintenance facility, focus on the number of work areas and NSF required for other functions, rather than the GSF allowance, when selecting the best possible option. Chapter 7 provides an example of comparing a single MP company with an existing legacy TEMF.

Another area of interest is that the HHD does not have an allowance for a COF/CO HQ (CATCD 14185). The HHD is missing a qualifying attribute, a first sergeant, to generate that allowance. This is compounded by the fact that the Law and Order Detachment also doesn't have a COF allowance. Together, they represent 109 authorized Soldiers that are not accounted for in a COF

<sup>12</sup> Based on Tactical Equipment Maintenance Facilities (TEMF) Standard Design, 25 July 2013, Rev. 4.3, Page 4



readiness module. The question is whether they should be given a COF or be combined with the other companies in a COF. The deciding factor is the ability to store and maintain weapons in an arms room. A review of the OTOE narrative shows that the HHD, “operates unit supply and maintenance to support the HHD.” It has a supply sergeant and a supply specialist, both with the military occupational specialty that includes training in arms room operation, and the HHD is authorized the necessary tool set to perform the corresponding level of maintenance. While the Law and Order Detachment is authorized a supply sergeant, it does not have the other personnel and tools to perform weapons maintenance, and its OTOE narrative indicates a dependency on the supported unit for the functions normally associated with a company headquarters. One solution combines the HHD and the Law and Order Detachment for facilities purposes and adds a fifth COF to the four already indicated for the four MP companies. The size of the company should be determined using the procedures for CATCD 14185 in Appendix F. Not all HHDs should be assigned a COF. If a commander requests one, it is necessary to perform this type of analysis to determine whether a COF is appropriate.

This COF solution brings up another area for investigation. Figure 6-20 shows the attribute for battalion headquarters staff as 53. Based on Army Standard criteria, this qualifies the battalion for a large HQ (staff of 5-70). RPLANS includes portions of the HHD personnel in the battalion headquarters staff in lieu of space in a COF. Figure 6-23 is an extract from RPLANS Force Structure Report, OTOE Detailed Personnel Report for the 504th MP Battalion’s SRC.<sup>13</sup> It shows that eight of the HHD personnel are included in the battalion headquarters staff count. Deducting these personnel from the 53 leaves a staff of 45, which changes this from a large to a medium battalion.

**SRC : 19476R000 - HHD MP BATTALION (COMBAT SUPPORT), Paragraph : 02 - DETACHMENT HEADQUARTER, Category Code 1 : 14183**

MOS	Duty Title	Grade	Strength ALO1	Strength ALO2	Strength ALO3	Functional Area
31A00	COMMANDER	O3	1	1	1	
31B40	DETACHMENT SERGEANT	E7	1	1	1	
92Y20	SUPPLY NCO	E5	1	1	1	
42A10	HUMAN RESOURCES SPC	E4	1	1	1	
92Y10	SUPPLY SPECIALIST	E4	1	1	1	
42A10	HUMAN RESOURCES SPC	E4	1	1	1	
74D10	CBRN DECON SP	E4	1	1	1	
74D10	CBRN DECON SP	E4	1	1	1	

**Figure 6-23: OTOE Detailed Personnel Report Extract**

Finally, Figure 6-18 shows that the Law and Order Detachment and all of the companies have allowances for 1,782 GSF of general-purpose administrative area. Figure 6-19 shows that the 66th MP Company has an attribute value of 11 for the attribute “Number of Administrative Personnel.” Use the OTOE Detailed Personnel Report for the respective OTOEs to determine which positions are generating an administration allowance, and then, through interview, determine where these positions would work on a day-to-day basis. Some, especially the Law and Order Detachment personnel, may work in the BN HQ. Or they may all work out of the MP

<sup>13</sup> The SRC, which is for all practical purposes the same as the OTOE, is listed in ASIP for each TOE UIC.



station when they are not involved in unit training. In either case, this may be an opportunity to lower the administration requirement for the installation through a requirements edit.

## VIII. DOCUMENTATION

Keep authorization documents, meeting notes, and other records from a space planning analysis, especially if the analysis supports DD Form 1391 preparation for new construction.

***Principle:*** *The most essential principle of space management is to know the inventory.*

*This includes programmed facilities, which are best tracked by keeping thorough documentation, including meeting notes and other records.*

Units and organizations change over time, and the MILCON process can take several years. When a project finally moves into the Future Years Defense Program (FYDP), having records from the original requirements analysis will assist in validating or revising the scope. Detailed requirements documentation is also essential when the Army Audit Agency subjects a project to review.

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## I. INTRODUCTION

Assigning space is the process of matching a particular user with appropriate facilities. In this process, the space manager develops alternative courses of action and presents them to the commander. The commander selects a course of action based on the facts presented and the recommendations of the staff. The result will often involve assigning or reassigning existing facilities. Even if the course of action selected includes a decision to program new facilities, an interim solution is often necessary to address a requirement pending approval and completion of the new facility.

***Principle:*** *Distribute space equitably, and satisfy mission requirements effectively and efficiently.*

*Having objective procedures for processing change and dealing with facts and accurate data will contribute to the space user's perception that the installation distributes space equitably.*

Assigning space for instructional facilities requires additional consideration and is covered at the end of this chapter.

## II. COURSES OF ACTION

### A. Course-of-Action Goals

Facilities should be enablers of, not obstacles to, the mission. The first priority in assigning facilities is to provide facilities that satisfy the operational requirements of the occupant. Not all missions are equal. Consider the commander's priorities.

Especially when assigning existing facilities, there will seldom be a perfect fit. As much as possible, develop courses of action that accomplish the following objectives:

- Provide the necessary space at a reasonable utilization rate.
- Provide locations that are consistent with the master plan, and especially with the framework plan and area development plans.
- Provide locations that are operationally and organizationally logical.
- Address the inherent relationships of complexes when applicable.
- Support the optimal internal functional relationships of occupants.
- Support the external site requirements of the occupants.
- Minimize costs, including secondary relocations, renovations, and lost training time.
- Minimize the need for multiple moves to reach an end state.
- Address operations security, physical security, and force protection.

- Provide locations that are sustainable.

## 1. Availability

The availability of existing facilities, available time, and costs have major impacts on the final decision. If sufficient facilities do not exist, the installation must program new facilities or pursue interim options, including leases or relocatable buildings<sup>1</sup>.

## 2. Scheduling

When assigning space, schedule unit moves around unit and training schedules to the maximum extent possible. Schedule school-type unit moves to avoid peak student loads. Consider the advantages or disadvantages of moves during the summer vacation season, which often corresponds to high personnel turnover.

## B. Course-of-Action Analysis

When requirements change or new requirements emerge, a course-of-action analysis identifies the available options. Use the approved decision-making process for your command or garrison to develop and select a course of action, then proceed with executing the selected course of action.<sup>2</sup> In principle, there are a limited number of possibilities for satisfying space requirements. Table 7-1 lists the options.

Table 7-1: Courses of Action for Assigning Space
<b>LONG-TERM OPTIONS</b>
Assign vacant space
Reassign existing space
Convert existing facilities
Program new facilities, if insufficient or nonexistent facilities
Use a combination of these to satisfy a new requirement
<b>SHORT-TERM OPTIONS</b>
Divert existing facilities
Lease space on- or off-post
Purchase or lease of relocatable buildings

## III. PROGRAMMING NEW FACILITIES

### A. Decision to Program New Facilities

When existing facilities cannot meet the total requirement, prepare programming documents for new facilities. New construction may include complete complexes or campuses, individual

<sup>1</sup> Relocatable buildings and leases should be pursued only as a last resort, and then only in conjunction with a long-term solution that will ultimately eliminate the need.

<sup>2</sup> Different commands and agencies have different internal procedures for presenting courses of action to decision-makers. Use the one prescribed by the governing command. In some cases, the senior mission commander and the garrison may have a joint role in making the decision.

buildings, or additions to existing facilities. Go to the COS Web site to obtain the list of mandatory, approved Army Standard Designs/criteria for new MILCON programming at <http://mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx> and evaluate which, if any, apply.

### **B. Decision to Pursue MILCON**

When the planning process ends in a decision to pursue MILCON, base the programming quantity (programmable units) on the Army Standard or approved Standard Design, where applicable. This ensures that new facilities will have the flexibility to accommodate different occupants over time, when the need arises. Edit RPLANS as necessary to associate the requirement with the intended user.

Facility category discussion details in Appendix F address programmable units. The IMCOM Master Planner's Desk Side Reference provides guidelines on DD Form 1391, Military Construction Project Data preparation.

### **C. Program for OTOE, not MTOE**

As a general rule, program for OTOE strength, equipment, and mission(s) using the standard/approved Standard Design, as opposed to using the individual unit's MTOE. This ensures that the facility will meet doctrinally recognized capabilities that may be part of the unit's long-term development. When exceptions to this rule occur, they will normally involve low-density TOE unit types with circumstances that require a detailed requirements analysis.

Present occupancy does not mean permanent entitlement. Planners may reassign a unit to other facilities if the unit experiences changes in strength, equipment, or mission that affect its overall requirements. Monitor ASIP to identify significant changes in unit and authorized strengths, and follow up. Changes greater than 10 percent normally warrant investigation to determine the cause and evaluate the effects on requirements and utilization rates.

***Note:** In general, program for OTOE, not MTOE, strength, equipment, and mission(s).*

*Present occupancy does not mean permanent entitlement. Planners may reassign a unit to other facilities if the unit experiences changes in strength, equipment, or mission that affect its overall requirements.*

### **D. Program Using Standards and Standard Designs**

AR 420-1, Appendix D, provides a detailed discussion of the facilities standardization program.

### **1. Army Standards**

Army Standards are the universal, mandated, worldwide, permanent-facility key performance parameters and required facility characteristics that define the fundamental purpose and function of a facility's design and construction. Army Standards define facility key components, functional capabilities, features, and characteristics. These standards must be included in the design and construction, and/or major renovation of all facilities of the same category. This is true regardless of location, climate, available funding, command preferences, or installation and unit missions, unless the standard makes provision for deviation.

Army Standards ensure that facilities will support the Army's operational, functional, sustainability, and adaptability requirements for near- and long-term needs. They are criteria-prescriptive and/or performance-based, and usually narrative or tabular in format. The degree of detail depends on the type of facility.

The standards are developed in coordination with the Army Facilities Standardization Committee (AFSC). Local commanders cannot waive criteria established in an Army Standard. Installations may deviate from established Army Standards only by obtaining a waiver to specific criteria from the AFSC.

### **2. Standard Designs**

Standard Designs are developed to ensure that the Army consistently provides the specific functionality required by the Army functional proponent for a specific facility category. The Army Corps of Engineers accomplishes this through the incorporation of applicable Army Standards, and the application of sound engineering principles in the design process. Note that when the term "Standard Design" is used in this document, it refers to both written criteria and graphic drawings.

Standard Designs are narrative and/or graphic criteria that delineate space allowances, functional layouts, and adjacencies or dependencies depicted as spatial relationships. The spatial relationships form the basic configuration of a facility that an approved program must use in developing design and construction drawings for a specific project. They include the mandatory Army Standard when adapting the design to specific regions.

### **3. Required Use of Army Standards and Standard Designs**

The AFSC approves Army Standards and the Army Facilities Standardization Subcommittee (AFSS) approves Standard Designs. The designated COS for that facility category develops and maintains Standard Designs in coordination with the facility design team. Exceptions to the use of mandated Army Standards in a Standard Design must be obtained from AFSC.

The USACE COS Web site makes Army Standards and Standard Designs available:  
[mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx](https://mrsi.usace.army.mil/cos/Lists/Links/AllItems.aspx).



#### 4. Standards and Standard Design Solution Adaptability

Approved Standard Designs are mandatory for the associated facility categories for the programming, design, construction, or major renovation of individual facilities and/or complexes. The Army Corps of Engineers develops Standard Designs to allow limited flexibility in terms of local conditions and installation design guides. Standard Designs for Army mission facilities also incorporate solutions that provide a level of adaptability for meeting future requirements or Army initiatives that will affect the facility category. In some cases, a consolidation of mission activities that results in engineering, functionality, and/or operability advantages is also incorporated. Whenever feasible, the Corps considers multiple uses of the same space to increase space utilization, or provide even greater adaptability in the facility design.

## IV. ASSIGNING EXISTING FACILITIES

### A. Perform Requirements Analysis

It is unlikely that an existing facility will be a perfect match for any user. The objective is to satisfy the requirement with facilities in a way that will achieve an optimal utilization rate. A proper requirements analysis will yield space or capacity requirements at the functional area level.

**Principle:** *Know the force – the strength or population, equipment, mission, and units supported by facilities.*

Where available, use CADD or GIS data to match total requirements and functional area requirements to the available space by functional area for each alternative. It may be necessary to accommodate large organizations in multiple buildings. When that occurs, organizational integrity may become a factor in assigning space. Multiple-building facility solutions may increase the total requirement because of the need to duplicate shared general functional areas, and/or duplicate mission functional areas.

**Principle:** *Adhere to Army criteria and guidelines in developing requirements.*

Perform requirements analysis at the functional area level, comparing OTOE strength, equipment, and mission(s) with actual MTOE strength, equipment, and mission(s) according to the criteria. Then, use the Army Standards and Standard Designs to evaluate potential facilities for assignment, when they are available.

In contrast to programming facilities per OTOE, assign facilities per MTOE strength, equipment, and mission.

***Note:** Assign facilities per MTOE strength, equipment and mission.*

## **B. Use Army Standards and Standard Designs to Evaluate Facilities**

The facility adequacy matrices in Appendix F contain information from the standards and Standard Designs for use in evaluating existing facilities. This section provides an example that compares the functional area basis in a Standard Design with the functional area requirements of a unit. It then compares the design and the requirement with the functional areas in an existing facility.

### **1. Illustration Comparing Standard Facility with Unit Requirement**

This section uses an example to illustrate the process of comparing a standard facility with a unit requirement, and a unit requirement with a potential facility solution. Consider reviewing category code 21410 in Appendix F in conjunction with this section.

Army Standards and Standard Designs often come in set sizes such as the TEMF, which has small, medium, large, and extra-large options. While allowances come in one of the standard sizes, the actual requirement is in net area or capacity by functional area. In many cases, RPLANS identifies the attributes that are used to calculate allowances by functional area, as well as the default gross area for a standard facility.

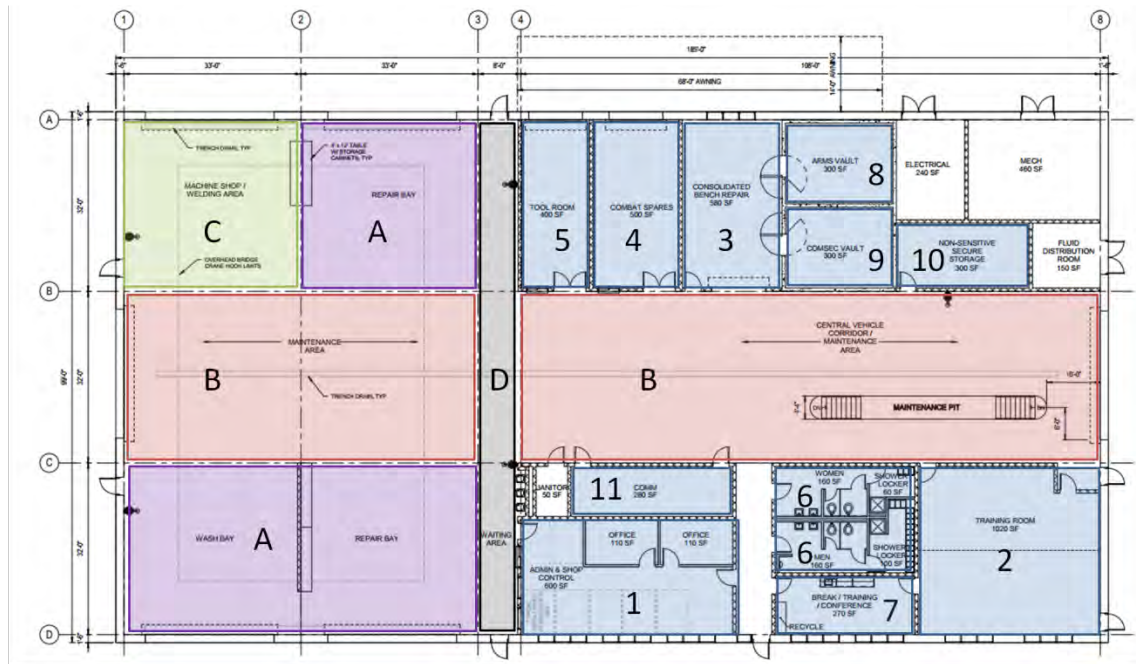
Figure 7-1 lists the functional areas associated with a small TEMF using NSF and number of PN. The functional areas in the core have been numbered 1 through 11, and the functional areas in the repair area analysis have been designated A through D to correspond to the functional areas in Figure 7-2.<sup>3</sup> Figure 7-1 includes office space for six office personnel and bench space for six technicians. It also provides 16 vehicle work areas in structural bays. Several functional areas are variable. The basis for variation is the number of personnel who perform functions in administration and shop control, consolidated bench areas, and maintenance and repair bays. These factors define the net area of the standard.

<sup>3</sup> “Secure Tool Storage / (4) Work Benches” is not a distinct functional area. It is included in the general space allocation of the repair areas.

SMALL TEMF				
CORE ANALYSIS BY FUNCTIONAL AREA		NUMBER OF PERSONNEL		NSF
1	Administration & Shop Control	6		820
2	Training Room	0		1,020
3	Consolidated Bench	6		580
4	Combat Spares	0		500
5	Tool Room	0		400
6	Latrine	0		480
7	Break, Conference & Training	0		270
8	Weapons Vault	0		300
9	COMSEC Vault	0		300
10	Secure Storage	0		300
11	Telecommunications Room (NIPRNet / SIPRNet)	0		280
Core Area (NSF)		12		5,250
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA		NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF) NSF
A	Repair Areas	12		6 3,072
B	Maintenance Areas			8 4,096
C	Welding Areas			2 1,024
	Total Work Areas			16 8,192
	Secure Tool Storage / (4) Work Benches			192
D	Circulation Area		1	768
Total Repair Area (NSF)		12	1	16 9,152
SHOP TOTAL (NSF)				14,402
SHOP TOTAL (GSF) With Non-Assignable & Utilities Factor		NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF) NSF
SHOP TOTAL		24	1	16
MAXIMUM ALLOWABLE GROSS AREA (GSF)				18,800

Figure 7-1: Small TEMF Space Allocation

Figure 7-2 shows a diagram of a small TEMF. The shaded boxes identify the functional areas and show the net area. The numbers and letters in the left margin of Figure 7-1 identify the corresponding areas in Figure 7-2.



### Figure 7-2: Small TEMF Floor Plan

When programming new construction, this is the smallest TEMF the Army would normally build.

In contrast, when assigning existing space, base the analysis on the sum of the unit's functional area requirements, not the programming size.

**Note:** When assigning existing space, base the requirements on functional areas, not the programming size.

In this example, during the drawdown, the Army inactivates an MP battalion and one of its two companies. The battalion had a new motor pool that is now needed for the new brigade engineer battalion. The challenge is to find the remaining separate military police company, OTOE 19477R000, an adequate TEMF from the existing legacy motor pools.

Normally, the installation would combine the military police company with other separate companies and provide them a consolidated battalion TEMF. In this scenario, there was no practical way to do that. The installation performs a requirements analysis using RPLANS and the Standard Design.

**Principle:** Know the force - the strength or population, equipment, missions, and units.

The first step is to identify the applicable attributes of the company. Figure 7-3 is an extract of the RPLANS attributes report for the 66th MP Company.

FY : 2018			
<u>Location Name</u>	<u>Attribute Type</u>	<u>Attribute Name</u>	<u>Attribute Value</u>
0066 MP CO MP CO COMBAT SUPP	Equipment	Number of Supplemental Tool Kits	3
0066 MP CO MP CO COMBAT SUPP	Equipment	Number of Vehicles	55
0066 MP CO MP CO COMBAT SUPP	Equipment	The number of Raven UAVs	2
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of 21410 Contact Maintenance Vehicles	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Administration and Shop Control Personnel	2
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Administrative Personnel	11
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Class IX Parts Specialists	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Consolidated Bench Personnel	1
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Other Civilians	0
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of Repair Bay Personnel	10
0066 MP CO MP CO COMBAT SUPP	Personnel	Number of US Direct Hires	0

1 - 11

**Figure 7-3: 66th MP Company Attributes**

Note in particular the following attributes that affect TEMF requirements:

- “Number of Supplemental Tool Kits.” This indicates a requirement for a tool room.
- “Number of 21410 Contact Maintenance Vehicles.” This indicates the ability to extend a maintenance capability to areas away from the garrison.
- “Number of Administration and Shop Control Personnel.” These are the positions that would work in the core. An organization with no attributes is not capable of supervising maintenance.
- “Number of Class IX Parts Specialists.” The capability to order repair parts is essential. An organization with no attribute in this area is not staffed to perform the supply functions associated with vehicle maintenance.
- “Number of Consolidated Bench Personnel.” This attribute is a factor in determining the size of the consolidated bench area.
- “Number of Repair Bay Personnel.” This attribute is the primary factor in determining repair bay requirements.

The RPLANS Force Structure Report, “OTOE Detailed Personnel Report,” provides additional details. Figure 7-4 is an extract from that report showing the maintenance section personnel.



SRC : 19477R000 - MP CO COMBAT SUPPORT, Paragraph : 01 - COMPANY HEADQUARTERS, Category Code 1 : 21410						
MOS	Duty Title	Grade	Strength ALO1	Strength ALO2	Strength ALO3	Functional Area
91X40	MOTOR SGT	E7	1	1	1	AS
91B30	SENIOR MECHANIC	E6	1	1	1	AS
91B20	WHEELED VEH MECH	E5	2	1	1	RB
92A20	EQUIP REC/PARTS SGT	E5	1	1	1	CS
91B10	RECOVERY VEH OPR	E4	1	1	1	RB
91B10	WHEELED VEH MECH	E4	3	2	2	RB
91D10	PWR-GEN EQUIP REP	E4	1	1	1	RB
91C10	UTILITIES EQUIP REP	E4	1	1	1	GI
91B10	WHEELED VEH MECH	E3	1	1	1	RB
91B10	WHEELED VEH MECH	E3	1	1	1	RB
91B10	WHEELED VEH MECH	E3	1	1	1	RB

**Figure 7-4: OTOE Detailed Personnel Report**

The functional area column shows the positions linked to the core – administration and shop control (AS), repair parts (CS), consolidated bench (GI) – and to the repair area (RB). There are four positions associated with the core, the motor sergeant (AS), the senior mechanic (AS), the equipment rec/parts sergeant (CS), and the utilities equipment rep (GI). The remaining 10 positions are associated with the repair area (RB) at strength ALO1.

One way to simplify the analysis is to modify the small TEMF space allocation to make a work sheet for comparing authorized unit populations with the planning population. Figure 7-5 is a modified version of Figure 7-1 that adds a column for assigning values to the 66th MP Company. Interviews with the unit during the requirements analysis phase would verify that the RPLANS structure is reflected in the MTOE. The need for the various functional areas is also verified at this time. For this exercise, assume that the size of the spaces in Figure 7-5 highlighted in gray were evaluated, and those with the 66th MP Company value in bold italics were reduced based on the size of the unit and the amount of equipment. Note that the consolidated bench was also reduced because only one position is allocated to this space.

Repair bays are based on two mechanics per work area, and each work area is 512 NSF (16 feet by 32 feet). Because the MP Company has 10 repair bay personnel instead of 12, reduce the number of work areas to five from six. Maintenance areas are similarly reduced by two work areas. A review of unit equipment in the OTOE and MTOE show that welding equipment is not authorized. This eliminates the need for the welding bays shown on the Standard Design.

The circulation area is a design feature that provides for separation between the repair bays and the core area; such separation may or may not be present in a legacy motor pool.

This process identifies the distinct functional areas for which the MP Company is staffed and equipped to use. The bottom line is that the 66th MP Company should be able to perform its maintenance mission in about 58 per cent of the net area in the Standard Design, or considerably less space than the Standard Design would provide in a new-construction solution.

66 MP TEMF Calculations									
CORE ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL						NSF		
	66 MP	STD DSGN					66 MP	STD DSGN	
Admin & Shop Control	2	6	130 NSF Per person				260	820	
Training Room							0	1,020	
Consolidated Bench	1	6					210	580	
Other Core Personnel	1		The Class IX Parts Specialist works in the core.						
Combat Spares	Evaluate these areas individually to determine need. The company has 25 percent of the personnel strength that the plan assumes (three actual, compared with 12 in the standard design). The combat spares area may be larger than a company of this size would use. If there are no communications maintenance personnel authorized, a COMSEC vault might not be required. For this example, the items in bold italics were reduced to 50 percent of the standard design, based on the low population.						250	500	
Tool Room							200	400	
Latrine							240	480	
Break, Conf. & Training							270	270	
Weapons Vault							150	300	
COMSEC Vault							150	300	
Secure Storage							150	300	
Room (NIPR/SIPRNet)							280	280	
Core Area (NSF)							4	12	
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL		NUMBER OF CIRCULATION AREAS		WORK AREAS (512 NSF)		NSF		
	66 MP	STD DSGN	66 MP	STD DSGN	66 MP	STD DSGN	66 MP	STD DSGN	
Repair Areas	10	12			5	6	2,560	3,072	
Maintenance Areas					6	8	3,072	4,096	
Welding Areas	No welding equipment on MTOE				0	2	0	1,024	
Total Work Areas					11	16	5,632	8,192	
Secure Tool Storage / (4) Work Benches							192	192	
Circulation Area			0	1			0	768	
Total Repair Area (NSF)	10	12			11	16	5,824	9,152	
SHOP TOTAL (NSF)	14	24					7,984	14,402	

Figure 7-5: 66th MP Compared to Small TEMF

The planner wants to know whether Building 5837 will satisfy the 66th MP Company's TEMF requirement.

*Note: Use this type of comparison for determining whether an existing facility will be the right fit for an activity.*

Viewed in GSF, Building 5837, shown in Figure 7-6, has 17,555 GSF. On the surface, it might seem that it is adequate for the MP company. Figure 7-6 shows the functional areas of the building. Note that it does not have all of the required functional areas included in the Standard Design. Now, compare the MP Company's core requirements with the potential facility.

***Principle:*** Adhere to Army criteria and guidelines in developing requirements.

The administration and shop control areas in Building 5837, which are listed as offices on the figure, have a total of 4,753 NSF, with a capacity of at least 20 PN, based on the procedures in Chapter 3 and Appendix A. The bench repair areas total 2,017 NSF. Both are much larger than the 66th MP Company requires, based on Figure 7-5. However, the building has no vaults, although the area in the upper left marked "Arms Repair" may be able to be converted to an arms vault if it doesn't already meet the security requirements.<sup>4</sup> While there is no tool room or combat spares area, there are sufficient offices of adequate size to satisfy these functions. The latrine areas are smaller than would be constructed in a standard TEMF, but they may be adequate for the MP Company. The ample storage and office areas may be candidates for absorbing those core functions that are not specifically present, although some renovation may be required to satisfy arms and COMSEC vaults.

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<sup>4</sup> Always consult the provost marshal or post physical security team to evaluate whether a space is in compliance with or can be brought into compliance with arms room security standards.



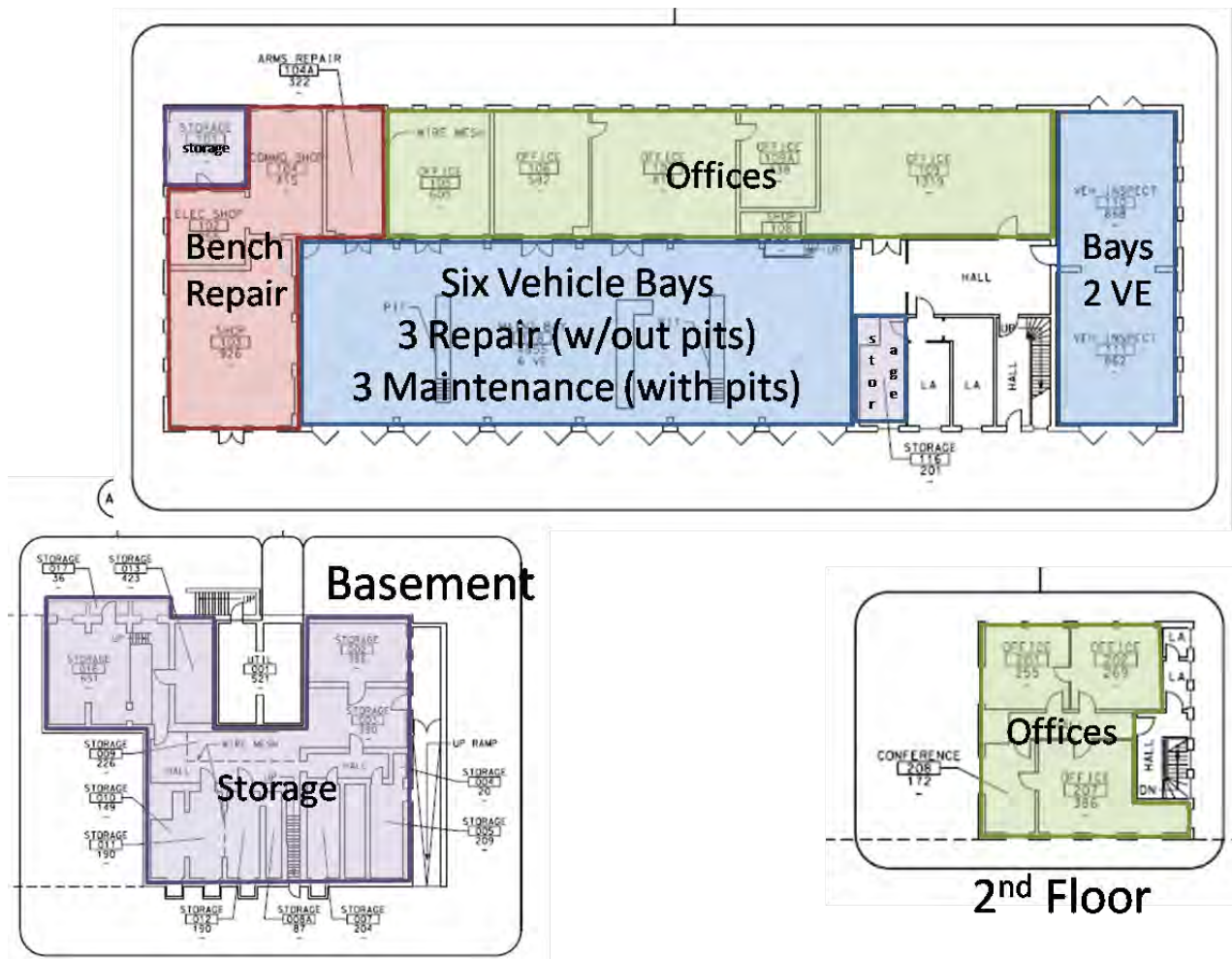


Figure 7-6: Building 5837

The main area of concern with Building 5837 is the vehicle maintenance bays. There are six repair areas and two vehicle inspection areas. If the doors are wide enough, they could provide eight of the 11 required maintenance and repair areas. Each of the bays is larger than the standard 512 NSF work area. Even though the net area of the bays, 6,585 NSF, is 95 percent of the required area, **the number of bays is inadequate**, and the placement and size of the doors preclude a more efficient use of the available area. In this case, the building could meet many of the requirements of the company, **but it will provide only 73 percent of the required vehicle work spaces**. If this is consistent with utilization of TEMFs installationwide, this may be an acceptable option.

Table 7-2 facilitates practical comparison of the standard, the 66th MP Company requirements, and the existing facility, Building 5837. The functional area column identifies the functional area and the basis for calculation (in parentheses, when not fixed). The “**STANDARD DESIGN**” column shows the basis (“**BASIS**” column) for the design and the corresponding area in NSF (“**ALLOW**” column). The 66th MP Company required columns list the actual basis (“**COUNT**”

column) and the corresponding requirement (“**RQMT**” column). The **BLDG 5837** columns list the available capacity (“**CAP**” column) and the actual net area (“**NSF**” column) available.

Some functional areas are standard regardless of the facility population (Fixed). Others vary, depending on the working population in the building.

In areas such as administration and shop control, the unit’s population is less than the standard population, so the requirement is smaller. Likewise, the total working population of the MP Company (14) is smaller than the basis in the standard (24).

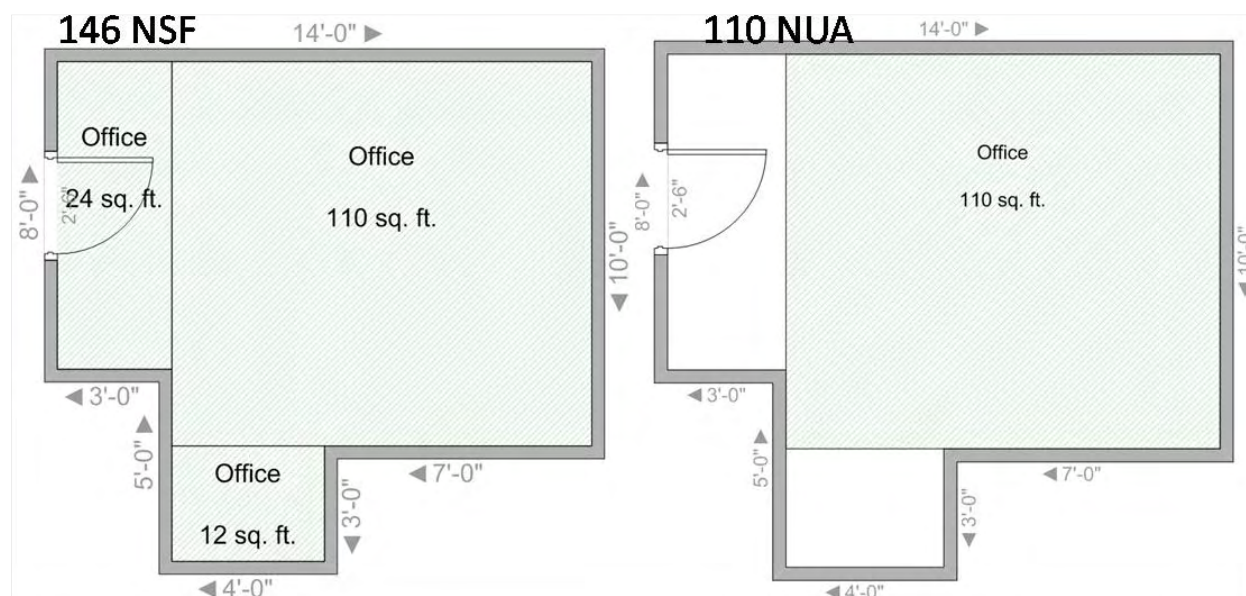
Table 7-2: Comparison of Standard Design to Requirement to Facility						
FUNCTIONAL AREA	STANDARD DESIGN		MP CO REQUIRED		BLDG 5837 AVAILABLE	
	BASIS	ALLOW	COUNT	RQMT	CAP	NSF
Administration/Shop Control (PN)	6	820	2	260	36	4,753
Training Room	Fixed	1,020		0		0
Consolidated Bench	6	580	1	210	18	2,017
Combat Spares Area		500	1	250		0
Tool Room/Tool Box Storage		400		200		0
Latrine Area (PN)	24	480	14	240	20 <sup>5</sup>	400
Break, Training & Conference (PN)	24	270	14	270	16	172
Weapons Vault	Fixed	300		150		322
COMSEC Vault	Fixed	300		150		0
Secure Storage Area	Fixed	300		150		0
NIPRNET/SIPRNET	Fixed	280		280		0
Other Storage		0		0		3,628
<b>Total Core Area</b>		<b>5,250</b>		<b>2,160</b>		<b>9,275</b>
Vehicle Repair Areas (VE)	6	3,072	5	2,560	3	2,427
Scheduled Maintenance Areas (VE)	8	4,096	6	3,072	3	2,428
Welding Work Areas (VE)	2	1,024	0	0	0	0
Total Repair, Maintenance and Welding Areas (VE)	16	8,192	11	5,824	6	4,855
Secure Tool Storage/Work Benches		192		192		0
Repair Bay Circulation Area (EA)	1	768	0	0	0	0
Inspection Areas (VE)		0		0	2	1,730
<b>Total Repair/Maintenance/Welding</b>		<b>9,152</b>		<b>5,824</b>		<b>6,585</b>
<b>Total Building Net</b>		<b>14,402</b>		<b>7,984</b>		<b>15,860</b>

<sup>5</sup> The Standard Design provides for lockers and showers. Depending on the configuration, these may not be present in Building 5837.

## C. Assign Space

### 1. Compare Net Usable Area with Required NSF

Functional area requirements are generally expressed in NSF. An existing facility that was not built under current standards typically will not have all of the required functional areas, nor will its size and distribution align with the Army Standard, as in the example of the MP Company and Building 5837. For occupied areas such as offices, compare the available net usable area (NUA) to the required NSF of each functional area. Figure 7-7 shows a side-by-side comparison for an office of NSF and NUA. See Chapter 3 for a discussion of NSF and NUA.



**Figure 7-7: Comparing NSF to NUA**

### 2. Perform a Detailed Inspection with the Unit

Continuing with the example above, if the installation elects to assign this existing building, Building 5837, to the MP Company, the installation performs a detailed inspection with the unit.

**Principle:** Encourage users to participate/get help.

*Perform a detailed inspection of the prospective facility with the unit, using the functional adequacy matrix from Appendix F.*

Perform an inspection with the unit to identify any deficiencies that prevent the building from being fully capable, such as the lack of an overhead crane. Space managers may want to use the functional adequacy matrix from Appendix F as a tool during the inspection to document the findings and deficiencies.

The inspecting team will determine necessary renovations and repairs, especially any life/health/safety issues preventing occupancy. Upon completing the inspection, the installation initiates the necessary work orders to bring the facility to an acceptable level of functionality and repair.

When the facility is ready for occupancy, the installation assigns the facility in accordance with standard real property procedures.

### 3. Update Systems

Annotate additions, alterations, and capital improvements on a DD Form 1354 if required, and update CADD files, GFEBS, and other systems as needed, to ensure current, accurate, and complete data. Update requirements in RPLANS to reflect the analysis outlined in this section.

**Principle:** *The most essential principle of space management is to know the inventory.*

*Having current, accurate, and complete data actively supports knowing the inventory.*

## V. ASSIGNING INSTRUCTIONAL SPACE

Assigning instructional space requires understanding the types of instructional buildings (see Chapter 3), as well as understanding the methods for calculating requirements for the different types (see Chapter 6).

Review the concepts in Chapter 3 and Chapter 6 regarding instructional space to prepare for assigning instructional space.

### A. Assign Direct Support Classrooms Adjacent

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate the classrooms in the same building to reduce time required to move between venues. This is especially the case for AIB classrooms that support AIT or OSUT.

**Note:** *When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms requiring GIB instruction in conjunction with the applied instruction.*

## **B. Assigning Shared Use of Applied Instruction Space**

In general, applied instruction classrooms within AIBs or spaces in buildings are often not conducive to shared use because of the larger size of the equipment involved and the greater specialization of supporting space. The Compact Item Repair Instruction Building (CATCD 17131) and the Automation Aided Instruction Building (CATCD 17136) are exceptions to this and may be candidates for shared use.

Low-density courses may be able to share space with other low-density courses, provided there is adequate storage for the equipment displaced for other training.

### **1. General Item Repair Instruction Space**

General Item Repair Instruction Buildings and space within buildings (CATCD 17132) is space designed to support training on items that, by virtue of their size and weight, require two or more people to lift and place on a bench, or that cannot be moved without mechanical assistance but do not require a high maintenance bay.

The physical characteristics of this type of space are similar to those of a consolidated bench in a TEMF (CATCD 21410). The equipment that supports this training is not easy to move to make room for other equipment, so shared use on a daily basis is usually not practical unless consecutive users require the same equipment and the nature of the tasks one group is performing does not preclude other groups from training using the same equipment.

For example, a generator course that disassembles and tests components on one day and reassembles them and tests the completed system the following day cannot easily share a classroom with other courses, even if they train on the same generator type.

### **2. Vehicle Maintenance Instruction Space**

Vehicle Repair Instruction Buildings (CATCD 17133) and space within buildings support training on items that, by virtue of their size and weight, require a vehicle maintenance bay to conduct training properly. The physical characteristics of this type of space are similar to those of a maintenance bay or a repair bay in a TEMF. This generally includes a high bay space and may also include an overhead crane.

Because of the size of the equipment, and the fact that it is often not operational, the amount of time it takes to move equipment in and out of the classroom limits the ability to share the space, except with other classes that require the same equipment. As with general item repair instruction, the nature of the training may preclude shared use, even when two courses use the same type of equipment.

### **3. Aircraft Maintenance Instruction Space**

Aircraft Maintenance Instruction Buildings (CATCD 17134) and space within buildings support training on aircraft frames or components. The airframes and components are not readily



movable. Sharing of space is limited to classes that work on the same airframe or system component.

#### 4. Laboratory Instruction Space

Laboratory Instruction Buildings (CATCD 17135) and space within buildings either support performing tasks that require a laboratory (e.g., chemical, soils, petroleum, electrical), or replicate work environments that involve activities using a specific type of space. For example, mortuary affairs and culinary arts training occur at the same school, and both require laboratory instruction space, but the classrooms are not interchangeable. The physical characteristics of this type of space may replicate several work environments:

- A laboratory in the conventional sense, if the purpose of the laboratory is to teach fundamental or foundational skills that are common to multiple MOSs or ASIs (e.g., general chemistry or physics lab).
- A specific type of laboratory used to perform tasks associated with a particular MOS or ASI (e.g., oil analysis lab, soils lab).
- A work environment associated with a specific MOS or ASI (e.g., dining facility, X-ray facility).

Except for the first case above, classrooms for facility category code 17135 are usually not conducive to sharing space beyond the specific MOS(s) or ASI(s) that they support because of the degree of specialization involved.

#### 5. Automation Aided Instruction Space

Automation Aided Instruction Building (CATCD 17136) is generally suitable for shared use. TRADOC limits use of this category code for Classroom XXI- certified classrooms. Careful scheduling is necessary to ensure optimal use.

While automation-aided-instruction classrooms may also serve as multipurpose classrooms if necessary, avoid this practice to ensure maximum availability of the special capabilities of these classrooms.

***Note:** Avoid using automation-aided-instruction space as multipurpose classrooms to ensure maximum availability of the special capabilities of these classrooms.*

#### 6. Material Handling Instruction Space

Depending on its configuration and training methods, a Material Handling Instruction Building (CATCD 17137) may be suitable for shared use.

#### 7. Limited Use Instruction Space

Limited Use Instruction Building (CATCD 17138) applies to buildings physically designed for single-purpose training, not suitable for any other purpose.

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## I. INTRODUCTION

There are three categories of functional areas that apply to space planning and utilization calculations: general functional areas, mission functional areas, and support functional areas. Chapter 3 defines all three types of functional areas.

This appendix provides criteria that apply to general functional areas wherever they occur. This appendix deals in net usable area (NUA) for occupied spaces such as private and open offices. Chapter 3 also defines NUA.

This appendix also addresses criteria based on capacity in number of persons (PN) for conference rooms and other collaborative spaces, and net square feet (NSF) for general functional areas that provide organizational support to occupied spaces.

**Note:** NUA measurements provide a means for comparing actual capacity in existing buildings with the design or intended capacity in Army Standards and Standard Designs.

NUA has no application to programming new construction.

### A. Applicability

The general functional areas in this appendix are the administrative overhead in mission facilities. They occur only in buildings, yet may occur in a wide variety of building categories.

This appendix provides planning factors for each type of general functional area. The factors do not automatically authorize space nor programmatically limit the amount of space a unit or organization may have. They provide guidance to help planners adjust requirements to reflect authorized strength or population, equipment, and missions.

Use these guidelines when Standard Designs do not address a particular type of general functional area that a unit or organization requires or for facilities that do not have approved Standards or Standard Designs.

Some Standard Designs have criteria for one or more of the general functional areas. When clear criteria exist in the Standard or Standard Design, the Standard Design takes precedence over this appendix for programming purposes. Use the guidelines in this appendix when assigning space in existing facilities or evaluating utilization. For example, a company operations facility (COF) includes a conference room in the administration module. The Standard Design stipulates a conference room to seat 10 PN at the table, plus six side chairs. It allows 310 NSF for this function. The COF conference room is a general functional area, but the specific criterion takes precedence over [Table A-3: Basis of Allowance for Conference Rooms](#) in this appendix for

programming. In assigning space, place emphasis on providing the capacity indicated in the Standard Design, rather than NSF or NUA.

When the planning process ends in a decision to pursue Military Construction (MILCON) funding, base the programming quantity (programmable units) on the Army Standard or approved Standard Design where applicable. This ensures that new facilities will have the flexibility to accommodate different occupants over time, if the need arises.

## **B. Definitions**

Use the following definitions to apply the criteria and procedures in this appendix.

### **1. General Functional Areas**

General functional areas are work-related areas that might be present in any facility to support work functions common to many activities. This may include offices, conference rooms, and storage areas in a COF administration module. General functional areas normally are work spaces or work support areas in which the facility users perform common tasks. They are included in the net area of a building.

#### ***Occupied Spaces***

Occupied spaces are areas intended to provide a private office or cubicle (open office). Occupied spaces serve as a primary workplace for managers, supervisors, analysts, administrative specialists, instructors, and others whose duties require a workstation with a computer, working files, desk-side printers, and/or other peripherals.

Express capacity in NUA and PN. Express requirements in PN and type (private or open).

#### ***Meeting and Collaborative Spaces***

Meeting and collaborative spaces are areas intended to support meetings, video teleconferences, and other collaborative activities.

Express capacity in NSF and the PN that the space can accommodate in a safe and reasonable manner. Express requirements in numbers of meeting spaces by PN, using NSF/PN capacity as the criterion.

#### ***Work Support Spaces***

Work support spaces are areas that provide space for files, printers/copiers, breaks, organizational equipment, storage, and supplies. Depending on the size of the organization, they may be distinct areas or rooms, or dispersed areas within occupied spaces.

In small organizations, the available NUA in the assigned NSF may be sufficient to absorb this requirement. In large organizations, this space may be in distinct areas and may have dedicated personnel who work in that area to perform or support the functions associated with the area.

## 2. Personnel-Related Definitions

One factor related to space management is the definition of who receives private office space. The level of an individual within an organization directly affects decisions concerning who may have a private office. Authorization documents use different terms for positions that are otherwise equivalent. The following definitions apply in space planning without regard to the position title in the Table of Distribution and Allowances (TDA) or the Table of Organization and Equipment (TOE).

### *Director Equivalent Position*

Director equivalent positions are positions in a headquarters with a general officer or civilian equivalent commander or director and who reports directly to the commander, to the chief of staff, or to an equivalent position.

### *Division Equivalent Position*

Division equivalent positions are positions in a headquarters with a general officer or civilian equivalent commander or director and reports to a director equivalent position.

### *Branch Equivalent Position*

Branch equivalent positions are positions in a headquarters with a general officer or civilian equivalent commander or director and reports to a division equivalent position.

## 3. Person Equivalent

Occupied space is easily viewed based on its capacity in PN. However, one organization's command conference room may become open office space for the next occupant. If the capacity of each room in a building has been assigned a capacity in PN in accordance with Chapter 3, it is possible to compare building capacity with required capacity by converting **special space** and **storage space** requirements to "person equivalent" units. To determine person equivalents, divide required NUA for **special** and **storage space** by 96 NSF, the space allowed for a single workstation in general functional areas. Add the result to the amount of required NUA for private and open offices. Use the resulting value to compare required capacity with available capacity in existing buildings. This is useful when the usable areas in a building have been captured based on their PN capacity.

Calculate this value by dividing the required NSF by 96 and rounding up to the nearest whole number. For example, an organization with 250 authorized personnel might need 3,750 NSF in 25 private offices, 21,600 NSF of open office space for 225 personnel, and 6,300 NSF of special and storage space. The special and storage space divided by 96 equals 65.63, or 66 PN equivalents. A building would need to have a capacity of approximately 316 PN to meet the total requirement.

## II. GENERAL FUNCTIONAL AREAS

Table A-1 lists the general functional areas. The “**TYPE**” column identifies occupied (OCC), collaborative (COL), or work support space (WSS). The “**CAP**” column shows the number of persons this space can support (capacity), “VAR” if variable, and “N/A” if capacity does not apply. The “**NUA**” column shows the standard allowance for occupied space. Chapter 3 explains how to apply the NUA to occupied spaces.

The “**NSF**” column provides the standard allowance for other-than-occupied space. The “**CIRC**” column (circulation rate as a percentage) shows the planning factor to determine the additional net area necessary to permit full use of the NSF allowed. The “**NSF TOTAL**” column is a planning factor for the space needed, on average, to meet the intended capacity of the functional area.

The Echelons Above Brigade Command and Control Facility (C2F) and Other Army Headquarters Standard Design uses the factors in Table A-1 in the process of programming a total gross area for new construction. Use Table 3-3 in Chapter 3 when assigning space or evaluating utilization in existing buildings.

Table A-1: General Functional Areas

TYPE	DESCRIPTION	CAP	NUA	NSF	CIRC(%)	NSF TOTAL	PN EQUIV
OCC	Private 01 (P1)	1	400		25	500	
OCC	Private 02 (P2)	1	300		25	375	
OCC	Private 03 (P3)	1	200		25	250	
OCC	Private 04 (P4)	1	150		25	188	
OCC	Private 05 (P5)	1	110		25	138	
OCC	Open ACOM	VAR	64		60	102	
OCC	Open Regular	VAR	48		100	96	
COL	12 PER CONF/VTC	12		255	25	319	4
COL	24 PERS CONF/VTC	24		572	25	715	8
COL	35 PERS CONF/VTC	35		805	25	1,006	11
COL	125 PERS Briefing/Conference Room	125		2250	25	2,813	30
COL	Executive Conference Room	35		805	25	1,006	11
COL	Command Conference Room	60		1600	25	2,000	21
COL	Team Room	8		120	25	150	2
WSS	Break	N/A		108	25	135	2
WSS	Ceremonial/Screening	N/A		1000	25	1,250	14
WSS	Distributed/Computer-Based Training Room	12		572	25	715	8
WSS	Distribution Room (EAC)	N/A		260	25	325	4
WSS	Distribution Room (OTHER)	N/A		200	25	250	3
WSS	Files	N/A		88	25	110	2
WSS	General Purpose Storage	N/A		96	25	120	2
WSS	Printer/Copier	N/A		96	25	120	2
WSS	Reception	25		250	25	313	4

ACOM = Army Command; CONF/VTC = Conference Room/Video-Teleconference; EAC = Echelon Above Corps

### A. Private Offices

Private offices are occupied spaces appropriate for use as a single workstation.

For Modified Table of Organization and Equipment (MTOE) units and organizations at brigade level and below, private offices are normally appropriate for commanders; the senior enlisted advisor; deputy commanders; executive officers; personal, coordinating and special staff principals and their senior enlisted advisers; attorneys; chaplains; re-enlistment counselors; equal opportunity (EO)/equal employment opportunity (EEO) staff; and inspectors on the staff of the inspector general (IG).

***Principle:*** Know the force – the strength or population, equipment, mission, and units.

*Distribute space equitably, and satisfy requirements effectively and efficiently.*

*Knowing the force, having objective procedures for processing change, and dealing with facts and accurate data will contribute to the user's perception that the installation distributes space equitably.*

Private offices may be appropriate for staff positions that involve recurring discussions of potentially sensitive personal information.

For MTOE organizations above brigade level and TDA organizations commanded by a general officer or headed by a Senior Executive Service (SES) member, the Standard authorizes private offices for key individuals in the command group. Provide private offices for director equivalent positions; his or her senior enlisted advisor; deputy directors; one position for the human resources professional at the director level, if present; and division chiefs. Branch chiefs who supervise 10 or more individuals are eligible for a private office as long as the organization does not exceed overall caps on net area. Private offices are normally appropriate for attorneys, chaplains, re-enlistment counselors, EO/EEO staff, inspectors on the staff of the IG, and internal review.

The Standard defines directors as individuals who report directly to the commander or the chief of staff. Division chiefs are individuals who report to a director. Branch chiefs are individuals who report to a division chief. These definitions take precedence over the position name in the authorizing TDA for assigning private office space. See definitions above in subsection I.B.2.

Use the guidelines in this section to determine private office requirements for other organizations, including TDA organizations, with a commander or director in the grade of O6 and below or the civilian equivalent.

**Principle:** Adhere to Army criteria and guidelines in developing requirements.

When providing a private office, use [Table A-2](#) to determine the appropriate size. [Table 3-3](#) in Chapter 3 provides guidance on minimum NUA and maximum NSF in existing buildings that qualify for the office types in [Table A-2](#).<sup>1</sup>

Table A-2: Private Office Allowances		
TYPE	ASSIGNMENT	NSF
P1	Commanders and Deputy Commanders in Grades O9 and O10. Heads and Deputies of Directorates, Offices, Bureaus, and Agencies in Grades O9, O10, and comparable positions	400
P2	Commanders and Deputy/Assistant Commanders in Grades O8 and O7. Heads and Deputies of Directorates, Offices, Bureaus, Agencies and Divisions in Grades O7, O8, SES, and comparable positions. Deputies of positions in P-1 Category.	300
P3	Commanders in Grade O6/O5. Deputy Commanders in Grade O5. Division Heads in Grades GS/GM 14-15 or Colonel who require private offices, comparable positions. Branch Heads in Grades GS/GM 14-15 or Colonel who report to Division Heads in P-2 Category and require private offices, comparable positions. Deputies of positions in P-2 Category who require private offices. Professional or Administrative Personnel in Grade GS-16 or Brigadier General and above who require private offices. Command Sergeants Major of positions in P-1 and P-2 Categories.	200
P4	Commanders in Grade O4. Division Heads in Grade GS-13 or Lieutenant Colonel who require private offices. Deputies of positions in P-3 Category who require private offices. Branch Heads in Grades GS/GM 13-15 or Colonel and Lieutenant Colonel who report to Division Heads in Category P-3 and require private offices, and comparable positions. Professional and Administrative Personnel in Grade GS-14/15 or Colonels and below who require private offices. Command Sergeants Major of positions in P-3 Category or above.	150
P5	Commanders in Grade of O3. Branch Heads in Grade GS-12, Major, and below who require private offices, comparable positions. Professional and Administrative Personnel in Grade GS-13, Lieutenant Colonel and below who require private offices. Staff Sergeants Major. Unit First Sergeants in Grade E8.	110

## B. Open Offices

By default, provide open office space to individuals who require a desk or workstation to perform their assigned duties, unless they meet the criteria in subsection II.A of this appendix. The default cubicle is 6 feet by 8 feet, with a 100 percent circulation factor (96 NSF), except for

<sup>1</sup> Source: Table D-1, AR 405-70, Utilization of Real Property

Army Commands (ACOM). The default cubicle size for ACOM is 8 feet by 8 feet, with a 60 percent circulation factor (102.4 NSF per person).

Adjust cubicle size when special circumstances justify a larger or smaller space. Examples include analysts or similar positions that require multiple computer workstations and monitors; customer service staff who require desk-side meeting areas; engineers or other staff who routinely require room to work with hard copy maps, floor plans, or oversize files at their workstations; and other similar situations. These situations may justify a larger work area.

On the other hand, in cases where personnel need a dedicated workstation incidental to or in addition to other work areas, a smaller cubicle may be appropriate. A shop supervisor or lead mechanic, for example, may spend most of his or her time supervising activities in the industrial areas of a building but require a workstation for doing administrative tasks and maintaining required records. It may be possible for this individual to meet all duty requirements in a smaller workstation than the standard of 48 NSF.

### C. Conference Rooms

Conference rooms are collaborative spaces that provide areas for meetings, internal training, and video teleconferences. Base the size of conference rooms on the required capacity. [Table A-1](#) lists the standard sizes for new construction. Use the areas associated with required capacity as a guide because the shape of a room may affect its capacity. Base the requirements analysis on organizational structure. However, position and assign conference rooms in a way that promotes shared use, when possible.

When a Standard or Standard Design stipulates the number and/or size of conference rooms, use the metrics in the standard, as provided in the functional adequacy matrix. Use the following basis of allowance in [Table A-3](#) when a Standard or Standard Design does not stipulate the number or size of conference rooms:

Table A-3: Basis of Allowance for Conference Rooms
BASIS OF ALLOWANCE
Not more than (NMT) one executive conference room per command suite.
For echelons above Corps only, NMT one extra-large (60-person) conference room per command.
NMT one large (35-person) per directorate or equivalent.
NMT one medium (24-person) per division or equivalent.
NMT one small (12-person) per special staff.
Total conference room capacity will not exceed 50% of supported organization's authorized strength.
Substitute a team room for a small conference room for division equivalents with fewer than 24 PN.

Provide dedicated conference rooms only when there is a strong justification. Command elements, contracting activities that conduct bidder debriefings for private companies, public affairs offices, inspectors general, and internal review are examples of activities that may warrant a dedicated conference room.



### D. Team Rooms

A team room is a collaborative space general functional area. It should be an austere enclosed space within an open office area. It may be either a hard-walled room or an enclosed modular-walled room. It provides a space for impromptu internal collaboration, counseling, and other activities that require privacy or sound separation. It should provide space for up to eight people around a small table. Provide not more than 120 NSF plus circulation for this space.

Table A-4 provides the basis of allowance when Standards or Standard Designs do not exist.

Table A-4: Basis of Allowance for Team Area Without Standard Designs
<b>BASIS OF ALLOWANCE</b>
One for every 50 staff positions within the open office or work areas.
NMT one per division equivalent of 20-49 positions.

### E. Break / Vending Areas

A break area is an area where individuals may prepare beverages, store and heat food, and obtain items from vending machines. Break areas normally do not provide seating.

For a secure area such as Security Zone 3 (SZ3) in facility category code 14190, C2F, if possible, provide the break area immediately adjacent to, but outside of, the secure area. Use the combined staffing of the largest shift of permanent staff to determine the size. Provide seating capacity for up to 25 percent of the largest shift, not to exceed 15 seats.

Table A-5 lists the basis of allowance when Standards or Standard Designs do not exist.

Table A-5: Basis of Allowance for Break/Vending Area
<b>BASIS OF ALLOWANCE</b>
Provide break areas at a ratio of one for every 100 staff positions, NMT 108 NSF per area.
Provide at least one per floor in multistory buildings, NMT 108 NSF per area.
Provide a consolidated break area for SCIFs, operations centers and network operation centers when they are within a contiguous or near-contiguous zone, NMT 108 NSF per area per 100 staff positions.

### F. Ceremonial / Screening (Assembly) Spaces

Assembly spaces are general functional areas near the main entrance to a building that facilitate access control and can accommodate small ceremonial gatherings such as promotion and award ceremonies or receptions. This type of space is distinct from large meeting rooms or auditoriums because it does not provide seating and cannot readily accommodate meetings or conferences. These areas are frequently open multistory spaces or atriums.

Base the size and capacity of assembly areas on the total capacity of the building. As a planning factor, allow 2,000 NSF for buildings with a capacity of 2,000 PN or more. For smaller buildings, allow 500 NSF plus 1 NSF per person over 500 PN, rounded up in increments of 25 NSF. For buildings with a capacity of more than 2,500 PN, add 1 NSF per person over 2,500 PN, rounded up in increments of 25 NSF. For example, an organization authorized 712 people would

be allowed 500 NSF for the first 500 people, 200 NSF for the 200 people over the 500, plus 12 SF rounded up to 25 NSF for the remaining 12 people, for a total of 725 NSF.

Do not confuse this space with vestibules or foyers, which are support functional areas that provide a transition between exterior spaces and interior spaces for limiting infiltration of heat or cold into conditioned spaces.

### **G. Distributed Training / Computer-Based Training Room**

A distributed training/computer-based training (DT/CBT) room is a dedicated computer-enabled digital training room. Provide one room for organizations with more than 500 PN authorized if the organization has training requirements and does not meet the criteria for allowances in facility category code [17119](#), Organizational Classroom; facility category code [17120](#), General Instruction Building; or facility category code [17136](#), Automation Aided Instruction Building. Provide a maximum of two stations for six persons each, equipped with Classroom XXI technology for soldier skills or small group training. The workstations require linkage with training and knowledge centers across the Global Information Grid (GIG).

The basis for DT/CBT Room is 572 NSF. Provide sufficient space in NUA to accommodate the required functions. Report DT/CBT rooms using the same category code as their parent administrative space.

### **H. Distribution Room**

A distribution room is a general functional area that provides a central location for processing incoming and outgoing correspondence, staff papers, packages, and other similar items. Echelons above corps (EAC) level have a base allowance of 260 NSF. Other organizations have a base allowance of 200 NSF. If the distribution room has a full-time staff, add to the basic allowance one regular open office space of 96 NSF for each full-time worker.

### **I. File Area**

File storage areas are a general functional area for shared or organizational files. The allowances for occupied areas include individual files. The file storage area will normally be part of the open office area rather than a separate room, unless security considerations apply.

Table A-6 provides the basis of allowance for file rooms without Standard Designs.

Table A-6: Basis of Allowance for File Rooms
<b>BASIS OF ALLOWANCE</b>
The basic allowance is 88 NSF. The basis for the allowance is 12 legal file cabinets or safes in two facing rows, with a 4-foot aisle.
One for every 30 staff positions within the open office space.
One additional file storage area for the public affairs office (PAO), contracting, the staff judge advocate (SJA), and the IG.

Adjust the requirement higher for organizations that have a mission to retain records for extended periods. An example of this is a transportation organization, which has both large files and the need to keep files for a long period of time. Reduce the requirement for organizations that do not have as many files per capita as the basis of allowance assumes.

## **J. General-Purpose Storage Rooms**

General-purpose storage rooms refer to the space an activity needs to store routine administrative supplies, spare parts for computers and peripherals, shared small hand tools and devices, and consumables. General-purpose storage is associated with the people and functions in the supported general functional area. Provide space in a lockable room, or allow the space necessary for storage lockers in open office areas.

In contrast to general-purpose storage, provide organizational storage (a mission functional area) for TOE equipment, deployable materials, mission-related equipment, and other organizational items. Base capacity for this mission functional area on a survey of the items the unit or organization needs to store.

For MTOE units, this space is normally included in the maintenance facility compound in facility category code [44224](#) (Organizational Storage Building) or [21412](#) (Maintenance Storage), or in the supply bay of the readiness module in the COF (facility category code [14185](#)).

Provide storage for other organizations within their primary facility, or in a separate building, based on the volume and type of material stored and the availability of space.

Table A-7 provides the basis of allowance for general-purpose storage rooms.

Table A-7: General-Purpose Storage Rooms
<b>BASIS OF ALLOWANCE</b>
The basic allowance for this functional area is 96 NSF per occurrence.
One storage room for every 100 staff positions within the open office space of a work area. However, do not provide storage areas for fewer than 20 staff positions unless there is a documented requirement.
Provide at least one room per floor in multistory buildings.
It may be necessary to provide additional rooms for accountability purposes when organizations operating under different funding streams share an open office space.

### K. Printer / Copier Spaces

Printer/copier spaces are general functional areas that provide shared printers and copiers, and associated functions. Associated functions include, but are not limited to, scanners, paper punches, report binding equipment, and shredders. The printer/copier area will normally be part of the open office area rather than a separate room, unless security considerations apply.

Buildings or spaces within buildings dedicated to the large-scale production of printed materials are mission functional areas outside of this definition.

Table A-8 provides the basis of allowance for printer/copier space.

Table A-8: Printer / Copier Space
BASIS OF ALLOWANCE
The basic allowance for this functional area is 96 NSF per occurrence.
Provide a printer/copier station for every 25 staff positions. Allow at least one station per floor in multistory buildings.

### L. Reception Areas / Waiting Areas

Allow reception areas based on position and function. Commanders, heads of directorates, offices, bureaus, agencies, and comparable positions in Grades O7–O10 and SES are authorized reception areas. Offices and activities that provide customer services, such as transportation and finance offices, may require reception areas. Research laboratories, test and evaluation facilities, contracting activities, and organizations that have frequent interactions with commercial or private sector agencies or individuals often require space for visitors because of security or confidentiality reasons.

Table A-9: Reception Areas / Waiting Areas
BASIS OF ALLOWANCE
The basic allowance for this functional area is 50 NSF per occurrence.
Provide 10 NSF per person for each person above a minimum of five people, based on the average number of visitors or customers served.

## III. OTHER CONSIDERATIONS

### A. Determining Requirements

Determine requirements for general functional areas to allow comparison with spaces available in existing buildings that were not constructed to meet the requirements of a current Standard Design. Compare the authorized strength of the organization multiplied by the NSF authorized per position with the NUA available. Use a copy of the authorization document, if available, to perform the determination.

- Identify the total PN that require space.
- Determine by paragraph and line on the TDA, MTOE, or other authorization document the PN that require private offices.

- Determine by paragraph and line in the TDA, MTOE, or other authorization document the PN that require an open office area.
- Determine by paragraph and line in the TDA, MTOE, or other authorization document the PN that require office space in a special-purpose space (e.g., SCIF, OC, or NOC).
- Use [Table A-1](#) and [Table A-2](#) associated with those personnel to determine the capacity NUA required.
- Verify with the tenant which functional areas are required. Omit functional areas that duplicate mission functional areas.

For large organizations and multiagency activities, a detailed space program is an effective tool for determining general functional area requirements and communicating with the supported organization. Section IV of this appendix provides step-by-step procedures for creating a space program.

### **B. Contiguous Space vs. Noncontiguous Space**

Some factors are facility dependent. Assigning an organization contiguous space on one floor of a single building normally requires less space than assigning noncontiguous space, because space on different floors, or splitting an organization between two or more buildings, generally requires duplication of some work support areas. When it is necessary to divide an activity between floors of a building or among multiple buildings, provide the necessary duplicate functional areas and adjust requirements accordingly.

***Note:** Assigning an organization contiguous space on one floor of a single building normally requires less space than assigning noncontiguous space.*

*This is because space on different floors, or splitting an organization between two or more buildings, generally requires duplication of some work support areas. This may also require duplication of equipment.*

## **IV. SPACE PROGRAM DEVELOPMENT**

### **A. Purpose**

This section provides procedures for developing a standard space program for organizations authorized an Army headquarters (Army HQ), as described in the Echelons Above Brigade Command and Control Facility (C2F) and Other Army Headquarters Standard Design. This section hereafter refers to the activity for which a program is being developed as the using, or supported, activity. These procedures apply to space programs for C2F (CATCD [14190](#)), or for other organizations authorized an Army HQ that are not addressed in another facility category (e.g., Brigade HQ). This section also is useful for determining requirements and evaluating

sufficiency for general functional areas for organizations that have a large nonstandard mission element in other facility categories, such as RDT&E.

A properly prepared space program can serve as the basis for evaluating and assigning existing facilities, and for programming new facilities. It provides detailed documentation necessary to fully justify a requirement edit in RPLANS, and provides a baseline from which to evaluate requirements as an organization changes over time.

## **B. General Process**

Using Microsoft Excel or Microsoft Access to perform the tasks described in this section can simplify documenting the process.

The space program development process has nine steps to provide a requirement by functional area and special-use space.

Determine the total net area required by functional area using the following steps:

1. Identify the supported population.
2. Organize the supported population by directorate and division equivalent level.
3. Identify organizational elements authorized special-use space.
4. Identify administrative work spaces by type (private or open) for each individual on the approved personnel document.
5. Identify special space allowances by directorate equivalent. For very large organizations (1,000 or more), allowances by division may be appropriate. For small directorates (fewer than 20 personnel), it may be appropriate to group compatible small directorates when determining requirements.
6. Identify special-use space requirements (SCIF, NOC, and OC).
7. Identify mission space, and add when applicable.
8. Aggregate net spaces to determine net area required.
9. For MILCON programming only, convert NSF to GSF.

To develop a gross area for programming purposes, apply the steps discussed below.

## **C. Develop the Space Program**

### **1. Identify the Supported Population**

This step requires interaction with the supported activity and may involve interaction with the parent organization or proponent over the using activity. Interviews with the supported activity may help validate data and produce a greater understanding of the organization and its requirements.

Obtain the personnel authorization document or documents of the using activity. Possible sources of information include the garrison PAIO, FMSWeb, or the activity itself. Multiple personnel authorization documents may need to be merged.

Obtain at least three years of records from organizations that customarily or habitually employ interns, temporary hires, or budget-based staffing (three continuous years). Merge final calculations with authorized personnel documents.

From the monthly number of hires over the three-year period, calculate the nominal average for the number of interns, temporary hires, or budget-based staff. The number of workstations is 35 percent of the nominal average.

If only two years of records are available, calculate the nominal average for the number of interns, temporary hires, or budget-based staff. The number of workstations is 25 percent of the nominal average.

Include this calculated number of workstations with the number of authorized personnel for final calculations in the appropriate work space (i.e., administration in administrative work space, lab in lab work space, and similar).

Identify planned activity changes in personnel strength, organization, or mission by interview, and verify through the supported activity's HQs.

Identify activities or elements affiliated with the using activity that require space in the building. Examples include other service, DOD, or foreign liaisons.

Identify elements of the supported activity that are not collocated with the proposed Army HQ, and identify elements that, by mission or function, require specialized work spaces (e.g., laboratory, general instruction building).

## **2. Organize the Supported Population**

When multiple authorization documents are associated with the using activity or activities, combine them into a consolidated document.

Using the definitions in section I.B.2 of this appendix, identify distinct staff elements (directorates, divisions, and branches). Identify all personnel authorizations that operate as part of a single director equivalent, regardless of the authorization document on which the position is listed.

Insert approved positions not included on an authorization document into the directorate equivalent with which they are associated.

## **3. Identify Elements Requiring Special and Mission Space**

Identify intelligence-related functions that require a SCIF, if any (remarks code SS in personnel documents, a position labeled "SSO" for special security officer, or a reference to "JWICS" may



be indicators). Flag positions associated with these functions for exclusion from steps 4 and 5, and calculate requirements in step 6.

Identify operational functions that require an operations center, if any (divisions or branches labeled “current operations,” or positions labeled “watch” or “duty officer” may be indicators). Flag positions associated with these functions for exclusion from steps 4 and 5, and calculate requirements in step 6.

Identify communications, network, or information systems functions requiring a network operations center, if any (divisions or branches labeled “network operations” or “database administration” may be indicators). Flag positions associated with these functions for exclusion from steps 4 and 5, and calculate requirements in step 6.

#### **4. Identify Administration Work spaces**

Identify administrative work spaces by type (private or open) for each individual who is authorized administrative work space. Assign each position that requires an administrative work space a type of space based on the following guidelines. (As part of step 6, repeat this procedure for personnel identified in step 3 to determine the work spaces within SZ 3.)

##### ***Determine Private Office Space Requirements***

Private offices are enclosed occupied spaces appropriate for use as a single workstation. Provide private offices for director equivalent positions and for their senior enlisted advisors; deputy directors; one position for the human resources professional at the director level, if present; and division chiefs. Branch chiefs who supervise 10 or more individuals are eligible for a private office as long as the organization does not exceed overall caps on net area. Private offices are also normally appropriate for attorneys, chaplains, reenlistment counselors, EO/EEO staff, inspectors on the staff of the IG, and internal review staff. Private offices may also be appropriate for staff positions that involve recurring discussions of potentially sensitive personal information. The Standard defines directors as individuals who report directly to the commander or the chief of staff. Division chiefs are individuals who report to a director. Branch chiefs are individuals who report to a division chief. These definitions take precedence over the position name in the authorizing TDA or other authorization document for the purpose of assigning private office space.

##### ***Determine open Office Space Requirements***

By default, provide open office space to individuals who require a desk to perform their assigned duties, unless they meet the criteria defined in the discussion of private office space requirements, above. The default cubicle is 6 feet by 8 feet, with a 100 percent circulation factor (96 NSF). Adjust cubicle size when special circumstances justify a larger space. Examples include analysts or similar positions that require multiple computer workstations and monitors, customer service staff members that require desk-side meeting areas, engineers or other staff

members that require room to work with maps and files at their workstations, and other similar situations.

Assign each position requiring administrative space a type of work space based on [Table A-1](#). List the base allowance, circulation, and total in separate columns to facilitate developing the program summary.

### **5. Identify Special Space Allowances**

Identify special space allowances by directorate equivalent. In some cases, for very large organizations (1,000 or more), calculating allowances by division may be appropriate. In other cases, for small directorates (fewer than 20 personnel), calculating allowances with adjacent groups of directorates may be appropriate. Special space includes space for files, printers/copiers, breaks, organizational equipment, directorate or division storage, and supplies. It also includes space such as the entry control lobby, distribution space, and distributed learning.

Using the information in [Table A-1](#), evaluate each directorate for special space using the total number of personnel authorized minus personnel identified for inclusion in special-use space in step 3.

If a spreadsheet format is used, insert a line for each allowed special space by type and quantity following the listing of the directorate personnel that are the basis for the requirement.

As part of step 6, repeat this procedure for personnel identified in step 3 to determine the special space requirements within SZ 3.

### **6. Identify Special-Use Space Requirements**

Repeat the steps in 4 and 5 for each of the applicable special-use spaces as identified in step 3.

### **7. When Applicable, Identify Mission Space**

Analyze the authorization document for personnel requiring space areas in other than general functional areas, e.g. instructors in Army schools and laboratory scientists.

Identify by paragraph activities that require mission space.

Exclude personnel in mission space from administrative space.

Calculate mission space in a planning charrette using approved mission statements and validated planning assumptions. Validation may come from the parent ACOM, ASCC, or the HQ DA proponent. Personnel support space integrated into mission space (e.g., instructor workstations, scientist/researcher workstations, conference rooms) are governed by the same criteria as the supported C2F or Army HQ.

### 8. Determine Total Net Area Required

Aggregate space by administration, special space, special-use space (SCIF, NOC, and OC), and mission space to determine the total net area required by programming area requirements and intra-office circulation.

<ORGANIZATION NAME>						
GENERAL PURPOSE HEADQUARTERS (GPHQ)						
VERSION 1.0 6x8 Cubicles with 100% Circulation						
PERSONNEL REQUIREMENTS SUMMARY						
Command						Personnel
<ORGANIZATION NAME> Standard Total Personnel						551
Total Admin Personnel						451
Grand Total HQ Facility Personnel						551
AREA REQUIREMENTS SUMMARY						
DE S C R I P T I O N	ADMIN / SPECIAL		SPECIAL USE SPACES			PROGRAMMED NSF
	ADMIN SPACES NSF	SPECIAL SPACES NSF	SCIF	NOC	OC	
Total Programmed Area Requirements	28,348	13,838	7,044	1,796	3,554	54,580
Total Intra - Office Circulation	20,623	3,460	4,221	1,005	1,662	30,970
Area Totals	48,971	17,298	11,265	2,801	5,216	
Subtotal 1 (All Programmed Area Requirements)						85,550
PART 2						
Electrical (1% of Subtotal 1)						856
Telecommunications (4% of Subtotal 1)						3,422
Subtotal 2 (Subtotal 1 Plus, Elec, Telecom)						89,828
PART 3						
Primary Egress and Inter-Organizational Circulation (25%) (General Building Circulation Includes: Primary Egress, Locker/Shower Area, Building Toilets, Janitor Area, Space For AAFES, Recycle Closet)						22,457
Subtotal 3 (Subtotal 2 Plus General Building Circulation)						112,284
PART 4						
Mechanical (7% of Subtotal 2)						7,860
Grand Total HQ Facility Area Requirements						120,144
BUILDING AREA PER PERSON						
Total Administrative NSF Per Person						63
Total GSF Per Person						218

**Figure A-1: Sample Summary Space Program**

Figure A-1 is an example of a summary program. The Area Requirements Summary section provides the required net area and the associated circulation area for administrative spaces, special spaces, and special-use spaces (SCIF, NOC, and OC). Adapt as necessary when mission space is required.

**9. Convert Net Square Feet to Gross Square Feet**

When the purpose of the space program is to support preparation of a DD Form 1391 for MILCON projects, it is necessary to convert the net area developed during the first eight steps to total gross area.

***Apply Approved Support Space Factors***

Apply approved support space factors (e.g., electrical, communications, building circulation and support factors, and mechanical). Use 1 percent of subtotal 1 for electrical, 4 percent of subtotal 1 for telecommunications, 25 percent of subtotal 2 for building circulation inclusive of the items listed in part 3, and 7 percent of subtotal 3 for mechanical, as a rule of thumb. Consider climate, OCONUS building codes, and other factors that may increase the requirement. Any increases must be validated by the COS on a project-by-project basis.

***Determine GSF Per Person***

Divide the total gross area by the total building population to determine GSF per person. Mission space and personnel allocated primary work spaces in mission space are excluded from this calculation. If the total area is greater than 230 GSF per person, contact the COS or the proponent to determine whether adjustments in the program are necessary to lower the overall scope to 230 GSF.

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## I. RELATING THE ISPCM TO OTHER ARMY TOOLS

The ISPCM complements other real property reporting, planning and analysis tools, including automated systems and planning references. This section provides a brief description of key tools and summarizes how they relate to the ISPCM. See Chapter 10 in the Master Planning Technical Manual (MPTM) for additional information on these systems.

### A. Installation Status Report

The Installation Status Report (ISR) is a Web-based decision support program designed to evaluate the condition and readiness of facilities, natural infrastructure, and services at Army installations worldwide. The ISR assists commanders at all levels in improving management and decision making across the Active Army, United States Army Reserve (USAR), and Army National Guard (ARNG) by providing information on the condition and readiness of facilities, natural infrastructure, and services; and by measuring performance and readiness against Army-wide standards. The ISR program consists of three component parts, ISR Infrastructure (ISR-I), ISR Natural Infrastructure (ISR-NI), and ISR Services (ISR-S). ISR-I evaluates installation facility conditions and adequacy. It identifies the improvement costs used to quantify Army backlog costs (renovate facilities to Army Standard). ISR-NI measures current and future installation mission support and sustainability capabilities in addition to environmental quality. ISR-S determines the quality and reports the cost of Base Support functions and provides the basis for the development of the Army's Base Operations Support (BOS) funding requirements.

Users can access the ISR at <https://isrtrain.hqda.pentagon.mil/isr/ISRMMainAKO> or <http://www.acsim-apps.army.mil/>.

### B. The Army Stationing and Installation Plan

The Army Stationing and Installation Plan (ASIP), operated and maintained by the Office of the Assistant Chief of Staff, Installation Management (OACSIM), documents authorized Army populations (military and civilian) throughout the world and all populations that work or train on Army installations. It documents the composition and assigned location of authorized Army forces worldwide over a 7-year planning window, consistent with approved and documented Army force levels. It provides the official Headquarters, Department of the Army (HQDA)-approved planning populations for Army installations by Unit Identification Code (UIC) for the current fiscal year and the next 6 fiscal years. It also captures other tenant activities on Army installations as well as transient and training loads on Army installations.

Army Regulation (AR) 5-18, Army Stationing and Installation Plan, provides full details on the ASIP and its use.

The ASIP provides the unit population of every unit, its authorized population, and other descriptive characteristics for the current and the next 6 fiscal years. Each unit's authorized



population is categorized using the ASIP population categories: Officers, Warrant Officers, Enlisted Personnel, U.S. Direct Hires (USDs), and Other Civilians. Unit characteristics include information such as the unit's name, UIC, component (COMPO), type code (TYPCO), Standard Requirements Code (SRC), branch, and assignment. It also includes the relationship of units to one another, such as the Headquarters and Headquarters Company (HHC); A, B, and C companies to their battalion headquarters; and TDA augmentations to their supported Mission Table of Organization and Equipment (MTOE) unit.

ASIP documents Active, USAR, and ARNG populations, Army and Department of Defense (DOD) civilians, service members and civilians in other services, Permanent Change of Station (PCS) and Temporary Duty (TDY) students, trainees, rotational loads, contractors, and commercial activities. In order to document all of these populations, ASIP groups their personnel into units. These units generally fall into one of four broad categories:

TOE unit — A unit that is documented by a Table of Organization and Equipment (TOE). The identifying UICs start with a 'W' and have a letter in the second position, i.e., WD8PAA.

TDA unit — A unit that is documented by a Table of Distribution and Allowances (TDA). The identifying UICs start with a 'W' and have a number in the second position, i.e., W4RCAA.

Student unit — A student load for one or more institutional training courses, represented by a single unit. The ASIP identifies which courses are aggregated into the student unit. These UICs start with an 'I,' i.e., I809/B.

Tenants Other Than Army (TOTA) — A population that does not fall into one of the categories above, represented by a single unit. These UICs start with a special character.

A station, identified by station code (STACO), represents a location to which a permanent Army population is assigned. ASIP stations are closely related to G3 Army locations (ARLOCs). If an ARLOC exists for a location that is needed by the ASIP to station a unit, the ASIP will use the ARLOC as the station. If an ARLOC does not exist, the ASIP will create a new station and feed the information to G3 as a request for entry into the ARLOC database.

All units are assigned to stations, and all stations are assigned to either a site or a base. A station may not belong to more than one site or base, but a site or base may have more than one station associated with it.

If you identify incorrect ASIP data (i.e., units, population, location), contact the installation's ASIP manager to resolve the issue. Note that the populations in TOE and TDA units must be consistent with HQDA-approved planning populations.

ASIP supports the Army's Real Property Planning and Analysis System (RPLANS) and is used by HQDA staff to help validate Active Army and Reserve Component (RC) Military Construction, Army family housing, and Non-Appropriated Fund projects. Because it is future-focused, ASIP provides the planner current and projected populations and authorized strengths.

Users can access ASIP at [https://asip.hqda.pentagon.mil/default\\_asip/default.htm](https://asip.hqda.pentagon.mil/default_asip/default.htm) or [www.acsim-apps.army.mil/](http://www.acsim-apps.army.mil/).

### **C. The Real Property Planning and Analysis System**

RPLANS is an integrated planning tool that allows installation and higher-level planners to efficiently calculate peacetime facility space allowances and compare them with available real property assets for a wide range of facility types. RPLANS provides automated support for master planning activities, including site planning, satisfying the requirement for an installation Tabulation of Existing and Required Facilities (TAB) outlined in AR 210-20, construction program development, stationing analysis, unit/organization facility allowances analysis, functional area assessments, and space utilization. An editing utility allows each installation to modify the calculated facility allowances to reflect special mission, equipment, or personnel impacts on its infrastructure.

RPLANS uses installation infrastructure assets via the Headquarters Installation Information System (HQIIS), including the ARNG real property inventory, and calculates facility allowances based on existing and projected force structures as defined in ASIP using approved business rules. Installations can request modifications to the requirement value for each category code. Each edit must be well-documented to explain why the edit is needed and how the new value for the requirement was determined. Once an edit is submitted, it is then reviewed by HQ IMCOM to determine whether it should be approved or disapproved.

RPLANS supports a number of other Army systems, including the Installation Status Report and the Facilities Degradation Model. RPLANS is also used by HQDA staff to help validate Active Army and RC Military Construction, Army family housing, and Non-Appropriated Fund projects. Because it focuses on the future, RPLANS provides the planner current and projected facility requirements as well as excesses and deficits.

Users can access RPLANS at <https://webplans.hqda.pentagon.mil> or [www.acsim-apps.army.mil/](http://www.acsim-apps.army.mil/).

### **D. Programming, Administration, and Execution System**

The primary automated system supporting MILCON programming is the Programming, Administration, and Execution System (PAX). PAX provides the U.S. Army with a Web-based, browser-accessible information technology (IT) portal environment with automated tools to allow engineers, planners, and programmers throughout the world to develop, estimate, justify,

submit, review, approve, and track the Army's annual construction program budget submissions. PAX supports the DD Form 1391 Processor; the Construction Appropriations Programming, Control, and Execution System (CAPCES); the Economic Analysis Program (ECONPACK); the PC-COST program; the DIRECTIVE Network (DIRNET) system; the Congressional View System; and the Accounting Control System (ACS). These applications allow the tracking of construction projects for the Army. This tracking capability includes design, construction, and fiscal information from project submission through construction completion and fiscal closeout.

The PAX system has a series of systems that support activities associated with management of the PAX system itself. PAX consists of many automated applications. These are standalone systems, but they are integrated in order to achieve the ultimate goal of supporting the Army's construction project development and programming needs. Each application is individually managed by its proponent. CAPCES provides the Army with a Web-based system to build, manage, and report MILCON programs.

The PAX system is available via the Internet at <https://pax.csd.disa.mil/>.

### **E. DD Form 1391 Processor**

The DOD uses DD Form 1391 to submit requirements and justifications in support of funding requests for Military Construction (MILCON) to Congress. The DD Form 1391 Processor System is the Web-accessible system that assists users in preparing, submitting, reviewing, correcting, printing, and archiving DD Forms 1391 and their associated data, in accordance with AR 420-1, Army Facilities Management (<http://www.hnc.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/10784/Article/482078/dd1391-processor-system.aspx>). The system currently accommodates projects for these major programs:

- Military Construction, Army (MCA), Army Reserves (MCAR), National Guard (MCNG)
- Production Base Support (PBS)
- Army Family Housing (AFH)
- Non-Appropriated Funds (NAF)
- Army and Air Force Exchange Service (AAFES)
- Maintenance and Repair (M&R)
- Defense Logistics Agency (DLA)
- Commercially Financed Facilities (CFF)
- Base Closure, Army (BCA)
- Special Operations Program (SOP)
- Medical Facilities (MED)
- Section 6 Schools (S6S)
- Relocatable Buildings (RB)
- Payment-in-Kind (PIK)

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Defense Finance Accounting Service (DFAS)  
Barracks Upgrade Program (BUP)  
Ballistic Missile Defense Organization (BMDO)  
Chemical Demilitarization (ChemD)  
National Missile Defense (NMD)  
Theater Missile Defense (TMD)  
Operations and Maintenance, Army Contingency Construction (OMACC)  
Energy Conservation Investment Program (ECIP)

Installations use the DD Form 1391 Processor and associated components and modules to program solutions to space management problems when one or more of the above-listed programs are an element of the solution. Users can access the DD Form 1391 Processor via the PAX System at <https://pax.csd.disa.mil/>.

### **F. Geographic Information System – Army Mapper**

The Army Installation Geospatial Information and Services (IGI&S) (Army Mapper) program office ensures the availability of the Army installation geospatial data infrastructure by providing policy guidance, program management, geospatial information technology, data, and services that support the overall management and resourcing of Army installations worldwide and the mission of the Army.

Army Mapper includes:

- Web Map Viewer: A Web-based interactive mapping tool providing basic viewing and querying of common data for all integrated installations
- Desktop Tools: Commercial GIS and CADD software available through Citrix
- Data Repository: Secure and robust data architecture to support managed maintenance and archiving of standardized installation data

Army Mapper tools and data are secured with permissions-based access utilizing CAC authentication.

Army Mapper can be accessed via <http://mapper.army.mil/>.

### **G. Headquarters Installation Information System**

Operated and maintained by the HQDA OACSIM, HQIIS is the Army's official system of record for installation, base, site, and enclave data. It is also the master data repository for the Army's RPI. As such, HQIIS receives RPI data from multiple authoritative source systems, including:

General Fund Enterprise Business System (GFEBS)  
Planning Resources for Infrastructure Development and Evaluation (PRIDE)  
Real Estate Management Information System (REMIS)

Rental Facility Management Information System (RFMIS)  
Army Stationing and Installation Plan (ASIP)  
Installation Status Report – Infrastructure (ISR-I)

HQIIS is the designated Army system that interfaces with the Office of the Secretary of Defense’s (OSD) Real Property Unique Identifier Registry (RPUIR) system, whose purpose is to assign unique identifiers to sites and assets within DOD. HQIIS is also the registry for establishing “base codes” (master planning areas), which is the reporting level within ASIP, RPLANS, and ISR.

HQIIS provides the Army’s real property inventory. It consists of a listing of every real property asset by RPUID, and the characteristics of each asset. The characteristics include design use category code, predominant design use category code, current use category code, predominant current use category code, size, capacity, operational status, and interest type. This data also identifies by RPUID the real property site to which each asset is assigned.

While HQIIS receives RPI data from multiple source systems as identified above, the key providers of HQIIS RPI data that RPLANS uses are GFEBS and PRIDE. GFEBS supplies RPI data for the Active Component (AC) and the USAR, and PRIDE provides ARNG RPI data. Changes or corrections to asset data displayed in HQIIS can be made by updating the corresponding data in GFEBS for the AC and USAR, and in PRIDE for the ARNG. Once asset data is updated in the source system, the changes will be incorporated into HQIIS.

Users can access HQIIS at [www.acsim-apps.army.mil](http://www.acsim-apps.army.mil).

## **H. General Fund Enterprise Business System**

GFEBS is the Army’s new Web-enabled financial, asset, and accounting management system that standardizes, streamlines, and shares critical data across multiple Army systems. GFEBS subsumed more than 80 legacy systems, and is a decision support tool that provides reliable data enabling Army leaders to make decisions in support of the nation’s war-fighting capability. GFEBS goes beyond real property, and when fully implemented will provide financial, asset, accounting, and cost information.

Users can access GFEBS through the GFEBS portal in Army Knowledge Online (AKO) at [www.us.army.mil/suite/page/247127](http://www.us.army.mil/suite/page/247127). The GFEBS portal can also be found by logging into AKO, searching for the term GFEBS, and following the link that is highlighted in the AKO Recommends box.

## **I. Master Planning Technical Manual**

The MPTM is a guide for the master planner to use in the development and implementation of the Real Property Master Plan (RPMP). As such, it provides guidance on the RPMP Digest, the

Long Range Component, Installation Design Guide, Capital Investment Strategy, and The Short Range Component. The ISPCM affects all of these because evaluation of the quantitative and functional adequacy of existing facilities may identify the need for new construction or renovation. Consult the MPTM on matters related to programming, land use, and site planning in conjunction with the related sections of the ISPCM. The MPTM is expected to be updated/replaced via the pending Master Planning-Desk Side Reference (MP-DSR).

### **J. Force Management System Web**

The Force Management System Web site (FMSWeb) is the portal for information that the United States Army Force Management Support Agency (USAFMSA) manages for the Army. The USAFMSA mission is to:

- Document all Army force structure, including manpower and equipment requirements and authorizations, using an integrated process
- Provide support, analysis, and discipline for Army's (personnel, materiel, resource, and force managers) plans and decisions
- Support leadership decisions to transform and shape the Army

FMSWeb, formerly WebTAADS, is the Web-based version of The Army Authorization Document System (TAADS) that USAFMSA uses as a primary tool for achieving its mission. FMSWeb is the official repository for Army decisions on mission, organizational structure, personnel, and equipment requirements and authorizations for Army units and Army elements of joint organizations for the current year through the first program year. FMSWeb maintains HQDA-approved authorization documents (MTOE, TDA, and Common Tables of Allowance [CTA]) and staffing documents for review and coordination with commands, installations, and units. Users can also view Consolidated Tables of Organization and Equipment (CTU), which contain approved TOE and Basis of Issue Plan (BOIP) data, view various briefing and edit files, print reports, and view other information used for force management and its processes.

Organizational documents are used by the Army to prescribe the mission, organization, personnel, and equipment of a unit. Two primary types of organizational documents include the TOE, which documents doctrinal units; and the TDA, which documents units for which a TOE has not been developed.

Users can access FMSWeb at <https://fmsweb.army.mil/>. A secret clearance is necessary in order to obtain an account.

### **K. Facilities Sustainment Model**

The Facilities Sustainment Model (FSM) projects annual facility sustainment costs through the budget and Future Years Defense Program (FYDP) years for all DOD facilities. Facilities sustainment provides resources for maintenance and repair activities necessary to keep a typical

inventory of facilities in good working order over a 50-year service life. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components (usually accomplished by contract) expected to occur periodically throughout the facility life cycle. This work includes regular roof replacement; refinishing wall surfaces; repairing and replacing electrical, heating, and cooling systems; replacing tile and carpets; and similar types of work. It does not include repairing or replacing nonattached equipment or furniture, or building components that typically last more than 50 years (such as foundations and structural members).

Sustainment does not include restoration, modernization, environmental compliance, specialized historical preservation, or costs related to acts of God, which the Army funds elsewhere. Other tasks associated with facilities operations (such as custodial services, grass cutting, landscaping, waste disposal, and the provision of central utilities) are also not included.

Users access FSM through the Facility Program Requirements Suite (FPRS). Users must first establish an account with FPRS at [www.acq.osd.mil/ie/fprs.shtml](http://www.acq.osd.mil/ie/fprs.shtml).

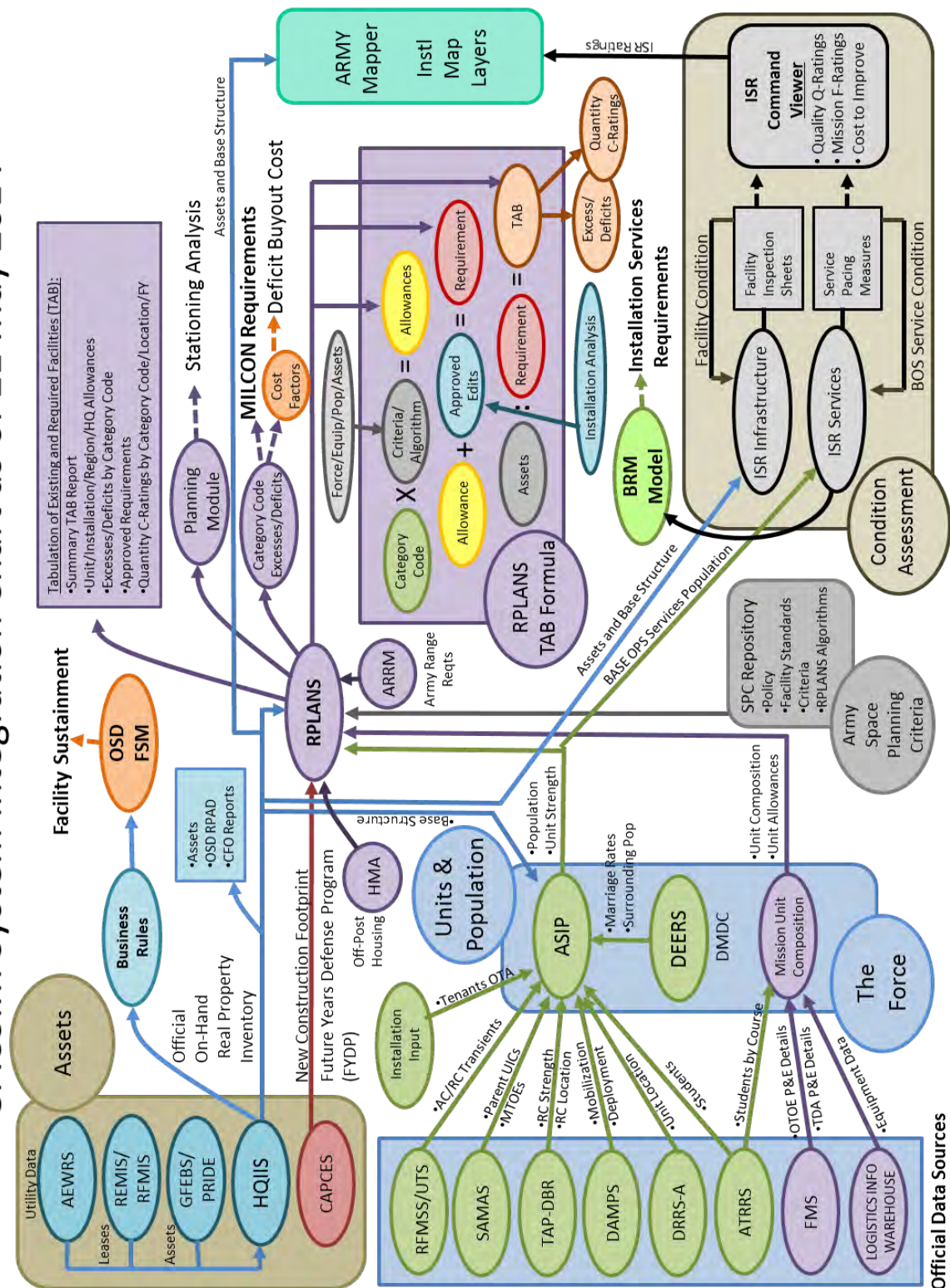
#### **L. IMCOM Project Prioritization System**

The Project Prioritization System (PPS) is used by installations, regions, Army major commands (MACOMS), and HQ IMCOM as a means to view and prioritize year-end projects for SRM. Installations input project data. System business rules generate priority ratings. The PPS is used to build other project lists through the fiscal year, thereby eliminating the need for data calls to the installations. The PPS is also used as a means to prioritize MILCON projects. Projects input in PPS are subject to view by all users. Installations and Regions are responsible for the accuracy of data submitted to Regions and Headquarters, Installation Management Command (HQ IMCOM). Log-in is by AKO password or CAC. Users must register prior to using the system. Access the PPS log-in page at: <https://securewebako.hqda.pentagon.mil/ako/pps/>.



### M. OACSIM System Integration Chart as of 21 May 2014

OACSIM System Integration Chart as of 21 May 2014



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This listing defines terms commonly used in Army real property space planning and management processes, and the facility category code system. While generally in alphabetical order, the following topics include all related terms under these headings:

	Pages
Area Measurements .....	1
Army Facilities Standardization Program .....	2
Category Code System .....	4
Classes of Supply .....	5
Housing Terms .....	8
Installation-related terms .....	9
Personnel Terms .....	11
Planning Levels .....	13
Acronyms .....	17

Acronyms and abbreviations are listed separately after the glossary; some listings include definitions of or information related to the acronym.

See also: [www.dtic.mil/doctrine/dod\\_dictionary/index.html](http://www.dtic.mil/doctrine/dod_dictionary/index.html)

## GLOSSARY

**Access Apron** A paved surface, usually of concrete, that is located immediately in front of the doors of an aircraft hangar or vehicle maintenance shop. See also hardstand, maintenance apron, and parking apron.

**Adequate Quarters** See “Housing Terms.”

**Allowance, Facility Allowance** In facility planning, the size and number of facilities that the Army will allow qualified agencies to use, as shown in official facility planning criteria. Compare with requirement.

**Ancillary Facilities** Structures, equipment, and other secondary facilities that support a primary facility.

**Appropriated Funds** Funds authorized and appropriated by Congress for specific purposes, such as construction of buildings. See also Nonappropriated Funds (NAF).

### Area Measurements:

**Gross Square Feet, GSF** All floor area (including all openings in floor slabs) measured to the outer surface of exterior or enclosing walls. It includes full areas of all basements, on-grade and above-grade floors, service and equipment rooms, boiler plant and heater rooms, mezzanines, penthouses, halls, vestibules, stairwells, enclosed passages and walks, finished usable space, and appended covered shipping or receiving platforms at truck or railroad car height. Also included in gross floor area are covered open porches, passages, and walks.

**Net Square Feet, NSF** Net square footage is that area defined as gross square footage less space occupied by outside walls, interior partitions, stair towers, elevator shafts and machinery, toilets, telephone closets, basements and attic spaces unsuitable for use, permanent hallways and corridors, and rooms housing machinery or equipment for heating or ventilating, and for furnishing light, power, and water for the building. More simply, the Net Usable Area (NUA) of a room is the product of its interior length and width. The NUA of a building is the sum of its rooms' NUA.

**Barracks Net Living Area (NLA)** The net living area for open-bay facilities for E-1 (trainee) is defined as being one equal share of the squad room. For other barracks, it is the clear area in the sleeping room allotted for an individual's bed, locker, and room circulation. It excludes lounges, bathrooms, built-in closets, general circulation areas, and access areas. See AR 420-1, Chapter 3. In a gang-latrine barracks room, NLA = NSF (net square feet) minus the door-swing area.

**Room** A single space or area enclosed by walls, a ceiling, and probably a finished floor. It may or may not have windows, or access security provided by a door. When there is no door, the opening connecting it to the adjacent space (another room) must be narrow enough to constrict personnel circulation and restrict visual communication between persons in the adjacent spaces. Otherwise, treat the space as an alcove or "ell," and include its area with the main space. A room must be large enough for personnel to accomplish a task. Otherwise, it is a closet.

**Space** A volume measured in three dimensions that defines the limits of the requirements for an activity. The Army uses and tracks space usage for real property for outdoor activities, as well as in structures and buildings.

**Army Facilities Standardization Program:**

This program is a formal process for developing Army Standards and Standard Designs that define the requirements and functional criteria for facilities that will be used in project programming, design, and construction for both new facilities and major renovations. Compliance with Army Standards is mandatory in the Standard Designs and Model Request for Proposal. See "Army Standards" and "Army Standard Designs"

**Army Standards** are universal, and mandated worldwide. They are immutable, permanent facility key performance parameters and required facility characteristics that define the fundamental purpose and function of a facility's design and construction. Army Standards define the facility key components, functional capabilities, features, and characteristics that must be included in the design and construction, and/or major renovation of all facilities of the same type, regardless of location, climate, available funding, command preferences, or installation and unit missions. Army

Standards ensure that facilities will support the Army's operational, functional, sustainability, and adaptability requirements for near- and long-term needs. Army Standards are prescriptive and/or performance-based, and usually are narrative or tabular. The degree of detail depends on the type of facility. They are developed in coordination with the Army functional proponent for the applicable facility, and approved by the ACSIM in coordination with the Army Facilities Standardization Committee (AFSC). Local commanders cannot waive criteria established in an Army Standard. Installations may deviate from established Army Standards only by obtaining a waiver to specific criteria from the AFSC (see AR 420-1, paragraph G-4, Waivers). Current Army Standards are maintained on the Army Installation Design Standards (IDS) website.

**Army Standard Designs** are those that have been developed under the DA Facilities Standardization Program that was directed by the vice chief of staff, Army. These designs were developed, approved, and implemented with Armywide input, and are mandatory for use in planning, programming, designing, and constructing projects for the facility types they were developed for throughout the Army (Per: AR 420-1). They are developed to ensure that the specific needs and functionality required by the Army functional proponent for a specific facility type are consistently provided through the incorporation of applicable Army Standards and the application of sound engineering principals in the design process. Note that when the term "Standard Design" is used in this document, it refers to both written criteria and graphic drawings (both Standard Designs and design criteria). Standard Designs are narrative and/or graphic criteria that delineate space allocations, functional layouts, and adjacencies or dependencies depicted as special relationships that form the basic configuration of a facility that must be used in developing design and construction drawings for a specific project. They include the mandatory Army Standard that must be included when adapting the design to specific regions. Standard Designs are used for the design, construction, or renovation of all similar facilities, but are developed to allow limited flexibility to meet the needs of local conditions and the installation's design guide. Standard Designs for Army mission facilities also incorporate solutions that provide a level of adaptability to meet future requirements or Army initiatives that will affect the facility type. In some cases, conditions of mission activities that result in engineering, functionality, and/or operability advantage are also incorporated. Whenever possible, multiple uses of the same space are considered to increase space utilization or provide even greater adaptability in the facility design. Standard Designs are approved by HQ USACE, developed and maintained by the designated center of standardization for that facility type, and are disseminated through the Army Installation Design Standards (IDS) website. Exceptions to the use of the mandated Army Standard in a Standard Design must be obtained from the Army Facilities



Standardization Committee (AFSC) (See AR 420-1, paragraph G-4, Waivers).

**Barracks** See “Housing Terms.”

**Base camp** Temporary field location for initiating training and field operations

**Billet** See “Housing Terms.”

**Building** Any facility with a roof and completely enclosed with walls.

**Campground** A Morale, Welfare, and Recreation facility – See facility category code 75086.

**Category Code System:**

**Facility Category Code** A series of five-digit numerical codes (data field/element) used to classify and categorize Army real property in the Army Real Property Inventory (RPI). These codes are based on ten basic functional classes stipulated by the DOD. The Army generally uses a five-digit code to plan, program, budget, design, construct, inventory, and maintain its facilities. See DA Pamphlet 415-28 and Appendix F of this manual for further information. Items in the system are individually and collectively referred to as facility category codes (CATCDs).

**Design Use Category Code** The design use category code is the category code assigned on the appropriate DD Form 1391 or DD Form 1354 reflecting the programmed function of the facility at the time it enters the inventory. This code will remain with the facility throughout its life cycle, unless officially converted to another facility category and documented on DD Form 1354

**Current Use Category Code** The current use category code is the category code currently assigned for the current use of a facility. The current use category code will be equal to the design use category code unless the facility has been diverted to another use.

**Conversion and diversion** Installation commanders may approve, in writing, facility conversions or diversions from design/current use for any purpose, except as indicated in AR 405–70, paragraph 3–6*d*. All such conversions and diversions will be reported in applicable facility use and assignment records. A conversion is a permanent change in both the design use and current use of a facility. A diversion is a temporary change in the current use of a facility not to exceed 3 years, and the installation must be able to return the facility to its design use in 72 hours or less, and for a cost of less than \$5,000 in new work. Diversion requires a real property inventory record annotation of the applicable temporary facility construction diversion category code, per AR 415–28. It does not change the category code on the real property inventory. Changes to a facility design use

category code that remain in the same three-digit series as the original category code do not require approval.

**Classes of Supply:**

- CLASS 1** Subsistence, including gratuitous health and welfare items (category code 43211 at installation echelon).
- CLASS 2** Clothing, individual equipment, tentage, tool sets and tool kits, hand tools, administrative and housekeeping supplies, equipment, and office furniture. Includes items of equipment, other than principal items, prescribed in authorization tables; and items of supply, not including repair parts (category code 44220 at installation echelon).
- CLASS 3** Petroleum products such as fuels; lubricants; hydraulic and insulating oils; preservatives; liquid and compressed gases; chemical products; coolants; deicing and antifreeze compounds, together with components and additives of such products; and coal (category codes 124XX and 41XXX at installation echelon).
- CLASS 4** Construction materials, including installed equipment and all fortification and barrier materials (category code 44220 at installation echelon).
- CLASS 5** Ammunition of all types, including chemical, radiological, and special weapons; bombs, explosives, and land mines; fuses and detonators; pyrotechnics; missiles; rockets; propellants; and other associated items (category code 42X XX).
- CLASS 6** Personal demand items (nonmilitary sales items) (category code 74055 at installation echelon).
- CLASS 7** Major end items. A final combination of end products that is ready for its intended use; includes principal items such as launchers, tanks, mobile machine shops, and vehicles (category code 21412 at installation echelon).
- CLASS 8** Medical materials, including medical-specific repair parts (category code 530 60 if TDA).
- CLASS 9** Repair parts and components (reparable and nonreparable), including kits, assemblies, and subassemblies required for maintenance support of all equipment (category code 21412 at installation echelon).
- CLASS 10** Materials to support nonmilitary programs such as agriculture and economic development; equipment and materials used in community carnivals; and other items not included in classes 1 through 9 (category code 44220 at installation echelon).

**Community Center** A meeting place used by members of a community for social, cultural, educational, or recreational purposes.



- Company Grade** The grade of officers normally serving in a company. The term is applied to lieutenants and captains (O1-O3).
- Complex** A complex is a grouping of two or more facilities that, by design, are in different facility categories and that, when taken together, serve a common operational purpose for a specific user or group of users. Each required facility category is a functional element of the complex or complexes with which it is associated.
- Compound Facility** A compound facility is a facility type that inherently consists of two or more category codes that must be present for the facility to meet its intended purpose. Compound facilities may be part of complexes, but normally do not constitute a complex. In some cases, the components of a compound facility may be in separate buildings that are adjacent to each other on a site, in which case a campus arrangement meets the intent of the compound facility.
- Condemnation** The appropriation of property for the public good through judicial proceedings.
- Conversion of Category Code** See “Category Code System.”
- Criterion (plural: -teria)** A standard rule(s) or test(s) on which a judgment or decision can be based.
- Current Use Category Code** See “Category Code System.”
- Design Use Category Code** See “Category Code System.”
- Directorate of Public Works, DPW** The organization responsible for the planning, management, and maintenance of facilities at a military site or installation. It was formerly known as the Directorate of Engineering and Housing (DEH).
- Diversion Category Code** See “Category Code System.”
- Enlisted Personnel** See “Personnel Terms.”
- Facility** In Army inventories, facilities consist of land and all items of improvements on land. This includes items such as buildings, sheds, utilities, roads, parking areas, fences, water lines, railroads, storage tanks, etc. For purposes of inventory, land, buildings, and utilities are distinguished from all other facilities (AR 405-45), which are considered to be “structures.” Note that communication lines are not facilities or utilities – they are signal items.
- Facility Category Code** See “Category Code System.”
- Facility Planning System, FPS** A computer system sponsored by ACSIM that is used to help calculate unit-level facility allowances for specific units.

- Facility Types** DA PAM 415-28 defines facility types as:  
B – Building. Measure in square feet (gross or net, depending on use of information).  
L – Land. Measure in acres.  
S – Structure. Anything that is not a building, land, or utility; measure in appropriate units of capacity.  
U – Utility. Measure in appropriate units of capacity.
- Facility Utilization** The manner and degree to which a facility is used.
- Field Grade** The grade of officers normally serving above company level. The term applies to major and above (O4-10).
- Firing Range** An area of land where projectiles or destructive energy beams are fired at targets.
- Flexible Pavement** The engineering term applied to the class of pavements that are commonly called bituminous. The term appears in technical manuals covering the design and utilization of vehicle and aircraft pavements.
- Footprint** The outline of a building that represents the position of the exterior walls at ground level.
- Force** See “Personnel Terms.”
- Functional Adequacy/Inadequacy** Functional adequacy is a comprehensive, objective measure of the ability of a facility to satisfy the functions associated with each of a facility’s category codes.
- Functional Component** An item of installed equipment, an environmental condition, or any other nonspatial feature that must exist within a building in order for it to meet the functional capabilities associated with a functional capability code of F1 or F2 for that facility category. Examples include overhead cranes in tactical equipment maintenance facilities, or air-conditioning in a network operations center. See Chapter 3, Facility Inventory and Functional Areas. See also “Functional Element” (next entry).
- Functional Element** A building, structure, or spatial relationship that is an essential part of a facility complex. See Chapter 4, Facility Complexes. See also “Functional Component” (previous entry).
- Garrison** A permanently established military BASOPS installation.
- Gross Square Feet, GSF** See “Area Measurements.”
- Hardstand** In Army facility planning, a hard, paved surface adjacent to a maintenance building. This high-traffic area is made of concrete and provides a temporary area for vehicles undergoing maintenance. It also provides direct access (entry) to the building maintenance bays. Hardstand is not an organizational or

mass vehicle parking area, nor is it a term used to distinguish wheeled- and tracked-vehicle parking. Note that AR 415-28 uses this term only in the context of aircraft pavements.

**Housing Terms:**

- AFH** Army Family Housing.
- BMP** Barracks Master Plan – a part of the Installation Master Plan.
- BUP** Barracks Upgrade Program provides Operations & Maintenance, Army (OMA) funding to completely restore/modernize existing barracks to an OACSIM-recognized 1+1 or equivalent room configuration. These modernizations provide semiprivate sleeping spaces for each Soldier, and meet the 1+1 or equivalent barracks standards articulated in AR 210-50.
- DU** Dwelling Unit – housing for one family; may be in an attached (multi-family) building or standalone.
- DVQ** Distinguished Visitor’s Quarters. Usually for unaccompanied field-grade officers or equivalents.
- OQ** Officer’s Quarters. Usually for unaccompanied company-grade officers or equivalents.
- SP** Space(s) used in counting barracks capacity.
- UEPH** Unaccompanied Enlisted Personnel Housing, same as UPH.
- UOPH** Unaccompanied Officer Personnel Housing, same as UOQ.
- UOQ** Unaccompanied Officer Quarters, same as UOPH.
- UPH** Unaccompanied Personnel Housing, same as UEPH.
- Adequate Quarters** Unaccompanied personnel (facility category codes 721nn) and lodging quarters (facility category code 72010) that meet common, minimum space and environmental standards of adequacy, as defined in AR 420-1.
- Barracks** A building or group of buildings used to house unaccompanied troops.
- Barracks Net Living Area** See “Area Measurements.”
- Billet** Any assigned living quarters for an unaccompanied Soldier.
- Hutment** A building used at major training areas to house troops.
- One Plus One, 1 + 1, Sullivan standard** A term applied to a modular living space concept used in barracks. Refer to the 721 series for a detailed explanation.

**One-Two-Three, 1-2-3** A term applied to a modular living space concept used in barracks. Refer to the 721 series for a detailed explanation.

**One-Two-Four, 1-2-4** A term applied to a modular living space concept used in barracks. Refer to the 721 series for a detailed explanation.

**Open-bay (barracks)** A temporary-style barracks that contains large, open sleeping rooms that accommodate up to 60 troops.

**Quarters** A building or part of a building used to house accompanied or unaccompanied military personnel.

**Substandard Quarters** Unaccompanied personnel and/or guest lodging quarters that do not meet common minimum space and environmental standards of adequacy, as defined in AR 420-1.

**Two Plus Two, 2 + 2** The term applied to a modular living space concept used in barracks. Refer to the 721 series for a detailed explanation.

**Hutment** See “Housing Terms.”

**Hutment Dining Facility** A building used at major training areas to feed the Soldiers and to show movies, and to provide space for conferences, meetings, and training.

**Igloo** A type of magazine that is recessed in the ground and covered with a thick layer of earth.

**Ingrant, Inlease** A grant or lease of real property controlled by other agencies for use by the Army.

**Installation-related terms:** (in receding order of publication date)

Per: **AR 420-1 – Facilities Management, February 2009**

**Installation** An aggregation of contiguous or near-contiguous real property holdings commanded by a centrally selected commander. An installation may consist of one or more sites.

Per: **DODI 4165.14 – DOD Instruction on Real Property, 31 March 2006**

**Base** This word is not defined in this reference. The reference includes “base, post, camp, station...” to try to encompass all of the different things the different military departments call an installation. The definition of “site” in the DODI is consistent with the way the term is now used in the Army.

**Installation** E2.1.11. A base, camp, post, station, yard, center, or other activity, including leased facilities, under the jurisdiction, custody, or control of the secretary of defense or the secretary of a military department or, in the case of an activity in a foreign country, under the operational control of the secretary of defense or the secretary of a military department, without

regard to the duration of operational control. An installation may include one or more sites.

**Site** E2.1.22. Physical (geographic) location that is or was owned by, leased to, or otherwise possessed by a DOD component. Each site is assigned to a single installation. A site may exist in one of three forms:

E2.1.22.1. Land only, where there are no facilities present and where the land consists of either a single land parcel or two or more contiguous land parcels.

E2.1.22.2. Facility or facilities only, where the underlying land is neither owned nor controlled by the government. A standalone facility can be a site. If a facility is not a standalone facility, it must be assigned to a site.

E2.1.22.3. Land and all the facilities thereon, where the land consists of either a single land parcel or two or more contiguous land parcels.

Per: **AR 405-45 Real Property Inventory Management, 1 November 2004**

**Base** A five-character designation representing an aggregation of contiguous or near contiguous, common mission supporting real properties under the jurisdiction of the DOD, controlled by and at which an Army organization is permanently assigned.

**Installation** An aggregation of contiguous or near-contiguous, common mission-supporting real property holdings under the jurisdiction of or possession controlled by the Department of the Army or by a state, commonwealth, territory, or the District of Columbia, and at which an Army unit or activity (Active, Army Reserve, or Army National Guard) is assigned. An installation is a single site or a grouping of two or more sites for the purposes of real property inventory control. The real property accountable officer is at the installation level.

Per various sources:

**Noncontiguous facility** A facility for which the Army (or other DOD service) has operating responsibility, but which is not located on, or in the immediate vicinity of, a base complex of that service. Its area includes only that actually occupied by the facility, plus the minimum surrounding area necessary for close-in security.

**Station** A general term meaning any military or naval activity at a fixed land location. This term is not defined in AR 5-18 (Army Stationing and Installation Plan), AR 10-5 (Stationing), or in any of the real property regulations.

**Lease** Real estate instrument that conveys possessory interest in property for a specific period of time.

- Magazine** An uninhabited, enclosed facility designed for the storage of weapons, ammunition, or explosives. These facilities are characterized by special construction techniques, high security, and isolated siting.
- Maintenance Apron** A paved area, usually of concrete, adjacent to a maintenance building, and used to temporarily park vehicles, equipment, and aircraft that are awaiting maintenance. Some minor maintenance may also be performed here. This is also identified as hardstand.
- Mess, mess hall** A cafeteria-style dining facility used to feed Soldiers. See DFAC.
- Mil Pop** See “Personnel Terms.”
- Modification Table of Organization and Equipment, MTOE, MTOE unit** An official Army authorization document that adapts the basic Objective TOE (OTOE) to the needs of a specific unit or type of unit within a specific command. MTOE units are generally deployable, and are used in combat roles. MTOE documents are important sources of data in compiling planning demographics. MTOEs must be approved by G-3 of HQDA. See also Table of Organization and Equipment (TOE).
- Net Square Feet, NSF** – See “Area Measurements.”
- Nonappropriated Funds, NAF** Funds, cash, grants, fees, and other donations received from sources other than Congress for specific purposes, such as construction of buildings. See also Appropriated Funds (APF).
- Noncommissioned Officer, NCO** An enlisted person appointed in grades E-4 through E-9, excluding specialists.
- Noncontiguous facility** See “Installation-related terms.”
- NSF International** Certification association for food preparation and related equipment. P. O. Box 130140; 789 N. Dixboro Road, Ann Arbor, MI 48105; telephone 734-769-8010; [www.nsf.org](http://www.nsf.org).
- One Plus One** See “Housing Terms.”
- One-Two-Three** See “Housing Terms.”
- One-Two-Four** See “Housing Terms.”
- Open-bay (barracks)** See “Housing Terms.”
- Open Storage** An improved, unsheltered ground area used for storage.
- Other-than-unit Level** See “Planning Levels.”
- Outgrant, Outlease** A grant or lease authorizing Army-controlled real property to be used by other personnel or agencies.

**Parking Apron** A paved surface used for the parking of vehicles or aircraft. In the category code system, the term is normally used only in conjunction with aircraft parking.

**Permanent Change of Station, PCS** The transfer of a unit or personnel for the purpose of permanently filling a duty position.

**Permanent Facility** In Army inventories, a facility designed and constructed to last for at least 25 years with a minimum amount of maintenance. Long-range planning is based on the amount of existing permanent and semipermanent assets only. Compare with semipermanent and temporary facilities.

### **Personnel Terms:**

**The Force** People, equipment, and missions form the basis for requirements. Understanding the force includes knowledge of population, demographics, force structure, and missions. People represent the military strength, military population, or other authorized users supported by a facility category based on the applicable criteria. Equipment represents the vehicles and other rolling stock, machinery, or other equipment that must be parked, maintained, operated, or stored within or adjacent to buildings or structures. Population counts people. Demographics describe people. Force structure describes units and organizations. Missions refer to the things that units or organizations do that require facilities, and include the services that installations provide to the units, organizations, and populations.

**Eligible Population** Those military and civilian personnel, as established by the criteria for population-driven facility categories or population-driven functional components of unit-level facility categories, that planners may include in the basis for requirements for a specific facility category. It may include military personnel from other services at an installation, active-duty personnel from all DOD services within a designated area, retired military personnel, and Reserve component Soldiers not assigned to the installation. The composition of the eligible population varies by facility category.

**Military Strength** Normally refers to the number of authorized military personnel in a unit or at an installation. When referring to the total number of military personnel authorized at an installation, it may or may not include Reserve component Soldiers. The personnel who may be included when the eligible population is defined as the military strength varies by facility category.

**Military Population (Mil Pop)** Normally includes the military strength plus authorized dependents and, in OCONUS areas, U.S. civilians. The personnel who may be included in the eligible population varies by facility category.



**Trainees** Personnel undergoing training to prepare for first permanent duty assignments, and personnel at Army training centers and service schools in either a Temporary Duty Yonder (TDY) or Permanent Change of Station (PCS) status. Trainees are not generally authorized facilities on the same basis as permanent party personnel.

**Permanent Party** The military and civilian personnel assigned by permanent change of station (PCS) orders. This also includes personnel who are undergoing training for a period of 20 weeks or more. In facility planning, these personnel are the main demographic component upon which long-range planning is based. Contrast with TDY.

**Senior Enlisted, Senior NCO** An enlisted person appointed in the grades of E-7 through E-9. In facility planning, these personnel are often authorized separate unaccompanied quarters (see 72170), rather than living spaces within barracks.

**Enlisted Personnel** Term that includes male and female members of the armed services below the grade of an officer or warrant officer.

**Squad** The smallest unit normally found in a military organization. A squad usually has five to ten personnel.

**Dependent** An individual who is authorized access to government services on military installations and/or a military ID card by virtue of their relationship to a member of the U.S. military services. This may include the spouse, children under the age of 18 (or 23 for full-time students), and other individuals for whom the military member is the legal guardian.

**Dependent Population (Dep Pop)** The sum of dependents at a particular installation that contribute to the military population, and/or the eligible population for a specific facility category. The percent of dependents that contribute to the eligible population varies by facility category.

**U.S. Civilian (US Civ Pop)** A federal employee who is a citizen and hired with appropriated funds.

**Pop Srv** Population Served (used only in algorithm calculations); usually a sum of two or three special populations, e.g. Mil Pop + Dep Pop.

**Warrant Officer** An officer appointed by warrant, usually in a technical area of responsibility, such as vehicle or aircraft maintenance. The rank is below that of a commissioned officer but above a noncommissioned officer. In facility planning, warrant officers are generally grouped demographically with company-grade officers, except that WO-4 and WO-5 relate to field-grade officers.

**Planning Levels:**

The ISPCM designates a planning level for each facility category code as one or the other of two mutually exclusive levels. There are a very few exceptions that can be neither level such as MEDCOM. The two levels are:

**Unit-Level Facilities** Facilities that would normally be assigned to a unit or organization for its exclusive use to perform missions or functions that are internal to the organization; the basis for the quantity or capacity is a function of the mission. It would be reasonable to find multiple facilities of this type assigned to a variety of organizations at a single site.

For the purposes of this definition, Army Schools are organizations that have a parent Table of Distribution and Allowances (TDA) and the associated Army Training Requirements and Resources System (ATRRS)-derived student Unit Identification Codes (UICs).

**Other-Than-Unit-Level Facilities** Facilities wherein the missions, people, or equipment that form the basis for a requirement are external to the organization that controls the facility, and the primary users of the facility are not members of the controlling unit or organization, e.g. airfields, community services, ranges, security, utilities, etc.

**Plant** Utility system equipment, such as a heating plant; or machinery used for industrial production, such as an ammunition plant.

**Pop Srv** See “Personnel Terms.”

**Population** See “Personnel Terms.”

**Proponent** The office of the deputy chief of staff responsible for promulgating policy related to allowances, requirements, standards, etc. At the DA level, these are designated by G-n; where n equals 1 – Personnel and Administration; 2 – Intelligence and Security; 3 – Operations; 4 – Logistics; 5 – Plans; 6 – Signal (communications); 7 – Training; 8 – Finance and Contracts (resource management); and 9 – Civil Affairs.

**Quarters** See “Housing Terms”

**Quartermaster** An archaic term for a military officer who is responsible for providing food, clothing, and equipment to the troops. The BASOPS organization responsible for this mission was previously the Directorate of Industrial Operations (DIO), but is now the Directorate of Logistics (DOL).

**Range Fan** An outline shown on a map or drawing that depicts the restricted-use area of a range caused by operational and safety considerations. It may also be called a surface danger zone.

- Real Property** In Army inventories, the land and rights therein, ground improvements, utility systems, buildings, and structures, but excluding equipment (AR 405-45) in place.
- Requirement, Required Facility** In facility planning, the facilities that an installation determines to be essential for the accomplishment of its units' or tenants' mission(s). The size and number may be less than, equal to, or greater than HQDA-approved allowances, and are determined by professional master planning judgment following comparison of allowances with unit-specific missions. Required facilities may be less than, equal to, or greater than current adequate assets. When required facilities exceed current adequate assets, this begins the process for justifying MILCON. See "Allowance."
- Revetment** A barricade that is constructed to protect against the blast caused by explosions. The term commonly refers to structures placed around parked aircraft to protect them from hostile attack.
- Ricochet Area** The ricochet area depicts the zone in which ricocheting projectiles can be expected to pass or hit.
- Rigid Pavement** The engineering term applied to the class of pavements that are commonly called concrete. The term appears in technical manuals covering the design and utilization of vehicle and aircraft pavements.
- Semipermanent Facility** In Army inventories, a facility designed and constructed for a limited period of time of 5 to 24 years, with a moderate to high degree of maintenance.
- Senior Enlisted, Senior NCO** See "Personnel Terms."
- Service Outlet** An Army and Air Force Exchange Service (AAFES)-operated function that provides consumer services and specialty retail sales to authorized military and civilian personnel, and their family members.
- Shed** A structure used for storage or shelter that is not fully enclosed by walls. This includes a variety of structures, including those having only one side open, and those with vertical supports and a roof but no walls, which is just a canopy.
- Shop** A building for the manufacture or repair of machinery, equipment, and similar items (such as a vehicle maintenance shop); or a small retail store or department within a large retail store (exchange shops, for example).
- Squad** See "Personnel Terms."
- Space** See "Area Measurements."
- Standard Designs** See "Army Standard Designs."

**Standard Requirements Code** A basic set of codes, integral to each current table of organization and equipment, which, when associated with organizational data, is the basis for personnel and supply computations.

**Station** See “Installation-Related Terms.”

**Storage Facility** A facility used primarily to store materials, equipment, and provisions. Compare with supply facility.

**Storehouse** An (enclosed) storage building that does not have temperature-control equipment. This type of facility is not suitable for daily habitation. Compare with “Warehouse.”

**Strength** See “Personnel Terms.”

**Structure** A facility that is not land, a building, or a utility system.

**Students** Students under PCS orders attending a training course or school for 20 weeks or longer.

**Substandard Quarters** See “Housing Terms.”

**Supply Facility** A facility used to store and dispense materials, equipment, and provisions. The main purpose is to dispense rather than store items. Contrast with storage facility.

**Table of Distribution and Allowances, TDA, TDA organization** An official Army authorization document that defines the personnel, equipment, and mission for special organizations. TDA organizations are generally not deployable, and are used to staff fixed installations. TDA documents are important sources of data in compiling planning demographics. See also Table Of Organization and Equipment (TOE).

**Table of Organization and Equipment, TOE, TOE unit** An official Army authorization document that defines the basic personnel, equipment, and mission for different units. TOE units are generally deployable, and are used in combat roles. TOE documents are important sources of data in compiling planning demographics. See also Modification Table of Organization and Equipment (MTOE).

**Temporary Facility** In Army inventories, a facility designed and constructed at minimum initial cost and intended to last for a short period of time (less than 5 years). These are not considered as assets in the Master Plan. Their acquisition and use is not encouraged.

**Trainees** See “Personnel Terms.”

**Two Plus Two** See “Housing Terms.”

**Unaccompanied Personnel** Military personnel and DOD civilians who are not accompanied by family members.

**Unit-Level Facility** See “Planning Levels.”

**Warehouse** An (enclosed) building used for storage or supply that has temperature-control equipment and is suitable for daily habitation. Compare with storehouse.

**Warrant Officer** See “Personnel Terms.”

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**ACRONYMS**

<b>AAC</b>	Attack, Assault or Cavalry (Battalion). See also ASB, Aviation Support Battalion; and GSAB, General Support Aviation Battalion).
<b>AAF</b>	Army Airfield
<b>AAFES</b>	Army and Air Force Exchange Service
<b>AASHTO</b>	American Association of State Highway and Transportation Officials
<b>ACAP</b>	Army Career and Alumni Program
<b>ACES</b>	Army Continuing Education System (CATCD 74025)
<b>ACOM</b>	Army Command
<b>ACP</b>	Access Control Point
<b>ACS</b>	Army Community Service, Accounting Control System
<b>ACSC</b>	Army Community Service Center
<b>ACSIM</b>	Assistant Chief of Staff for Installation Management
<b>ACSM</b>	American College of Sports Medicine
<b>ACTS</b>	Army Criteria Tracking System. A computer system sponsored by HQ-DA that is used to store and disseminate official Army facility planning criteria.
<b>ADA</b>	Air Defense Artillery
<b>ADAAG</b>	Americans with Disabilities Act accessibility guidelines (for buildings and facilities)
<b>ADACG</b>	Arrival and Departure Airfield Control Group
<b>ADPL</b>	Average Daily Patient Load
<b>ADP</b>	Automated Data Processing
<b>A/E</b>	Architect/Engineer
<b>AFF</b>	Automated Field Fire; Above Finish Floor
<b>AFH</b>	Army Family Housing
<b>AFM</b>	Air Force Manual
<b>AFSB</b>	Army Field Sustainment Brigade

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<b>AFSC</b>	Army Facilities Standardization Committee – See “Army Facilities Standardization Program.”
<b>AFSS</b>	Army Standardization Subcommittee
<b>AHP</b>	Army Heliport
<b>AIB</b>	Applied Instruction Building
<b>AIT</b>	Advanced Individual Training
<b>AKO</b>	Army Knowledge Online is the Army’s single enterprise Web portal. AKO provides the Army enterprise with email, directory services, portal, blogs, file storage, instant messenger, and chat. All members of the Active Duty Component, National Guard, Reserves, DA Civilian, and select contractor workforces may have an account that grants access to Army Web assets, tools, and services worldwide.
<b>ALC</b>	Advanced Leader Course
<b>ALO</b>	Authorized Level of Organization is the alpha or numeric code that establishes the authorized personnel and equipment level for a specific Modification Table of Organization and Equipment (MTOE) unit. The value for the ALO is the 10th character of the Standard Requirement Code (SRC).
<b>ALOE</b>	Average Length of Encounter
<b>ALSE</b>	Aviation Life Support Equipment comforts, sustains, and protects aircrew members throughout the flight environment. ALSE also provides the aircrew member with additional protection from impact and post-crash fire. It enhances the means to escape, evade, and survive for recovery in combat or any hostile environment.
<b>AMC</b>	Army Materiel Command
<b>AMSA</b>	Area Maintenance Support Activity provides, on an area basis, technical assistance and unit maintenance support beyond the supported unit's capability during scheduled training assemblies.
<b>AOR</b>	Area of Responsibility
<b>AP</b>	Authorized Population
<b>APF</b>	Appropriated Funds
<b>APO</b>	Army Post Office
<b>APZ</b>	Accident Potential Zones
<b>AR</b>	Army Regulation; Armor; Animal Run



<b>ARF</b>	Automated Record Fire
<b>ARFF</b>	Aircraft Rescue and Firefighting (agent)
<b>ARLOC</b>	Army Location
<b>ARNET</b>	Army Reserve Network (ARNet) provides unclassified communications to external DOD and other U.S. government organizations. This is done primarily via electronic mail and Internet network protocols such as, but not limited to, Web, FTP, and telnet. The ARNet is approved to process unclassified, sensitive information in accordance with AR 25-2.
<b>ARNG</b>	Army National Guard
<b>ARRM</b>	The Army Range Requirements Model provides a consistent and reasonable framework for Army headquarters, major commands, and installations to use to calculate training land capability and requirements at individual installations. This is just one step in the Army's overall process for determining land needs and acquiring land for training. The model uses Army training doctrine in conjunction with data from seven administrative and operational databases to calculate an installation's annual training requirements. These requirements can indicate either an adequate supply of land and ranges, a surplus, or a shortfall.
<b>ARTEP</b>	Army Training and Evaluation Program (ARTEP) is a DA publication that contains guidance and instructions on how to train and evaluate Table of Organization and Equipment (TOE) units. ARTEPs consist of either Mission Training Plans (MTPs) or drills.
<b>AS</b>	Army Standard
<b>ASB</b>	Aviation Support Battalion – See also AAC (Attack, Assault or Cavalry Battalion) and GSAB (General Support Aviation Battalion).
<b>ASC</b>	Army Sustainment Command
<b>ASCC</b>	Army Service Component Command is an Army force, designated by the SA, composed primarily of operational organizations serving as the Army component for commanders of combatant and subunified commands.
<b>ASI</b>	Additional Skill Identifier (ASI) consists of a two-position alphanumeric code that is authorized to relate a specific occupational skill or item of equipment to a Military Occupational Specialty Code (MOSC).
<b>ASIP</b>	Army Stationing and Installation Plan – database linking UICs (Unit Identification Codes) to sites.
<b>ASL-MS</b>	Authorized Stockage List – Mobility System

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<b>ASP</b>	Ammunition Supply Point
<b>ASR</b>	Airport Surveillance Radar
<b>AST</b>	Advanced Skills Training/Trainees
<b>ASV</b>	Annual Service Volume (ASV) is a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time.
<b>AT</b>	Annual Training
<b>AT&amp;L</b>	Acquisition, Technology, and Logistics – See “Unified Facility Code” (UFC)
<b>AT</b>	Antiterrorism
<b>AT/MOB</b>	Annual Training/Mobilization
<b>ATC</b>	Army Training Command; Air Traffic Control
<b>ATCT</b>	Air Traffic Control Tower
<b>ATRRS</b>	Army Training Requirements and Resources System (ATRRS) is the DA Management Information System of record on virtually every course that is taught by or for Army personnel at military and DOD training institutions. ATRRS is the information source for course scope and prerequisite data published in DA PAM 351-4, the U.S. Army Formal Schools Catalog.
<b>ATSC</b>	Army Training Support Center (ATSC) plans, integrates, implements, and sustains specific Training Support System (TSS) programs, products, services, and facilities that support training across all training domains, TRADOC's core missions, and the Army.
<b>ATSCOM</b>	Air Traffic Services Command
<b>AV</b>	Audio-visual
<b>AVIM</b>	Aviation Intermediate Maintenance
<b>AVUM</b>	Aviation Unit Maintenance
<b>AWRSPTCMD</b>	Army War Reserve Support Command
<b>AWS</b>	Air Weather Service
<b>AWSS</b>	Aerial Weapons Scoring System
<b>B</b>	Barracks
<b>B/COF</b>	Barracks/Company Operations Facilities

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<b>BASOPS</b>	Base Operations
<b>BAX</b>	Battle Area Complex – training range
<b>BCA</b>	Base Closure, Army
<b>BCT</b>	Basic Combat Training
<b>BCT</b>	Brigade Combat Team. The basic deployable unit of maneuver consists of one combat arm's branched maneuver brigade and its attached support and fire units. Brigade combat teams are generally commanded by a colonel (O-6); in some rare instances, they will be commanded by a brigadier general. A brigade combat team carries with it support units necessary to sustain its operations separate from its parent division. Some BCTs contain organic air and artillery support separate from the division air/division artillery (DIVARTY).
<b>BD</b>	Bed(s)
<b>BDE</b>	Brigade
<b>BDE HQ</b>	Brigade Headquarters
<b>BES</b>	Battlefield Effects Simulator
<b>BFV</b>	Bradley Fighting Vehicle
<b>BG</b>	Building or Brigadier General
<b>BL</b>	Barrels (capacity)
<b>BMDO</b>	Ballistic Missile Defense Organization
<b>BMO</b>	Battalion Maintenance Officer
<b>BMP</b>	Barracks Master Plan – See “Housing Terms.”
<b>BN</b>	Battalion
<b>BN BNCOC</b>	Basic NCO Course
<b>BOC</b>	Brigade Operations Center
<b>BOIP</b>	Basis of Issue Plan (BOIP) indicates the quantity of new or modified equipment planned for each type of organization, and the resultant changes to personnel and supporting equipment. It lists the wartime requirements for Table of Organization and Equipment (TOE), in which a new or improved item of equipment will be required, the number of items to be included in each organization element, and other equipment and personnel changes required to operate, maintain, or transport the item.

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<b>BOS</b>	Base Operations Support
<b>BP</b>	Battle Position
<b>BSB</b>	Brigade Support Battalion
<b>BT</b>	Basic Training
<b>BTB</b>	Brigade Troops Battalion
<b>BUP</b>	Barracks Upgrade Program – See “Housing Terms”
<b>BX</b>	Box(es)
<b>C2</b>	Command and Control
<b>C2F</b>	Command and Control Facility
<b>CAB</b>	Combat Aviation Brigade or Combined Arms Battalion
<b>CAC</b>	Common Access Card
<b>CACTF</b>	Combined Arms Collective Training Facility
<b>CADD</b>	Computer-Aided Drafting and Design
<b>CALFEX</b>	Combined Arms Live-Fire Exercises
<b>CAP</b>	Capacity
<b>CAPCES</b>	Construction Appropriations Programming, Control, and Execution System
<b>CAS</b>	Consolidated Aid Station; Close Air Support
<b>CATCD</b>	Category Code
<b>CAT</b>	Category
<b>CATS</b>	Combined Arms Training Strategy
<b>CATV</b>	Cable Television (service) – See CCTV.
<b>CBR</b>	Chemical, Biological, and Radiological – See Nuclear, Biological and Chemical (NBC).
<b>CBRN</b>	Chemical, Biological, Radiological, and Nuclear – See NBC.
<b>CBRNE</b>	Chemical, Biological, Radiological, Nuclear and Explosive – See NBC.
<b>CBT</b>	Computer-Based Training

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<b>CCTV</b>	Closed-Circuit Television (monitoring system)
<b>CDALFEX</b>	Combined Arms Live-Fire Exercises
<b>CDC</b>	Child Development Center
<b>CDIC</b>	(Army) Criminal Investigation Command
<b>CEHND</b>	Center of Expertise in the Huntsville Division Engineer Office of USACE
<b>CEMRK</b>	Kansas City District Engineer Office of USACE
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CERL</b>	Construction Engineering Research Laboratory of USACE
<b>CEV</b>	Combat Engineer Vehicle
<b>CF</b>	Cubic Feet
<b>CFF</b>	Commercially Financed Facilities
<b>CFLC</b>	Chaplain Family Life Center
<b>CFSC</b>	Community and Family Support Center – under IMCOM
<b>CFV</b>	Cavalry Fighting Vehicle
<b>CG</b>	Commanding General
<b>ChemD</b>	Chemical Demilitarization refers to the destruction of the chemical munitions stockpile of the DOD while maintaining maximum protection of the environment, the general public, and the personnel involved in the actual destruction of the munitions.
<b>CIDC</b>	Criminal Investigation Division Command
<b>CIF</b>	Central Issue Facility
<b>CINC</b>	Commander in Chief
<b>CIO</b>	Chief Information Officer
<b>CIRC</b>	Circulation Rate – used as a planning factor in Command and Control Facilities (C2F), facility category code 14190.
<b>CLS</b>	Contractor Logistics Support
<b>CM</b>	Cubic Meter(s)
<b>cm</b>	centimeter(s)

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<b>CMDSA</b>	COMSEC Material Direct Support Activities
<b>CMH</b>	Chief of Military History, Congressional Medal of Honor
<b>CO</b>	Commanding Officer; Company
<b>COF</b>	Company Operations Facility
<b>COL</b>	Collaborative
<b>COMMINT</b>	Communications Intelligence – See SIGINT.
<b>COMPO</b>	Composition (Active Duty or Reserves)
<b>COMSEC</b>	Communications Security
<b>CONUS</b>	Continental United States – See OCONUS
<b>COPE</b>	Custodian of Postal Effects
<b>COS</b>	Center of Standardization – a USACE office with responsibility for developing and maintaining Army Standard Designs. See “Army Standard Designs.”
<b>COSCOM</b>	Corps Support Command
<b>CP</b>	Cargo Parachute – See also IRI, IRT and PP
<b>CPSC</b>	Consumer Product Safety Commission
<b>CQ</b>	Charge-of-Quarters – management office in barracks.
<b>CSMS</b>	Combined Support Maintenance Shop – National Guard term.
<b>CTA</b>	Common Table of Allowances is an authorization document under the provisions of AR 71-13 that contains authorization for common items of nonexpendable material that is required Armywide.
<b>CTF</b>	Collective Training Facility
<b>CTU</b>	Consolidated Tables of Organization and Equipment are files produced by TRADOC on a semiannual basis; they contain updates to the Table of Organization and Equipment (TOE), Basis of Issue Plan (BOIP), and system files.
<b>CWHF</b>	Controlled Waste Handling Facility – National Guard term.
<b>CXO</b>	Civilian Command Executive Officer
<b>CY</b>	Cubic Yard(s)
<b>CZ</b>	Clear Zone

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<b>DA</b>	Department of the Army
<b>DAGIR</b>	Digital Air/Ground Integration Range
<b>DA PAM</b>	Department of the Army Pamphlet
<b>DAC</b>	Department of the Army Civilian
<b>dB</b>	Decibel(s)
<b>DCA</b>	Director(ate) of Community Activities
<b>DCID</b>	Director in Central Intelligence Directive
<b>DCO</b>	Dental Care Optimization
<b>DCS</b>	Deputy Chief of Staff
<b>DDESB</b>	Department of Defense Explosives Safety Board
<b>DDN</b>	Defense Data Network
<b>DECA</b>	Defense Commissary Agency
<b>DEERS</b>	Defense Enrollment Eligibility Reporting System
<b>DEPMEDS</b>	Deployable Medical System
<b>Dep Pop</b>	See “Personnel Terms.”
<b>DENTAC</b>	Dental Department Activity – See Medical Department Activity (MEDDAC).
<b>DFAC</b>	Dining facility
<b>DFAS</b>	Defense Finance Accounting Service
<b>DG</b>	Design Guide for developing appearance of facilities in keeping with installation master plans.
<b>DIR FMWR</b>	Director(ate) of Family and Morale, Welfare, and Recreation Programs
<b>DIRNET</b>	DIRECTIVE Network
<b>DLA</b>	Defense Logistics Agency
<b>DLA-E</b>	Defense Logistics Agency – Energy
<b>DMFO</b>	Defense Medical Facilities Office
<b>DMPRC</b>	Digital Multipurpose Range Complex



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<b>DMPTR</b>	Digital Multipurpose Training Range
<b>DMS</b>	Deputy for Management and Support
<b>DOD</b>	Department of Defense
<b>DODDS</b>	Department of Defense Dependents School
<b>DODEA</b>	Department of Defense Education Activity
<b>DODI</b>	Department of Defense Instruction
<b>DOIM</b>	Director(ate) of Information Management
<b>DOL</b>	Director(ate) of Logistics
<b>DOS</b>	Days of Supply
<b>DPCA</b>	Director of Personnel and Community Affairs
<b>DPT</b>	Director(ate) of Plans and Training
<b>DPTM</b>	Director(ate) of Plans, Training and Mobilization
<b>DPTMS</b>	Directorate of Plans, Training, Mobilization, and Security
<b>DPW</b>	Director(ate) of Public Works
<b>DRMO</b>	Defense Reutilization and Marketing Office
<b>DRM</b>	Director(ate) Resource Management
<b>DRU</b>	Direct Reporting Units
<b>DS</b>	Direct Support (maintenance) – See also GS.
<b>DS/GS</b>	Direct and General Support Maintenance Shop
<b>DSN</b>	Defense Switched Network
<b>DST</b>	Drug Suppression Team
<b>DSR</b>	Desk-Side Reference (IMCOM Real Property Master Planning)
<b>DLA</b>	Defense Logistics Agency
<b>DT</b>	Distributed Training
<b>DT/CBT</b>	Distributed Training/Computer-Based Training
<b>DTR</b>	Dental Treatment Room

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<b>DU</b>	Dwelling Unit – See “Housing Terms.”
<b>DVQ</b>	Distinguished Visitor’s Quarters – See “Housing Terms.”
<b>EA</b>	Each
<b>EAB</b>	Echelons Above Brigade – includes Divisions, Corps, and Army Service Component Commands (ASCC), including numbered Armies, Direct Reporting Units (DRU), and Army Commands (ACOMs)
<b>EAC</b>	Echelons Above Corps conduct combat, combat support (CS), and combat service support (CSS) according to theater operational requirements. EAC brigades are organized by the Army component commander based on mission guidance from the theater commander-in-chief (CINC).
<b>EAF</b>	Environmental adjustment factors
<b>ECONPAK</b>	Economic Analysis Program
<b>ECIP</b>	Energy Conservation Investment Program
<b>ECP</b>	Entry Control Point
<b>ECS</b>	Electronic Consult System (and Tonometry Station), Equipment Concentration Site
<b>EEO</b>	Equal Employment Opportunity
<b>EIP</b>	Equipment-In-Place
<b>ELT</b>	Electrical
<b>EM</b>	Engineer Manual
<b>EN</b>	Engineer
<b>ENL</b>	Enlisted Personnel
<b>EO</b>	Equal Opportunity
<b>EOC</b>	Emergency Operations Center
<b>EOD</b>	Explosive Ordnance Disposal
<b>EP</b>	Engineer Pamphlet
<b>EPDF</b>	Enlisted Personnel Dining Facility

<b>EST</b>	Engagement Skills Trainer is a multipurpose virtual marksmanship training device. The technology has marksmanship training scenarios for all tank squad weapons. The EST scenarios are the courses of fire in the Field Manual (FM). Training scenarios are provided to support several basic skills programs of instruction and tactical firing tasks.
<b>ETL</b>	Engineer Technical Letter
<b>F</b>	Fahrenheit
<b>FA</b>	Field Artillery
<b>FAA</b>	Federal Aviation Administration
<b>FAAH</b>	Federal Aviation Administration Handbook
<b>FAC</b>	Facility Analysis Category – See “Category Code System”
<b>FAM</b>	Functional Adequacy Matrix
<b>FCG</b>	Facility Category Group is an aggregation of one or more real property categories that have a like functional purpose and are measured in the same units. Each FCG has a corresponding alphanumeric designation that is a six-character code (an uppercase “F” and five numbers). The Army uses the FCG for analysis, not for real property classification.
<b>FB</b>	Feet of berthing
<b>FC</b>	Foot-candles
<b>FCG</b>	Facility Category Group – See “Category Code System”
<b>FDZ</b>	Fire Demand Zones are small areas that represent a single demand for fire services.
<b>FH</b>	Family Housing
<b>FHMP</b>	Family Housing Master Plan
<b>FL</b>	Floor(s)
<b>FM</b>	Field Manual
<b>FMS</b>	Field Maintenance Shop – National Guard term.
<b>FMSWeb</b>	Force Management System Web Site is the Web-based version of The Army Authorization Document System (TAADS). FMSWeb is the official repository for Army decisions on mission, organizational structure, personnel, and equipment requirements, and for authorizations for Army units and Army elements of joint organizations for the current year through the first program year. FMSWeb maintains HQDA-approved authorization documents

(Modification Table of Organization and Equipment [MTOE], Table of Distribution and Allowances [TDA], and Common Table of Allowances [CTA]) and staffing documents for review and coordination. The proponent for FMSWeb is the U.S. Army Force Management Support Agency.

<b>FMWRC</b>	Family and Morale, Welfare, and Recreation Command
<b>FP</b>	Firing points
<b>FPRS</b>	Facility Program Requirements Suite provides access to various models, databases, and annual reports. This application provides access to important facilities data directly from desktop computers.
<b>FPS</b>	Facility Planning System module of RPLANS is an automated tool used to analyze facility allowances and requirements for Army organizations. The module provides valuable reference materials about Army organizations, facility space planning criteria, Army School course data, and other information.
<b>FRC</b>	Family Readiness Center
<b>FRG</b>	Federal Republic of Germany
<b>FSB</b>	Forward Support Battalion
<b>FSC</b>	Forward Support Company
<b>FSM</b>	Facility Sustainment Model is the programming model used by DOD to project costs to keep a component's inventory of good facilities good, based on commercial benchmarks for maintenance and repair. FSM is used to predict the level of investment required to provide for routine facility maintenance and recurring, schedulable repairs.
<b>FSO</b>	Food Service Officer (under the DOL)
<b>FT</b>	Foot/feet
<b>FTE</b>	Full-time equivalent
<b>FTS</b>	Full-Time Support
<b>FUS</b>	Facility Utilization Study is a survey that verifies occupancy information, as-built drawing accuracy, category code accuracy, and more. A FUS should capture net area, which can affect facility requirements, especially for units occupying existing facilities.
<b>FYDP</b>	Future Years Defense Program/Plan is the program and financial plan for DOD that arrays cost data and force structure over a 6-year period (force structure for an additional 3 years), organizing this data by major force

program for DOD internal review of both the Program Review and Budget Estimates Submission (BES).

**G/S-3** G-3 operations section

**G-3** Operations and Plans

**GA** Gallon(s) (capacity)

**GCA** Ground Control Approach

**GFEBs** General Fund Enterprise Business System is the Army's Web-enabled financial asset and accounting management system designed to standardize, streamline, and share critical data across the active Army, the Army National Guard and the Army Reserve. GFEBs will meet a host of requirements set forth in the Chief Financial Officers Act and in the Federal Financial Management Improvement Act (FFMIA).

**GFGI** Government Furnished, Government Installed

**GIB** General Instruction Building

**GIG** Global Information Grid is a globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing, information on demand to Warfighters, policymakers, and support personnel.

**GIS** Geographic Information System – used for recording land and facilities pictorial and alphanumeric data in a hierarchical database for both graphic and tabular analysis and display.

**GLR** Grenade Launcher Range

**GM** Gallons per minute

**GP** General-Purpose

**GPM** Gallons Per Minute

**GPW** General Purpose Warehouse

**GPWB** General Purpose Work bay

**GS** General Service refers to the civilian personnel grading system. Terms such as GS-9 appear in facility planning criteria, and some housing classifications. Also General Support (maintenance) – See DS. Also General Schedule.

**GSA** General Services Administration

<b>GSAB</b>	General Support Aviation Battalion – See also AAC (Attack, Assault or Cavalry Battalion) and ASB (Aviation Support Battalion). Also Ground Support Aviation Battalion.
<b>GSF</b>	Gross Square Feet – See “Area Measurements.”
<b>GSM</b>	Gross Square Meters – See “Area Measurements.”
<b>GWOT</b>	Global War on Terror
<b>HA</b>	Hectare(s) is a unit of area equal to 10,000 square meters, or one square hectometer, and is commonly used for measuring land area.
<b>HAZMAT</b>	Hazardous material – See also CBRNE.
<b>HBCT</b>	Brigade Combat Team, Heavy
<b>HD</b>	Head(s) – e.g. fire sprinkler heads
<b>HQDA</b>	Headquarters, Department of the Army
<b>HEMTT</b>	Heavy Expanded Mobility Tactical Truck
<b>HET</b>	Heavy Equipment Transporter
<b>HFPA</b>	Health Facilities Planning Agency
<b>HHB</b>	Headquarters and Headquarters Battalion
<b>HHC</b>	Headquarters and Headquarters Company
<b>HHD</b>	Headquarters and Headquarters Detachment
<b>HM</b>	Hazardous Material
<b>HMCC</b>	Hazardous Material Control Center
<b>HMMWV</b>	High Mobility Multipurpose Wheeled Vehicle
<b>HNDM</b>	Huntsville (USACE) Design Manual
<b>HP</b>	Horsepower
<b>HQ</b>	Headquarters
<b>HQDA</b>	Headquarters, Department of the Army
<b>HQIIS</b>	Headquarters Installation Information System
<b>HQ IMCOM</b>	Headquarters, Installation Management Command
<b>HUT</b>	Human Urban Target(s)

<b>HVAC</b>	Heating, ventilating, and air-conditioning
<b>IAW</b>	In accordance with
<b>IBCT</b>	Brigade Combat Team, Infantry
<b>IC</b>	Investment Category is a summary-level code used to group or combine related facility category codes. There are 20 investment categories.
<b>ICS</b>	Intelligence Community Standard
<b>IDS</b>	Intrusion Detection System; Installation Design Standards
<b>IET</b>	Individual Enlistment Training, Initial Entry Training
<b>IFR</b>	Instrument Flight Rules, Indoor Firing Range
<b>IFS</b>	Integrated Facilities System – See Appendix B.
<b>IFV</b>	Infantry Fighting Vehicle
<b>IG</b>	Inspector General
<b>IGI&amp;S</b>	(Army) Installation Geospatial Information and Services (aka Army Mapper)
<b>ILS</b>	Instrument Landing System
<b>IMA</b>	Individual Mobilization Augmentee is an individual reservist attending drills who receives training and is preassigned to an Active Army organization, a Selective Service System, or a Federal Emergency Management Agency billet that must be filled on, or shortly after, mobilization. Individual mobilization augmentees train on a part-time basis with these organizations to prepare for mobilization. Inactive-duty training for individual mobilization augmentees is decided by component policy, and can vary from 0 to 48 drills a year.
<b>IMCOM</b>	(U.S. Army) Installation Management Command
<b>IMMA</b>	Installation Materiel Maintenance Activity
<b>IMMD</b>	Installation Materiel Maintenance Directorate
<b>IN/INF</b>	Infantry
<b>IPBC</b>	Infantry Platoon Battle Course
<b>IRI</b>	Inspection and Repacking Interval for parachutes – See also CP, IRT, and PP.
<b>IRT</b>	Inspection and Repacking Time for parachutes – See also CP, IRI, and PP.
<b>IS</b>	Information Systems



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<b>ISA</b>	Installation Supply Activity or Inter-Service Agreement – See also ISSA.
<b>ISBC</b>	Infantry Squad Battle Course
<b>ISC</b>	Industrial Support Command
<b>ISEC</b>	Information Systems Engineering Command
<b>ISF</b>	Information Systems Facility
<b>ISPCM</b>	IMCOM Space Planning and Criteria Manual
<b>ISR</b>	Installation Status Report. The ACSIM ISR was developed in 1994 to assess installation conditions and performance against Armywide standards. Data is used to develop an annual three-part report: Infrastructure, Environment, and Services.
<b>ISR-I</b>	ISR Infrastructure
<b>ISR-NI</b>	ISR Natural Infrastructure
<b>ISR-S</b>	ISR Services
<b>ISR-S(SBC)</b>	ISR Services includes Service Based Costing
<b>ISSA</b>	Inter-Service Service Agreement is a legal document detailing working relationships between military organizations of the various services under DOD regarding use, cost sharing, maintenance, and other aspects of the shared use of facilities. See also MOA and MOU.
<b>IT</b>	Information Technology
<b>ITAM</b>	Integrated Training Area Management program for ranges, etc. See also RFMSS.
<b>ITRO</b>	Inter-Service Training Review Organization
<b>JC</b>	Judicial Center
<b>JCS</b>	Joint Chiefs of Staff
<b>JFHQ</b>	Joint Force Headquarters
<b>JMRC</b>	Joint Multinational Readiness Center
<b>JOC</b>	Joint Operations Center
<b>JSIDS</b>	Joint Services Interior Intrusion Detection System
<b>JSM</b>	Joint Service Manual

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<b>JWICS</b>	Joint Worldwide Intelligence Communications System
<b>KD</b>	Known Distance
<b>KG</b>	Thousand Gallons
<b>kg</b>	Kilograms
<b>km</b>	Kilometer(s)
<b>KV</b>	Kilovolts
<b>KVA</b>	Kilovolt-Amperes
<b>KW</b>	Kilowatts
<b>LAN</b>	Local Area Network
<b>LAN Drop</b>	Local Area Network junction box for connection to the Internet through an Internet service provider (ISP).
<b>LAV</b>	Light Armored Vehicle
<b>LAW</b>	Light Antitank (or Antiarmor) Weapon
<b>LB</b>	Lock Boxes
<b>lb</b>	pound(s)
<b>LEB</b>	Lawn Equipment Building
<b>LF</b>	Linear Feet
<b>LIN</b>	Line Item Number
<b>LN</b>	Lane(s), e.g. range training lanes or bowling alley lanes
<b>LOGSA</b>	Logistics Support Agency
<b>LOGU</b>	Logistics University at Fort Lee
<b>LP</b>	Liquid Propane
<b>LxWxH</b>	Length Times Width Times Height
<b>M or m</b>	Meter(s) – See “Area Measurements.”
<b>M2</b>	Machine Gun – Browning or Similar
<b>M&amp;R</b>	Maintenance and Repair
<b>MACOM</b>	Army Major Command

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<b>MAJCOM</b>	Major Command
<b>MALSF</b>	Medium-Intensity Approach Light System with Sequenced Flashers
<b>MARS</b>	Military Affiliate Radio System
<b>MATs</b>	Moving Armor Target(s) – See SATs.
<b>MATES</b>	Maneuver Area Training Equipment Site – National Guard term.
<b>MB</b>	Million British Thermal Units per hour
<b>MCA</b>	Military Construction, Army (funding)
<b>MCAR</b>	MCA Army Reserves
<b>MCE</b>	Mandatory Center of Expertise – See COS.
<b>MCNG</b>	MCA National Guard
<b>MCOFT</b>	Mobile Conduct of Fire Trainer
<b>MCSS</b>	Military Clothing Sales Store
<b>MCX</b>	Mandatory Center of Expertise – See COS.
<b>MDEP</b>	Management Decision Package
<b>MDW</b>	Military District of Washington
<b>MED</b>	Medical Facilities
<b>MEDDAC</b>	Medical Department Activity – See DENTAC.
<b>MEP</b>	Military Equipment Park is an area for the storage of military equipment and materials.
<b>MEPS</b>	Military Entrance Processing Station
<b>METL</b>	Mission Essential Task List provides the foundation for an organization’s training plans. The commander is responsible for developing a training strategy that will maintain unit proficiency for all tasks designated as mission-essential. After mission-essential tasks are selected, commanders identify supporting training objectives for each task. The conditions and standards for many major collective training tasks are identified in applicable Mission Training Plans.
<b>MGS</b>	Mobile Gun System
<b>MHE</b>	Material Handling Equipment
<b>MHS</b>	Military Health System

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<b>MI</b>	Miles; Military Intelligence
<b>MILCON</b>	Military Construction (funding)
<b>MILES</b>	Multiple Integrated Laser Engagement System
<b>MIT</b>	Movable Infantry Target – See Stationary Infantry Target (SIT).
<b>MLRS</b>	Multiple-Launch Rocket System
<b>mm</b>	Millimeter
<b>MMA</b>	Motor Maintenance Activity
<b>MOA</b>	Memorandum of Agreement is a legal document detailing working relationships between military and nonmilitary organizations regarding use, cost sharing, maintenance, and other aspects of the shared use of facilities. See also ISA, ISSA, and MOU.
<b>MOC</b>	Maintenance Operational Checks
<b>MOS</b>	Military Occupational Specialty
<b>MOSC</b>	Military Occupational Specialty Code
<b>MOU</b>	Memorandum of Understanding – See also ISA, ISSA, and MOA.
<b>MOUT</b>	Military Operations on Urbanized Terrain
<b>MP</b>	Military Police, Master Planning
<b>MPD</b>	Military Personnel Department
<b>MP-DSR</b>	Master Planning Desk Side Reference
<b>MPMG</b>	Multipurpose Machine Gun
<b>MPRC</b>	Multipurpose Range Complex
<b>MPRC-L</b>	Multipurpose Range Complex, Light
<b>MPTI</b>	Master Planning Technical Instruction
<b>MPTM</b>	Master Planning Technical Manual
<b>MPTR</b>	Multipurpose Training Range
<b>MRE(s)</b>	Meals Ready to Eat – See also T-Rations and Unitized Group Rations (UGRAs)
<b>MRF</b>	Modified Record Fire

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<b>MRSI</b>	MILCON Requirements and Standardization Integration
<b>MSB</b>	Main Support Battalion
<b>MSD</b>	Multiple Integrated Laser Engagement System Shootback Device
<b>MSL</b>	Mean Sea Level
<b>MTOE</b>	Modification Table of Organization and Equipment
<b>MTP</b>	Mission Training Plans – for units’ training requirements
<b>MTV</b>	Medium Tactical Vehicle
<b>MW</b>	Megawatts
<b>MWD</b>	Military Working Dog
<b>MWR</b>	Morale, Welfare, and Recreation
<b>N/A</b>	Not Applicable
<b>NA</b>	Not Authorized
<b>NAF</b>	Nonappropriated Fund(s)
<b>NATO</b>	North Atlantic Treaty Organization
<b>NBC</b>	Nuclear, Biological, and Chemical – See Chemical, Biological and Radiological (CBR), and Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE)
<b>NCO</b>	Noncommissioned Officer
<b>NCOA</b>	Noncommissioned Officer Academy
<b>NCOIC</b>	Noncommissioned Officer In Charge
<b>NDB</b>	Nondirectional Beacon
<b>NEPA</b>	National Environmental Policy Act
<b>NEW</b>	Net Explosive Weight
<b>NGB</b>	National Guard Bureau
<b>NIPR</b>	Non-Secure Internet Protocol Router
<b>NLA</b>	Net Living Area
<b>NLOS</b>	Nonline of Sight
<b>NLT</b>	Not less than – See NMT and NTE.

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<b>NMD</b>	National Missile Defense
<b>NMT</b>	Not more than – See NLT and NTE.
<b>NOC</b>	Network Operations Center
<b>Non-FH</b>	Non-Family Housing
<b>NSF</b>	Net Square Feet – See “Area Measurements.”
<b>NSM</b>	Net Square Meters – See “Area Measurements.”
<b>NSS</b>	Net Storage Space
<b>NTE</b>	Not to exceed – See also NLT and NMT.
<b>NUA</b>	Net Usable Area – See “Area Measurements.”
<b>OACSIM</b>	Office of the Assistant Chief of Staff for Installation Management
<b>OC</b>	Operations Center
<b>OCC</b>	Occupied
<b>OCE</b>	Office, Chief of Engineers
<b>OCIE</b>	Organizational Clothing and Individual Equipment
<b>OCONUS</b>	Outside the Continental United States – See CONUS.
<b>OL</b>	Outlet(s)
<b>OMA</b>	Operations and Maintenance, Army (funding)
<b>OMACC</b>	Operations and Maintenance, Army Contingency Construction
<b>OMAR</b>	Operations and Maintenance, Army Reserve
<b>OMS</b>	Organizational Maintenance Shop
<b>OPSEC</b>	Operational Security
<b>OQ</b>	Officer’s Quarters – See “Housing Terms.”
<b>ORF</b>	Organizational Readiness Float or Operational Readiness Float is a strategic asset deployed to an installation; it consists of an authorized quantity of assets used to maintain established readiness levels or meet training availability requirements during peacetime.
<b>ORTC</b>	Operational Readiness Training Complex
<b>OSD</b>	Office of the Secretary of Defense

<b>OSHA</b>	Occupational Safety and Health Act (public law)
<b>OSUT</b>	One-Station Unit Training
<b>OTOE</b>	Objective Table of Organization and Equipment is a fully modernized, doctrinally sound organizational design that sets the goal for planning and programming of the Army's force structure and supporting acquisition systems, primarily in the last year of the program objective memorandum and the extended planning annex.
<b>OTSG</b>	Office of the Surgeon General
<b>OU</b>	Operating Unit(s) – medical term
<b>OVE</b>	On-Vehicle Equipment
<b>PAIO</b>	Plans, Analysis, and Integration Office
<b>PAM</b>	Pamphlet
<b>PAO</b>	Public Affairs Office, Officer
<b>PAS</b>	Personnel Authorization Symbol
<b>PAX</b>	Programming, Administration and Execution (Computer System)
<b>PBG</b>	Program and Budget Guidance
<b>PBS</b>	Production Base Support
<b>PCS</b>	Permanent Change of Station
<b>PDF</b>	Portable Document Format
<b>PEG</b>	Program Evaluation Group(s). The Headquarters, Department of the Army (HQDA) staff uses appropriation-based Program Evaluation Groups (PEGs) to help build the Army program (POM), which then remains in operation throughout the Planning, Programming, Budgeting, and Execution (PPBE) cycle to track the program through budget analysis, program and budget defense, and execution.
<b>PEO</b>	Program Executive Office
<b>PFC</b>	Physical Fitness Center
<b>PFF</b>	Physical Fitness Facility
<b>PI</b>	Point of Intersection
<b>PIK</b>	Payment-in-Kind



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<b>PLF</b>	Parachute Landing Fall
<b>PLL</b>	Prescribed Load Listing – repair-parts stockage at the organizational level.
<b>PLS</b>	Palletized Load System
<b>PN</b>	Person(s), number of persons (design capacity or criteria for calculating users, area per user, etc.).
<b>POC</b>	Point of Contact
<b>POI</b>	Program of Instruction
<b>POL</b>	Petroleum, Oils, and Lubricants
<b>POM</b>	Program Objective Memorandum presents the Army’s proposal for a balanced allocation of its resources within specified constraints. OSD reviews the POM and issues a Program Decision Memorandum (PDM) to reflect SECDEF program decisions.
<b>POV</b>	Privately owned vehicle; privately operated vehicle
<b>PP</b>	Personal Parachute – See also CP, IRI and IRT.
<b>PPBE</b>	Planning, Programming, Budgeting, and Execution
<b>PPE</b>	Personal Protective Equipment
<b>PPS</b>	Project Prioritization System identifies and prioritizes construction and repair projects for IMCOM based on guidance from ACSIM.
<b>PSYOPS</b>	Psychological Operations
<b>PRIDE</b>	Planning Resources for Infrastructure Development and Evaluation
<b>PRISMS</b>	Proactive Real Property Interactive Space Management System
<b>PT</b>	Physical training
<b>PTSD</b>	Post-Traumatic Stress Disorder
<b>PX</b>	Post Exchange
<b>QRS</b>	Quick Reaction Site
<b>QTR</b>	Qualification/Training Range
<b>RAOC</b>	Rear Area Operations Center
<b>RAPIDS</b>	Real-Time Automated Personnel Identification System
<b>RB</b>	Relocatable Buildings

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<b>RBB</b>	Reception Barracks Building
<b>RC</b>	Reserve Component (U.S. Army Reserves and National Guard)
<b>RDF</b>	Radio Direction Finder
<b>RD&amp;E</b>	Research, Development, Test, and Evaluation
<b>REMIS</b>	Real Estate Management Information System
<b>RFMIS</b>	Rental Facility Management Information System
<b>RFMSS</b>	Range Facility Management Support System. See also Integrated Training Area Management (ITAM).
<b>RGSS</b>	Range Gunnery Signature Simulator
<b>RLCZ</b>	Runway Lateral Clearance Zone
<b>RPA</b>	Real Property Assessment functional capability code assigned in the Integrated Facilities System (IFS) – this RPA is known as the F-Rating – See Chapter 5, Section III, for discussion.
<b>RPI</b>	Real Property Inventory
<b>RPLANS</b>	Real Property Planning and Analysis System
<b>RPMP</b>	Real Property Master Plan(ning)
<b>RPPB</b>	Real Property Planning Board
<b>RPUID</b>	Real Property Unique Identifier
<b>RRC</b>	Regional Readiness Commands
<b>RRSC</b>	Regional Readiness Sustainment Command
<b>RWOS</b>	Representative Weather Observation Station
<b>S6S</b>	Section 6 Schools
<b>SA</b>	Secretary of the Army
<b>SAAD</b>	Small Arms Air Defense
<b>SAMS-1</b>	Standard Army Maintenance System-1 simplifies and standardizes the collection and use of maintenance data. It improves readiness management and visibility by providing equipment status and asset data. The system raises the quality and accuracy of performance, cost, backlog, man-hour, and parts data through improved maintenance management.

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<b>SAP</b>	Special Access Program
<b>SAROCA</b>	Small Arms Range Operations and Control Area
<b>SAT</b>	Stationary Armor Target – See Moving Armor Target(s) (MATs).
<b>SATS</b>	Standard Automotive Tool Sets
<b>SAW</b>	Squad Automatic Weapon
<b>SBCT</b>	Brigade Combat Team, Stryker
<b>SCBA</b>	Self-Contained Breathing Apparatus
<b>SCI</b>	Sensitive Compartmented Information
<b>SCIF</b>	Sensitive Compartmented Information Facility. An area used for storing and viewing classified or sensitive information that is part of a compartmented program.
<b>SDSFIE</b>	Spatial Data Standards for Facilities, Infrastructure, and Environment – DOD spatial standard that supports common implementation for installations, the environment, and civil works missions – See <a href="http://www.sdsfieonline.org">www.sdsfieonline.org</a> .
<b>SE</b>	Seat(s)
<b>SEBQ</b>	Senior Enlisted Barracks Quarters
<b>SEMF</b>	Surface Equipment Maintenance Facility – National Guard term.
<b>SEPS</b>	Space and Equipment Planning System
<b>SEQ</b>	Senior Enlisted Quarters
<b>SES</b>	Senior Executive Service
<b>SF</b>	Square Feet, usually synonymous with GSF. See “Area Measurements.”
<b>SFAC</b>	Soldier and Family Assistance Center, a part of the Warriors in Transition (WT) Complex under Fort Worth Center of Standardization (COS) – See facility category code 74033, Army Community Services Center, under Huntsville COS
<b>SFF</b>	Sniper Field Fire
<b>SFSC</b>	Soldier and Family Service Center
<b>SIGINT</b>	Signal Intelligence – See COMMINT.
<b>SIPRNET</b>	Secret Internet Protocol Router Network
<b>SIT</b>	Stationary Infantry Target – See Movable Infantry Target (MIT).

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<b>SITE UID</b>	Site unique identifier
<b>SJA</b>	Staff Judge Advocate
<b>SL</b>	Structural Load, a school's student population at any given time
<b>SLC</b>	Senior Leader Course
<b>SM</b>	Square Meters
<b>SN</b>	Station(s) – See “Installation-related terms.”
<b>SNA</b>	Statement of Nonavailability
<b>SOFA</b>	Status of Forces Agreement
<b>SOIC</b>	Senior Officials of the Intelligence Community
<b>SOP</b>	Special Operations Program
<b>SP</b>	Space(s) – See “Housing Terms.”
<b>SPC</b>	(RPLANS) Space Planning Criteria
<b>SRC</b>	Standard Requirement Code is a 12-position alphanumeric code that identifies a unit's basic Table of Organization (TOE) or elements and variations thereof. SRCs are associated with Unit Identification Codes (UICs) in the ASIP, and link RPLANS to associated UICs with precalculated allowances determined by Facility Planning System (FPS).
<b>SRP</b>	Soldier Readiness Processing
<b>SRPC</b>	Soldier Readiness Processing Center
<b>SSA</b>	Supply Support Activity
<b>SSO</b>	Stability and Support Operations (of Army Community Service Center), Special Security Office
<b>SSP</b>	Service Support Program
<b>SSSC</b>	Self-Service Supply Center
<b>ST</b>	Stall(s) – vehicle parking or equestrian stable.
<b>STA</b>	Station Code – See “Installation-related terms.”
<b>STACO</b>	ASIP Station Code – See “Installation-related terms.”
<b>STAMIS</b>	Standard Army Management Information Systems – these are summarized in Appendix B.

<b>STANAG</b>	Standardization Agreements set up processes, procedures, terms, and conditions for common military or technical procedures, or equipment shared among allies. The purpose is to provide common operational and administrative procedures and logistics, so one member nation's military may use the stores and support of another member's military.
<b>STANO</b>	Surveillance, Target Acquisition, and Night Observation
<b>STB</b>	Special Troops Battalion
<b>STC</b>	Sound Transmission Coefficient (or Class) rating for walls and ceilings – generally expressed as a minimum acceptable rating.
<b>STO</b>	Special Technical Operations
<b>STRAC</b>	Standards in Training Commission
<b>SY</b>	Square Yard(s)
<b>SZ</b>	Security Zone, Safety Zone
<b>TA</b>	Table of Allowances
<b>TAACOM</b>	Theater Army Area Command
<b>TAADS</b>	Total Army Authorization Document System – See “WebTAADS.”
<b>TAB</b>	Tabulation of Existing and Required Facilities
<b>TACAN</b>	Tactical Air Navigation
<b>TAMMC</b>	Theater Army Material Management Command
<b>TAP</b>	The Army Plan
<b>TASC</b>	Training and Audio-Visual Support Center, Training Aids Service Center
<b>TASS</b>	Total Army School System
<b>TBD</b>	To be determined
<b>TC</b>	Training Center; Training Circular
<b>TCF</b>	Total Cubic Feet
<b>TD</b>	Target Detections
<b>TDA</b>	Table of Distribution and Allowances
<b>TDS</b>	Trial Defense Service

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<b>TDY</b>	Temporary Duty Yonder
<b>TDY students</b>	Students attending a training course or school for less than 20 weeks.
<b>TEMF</b>	Tactical Equipment Maintenance Facility – See facility category code 21410, Vehicle Maintenance Shop.
<b>TFMMS</b>	Total Force Manpower Management System
<b>TGMTS</b>	Tank Gunnery/Missile Tracking System
<b>TI</b>	Technical Instruction
<b>TISA</b>	Troop Issue Subsistence Activity
<b>TM</b>	Technical Manual
<b>TMD</b>	Theater Missile Defense
<b>TMP</b>	Transportation Motor Pool
<b>TN</b>	Ton(s)
<b>TNFA</b>	Total Net Floor Area – See “Area Measurements.”
<b>TOE</b>	Table of Organization and Equipment, term of enlistment
<b>TOTA</b>	Tenants Other Than Army
<b>TOW</b>	Tube-Launched, Optically-Tracked, Wire-Guided weapon
<b>TPSN</b>	Troop Program Sequence Number
<b>TPU</b>	Troop Program Unit
<b>TRADOC</b>	Training and Doctrine Command
<b>T-Ration</b>	Tray Ration – See also Meals Ready to Eat (MREs) and Unitized Group Rations (UGRAs).
<b>TS</b>	Top Secret
<b>TSB</b>	Training Support Brigade
<b>TSC</b>	Training Support Center
<b>TSOA</b>	Tactical SCIF Operations Area
<b>TSS</b>	Training Support System
<b>TS-SCI</b>	Top Secret Sensitive Compartmented Information

<b>TSVA</b>	Tactical SCIF Vehicle Area
<b>TT</b>	Transient Training
<b>TTP</b>	Tactics, Techniques, and Procedures
<b>TUAV</b>	Tactical Unmanned Aerial Vehicle
<b>TVOR</b>	Terminal Very High Frequency Omnidirectional
<b>2LM</b>	<p>Two-Level Maintenance Program – Field and Sustainment. Field-level combines the old organizational motor pools and direct support (DS) activities, characterized by a repair-and-return-to-user system. Field Maintenance is performed at all echelons of the Army.</p> <p>Sustainment Maintenance is the second level of maintenance, (a combination of the old general support (GS) and depot-level activities). It is a repair-and-return-to-the-Army supply system activity normally found above the brigade combat team level.</p> <p>Sustainment Maintenance relies on end-item and component repair with some component replacement, whereas Field Maintenance relies only on component replacement.</p>
<b>TYPKO</b>	Type of Company (TDA or TOE)
<b>UAS</b>	Unmanned Aircraft Systems include aircraft, ground stations, and other elements that are reusable, crewless, and capable of being controlled in sustained flight and powered by a jet or reciprocating engine.
<b>UAV</b>	Unmanned Aerial Vehicle is a reusable, crewless vehicle capable of being controlled in sustained flight and powered by a jet or reciprocating engine.
<b>UEP</b>	Unaccompanied Enlisted Personnel
<b>UEPH</b>	Unaccompanied Enlisted Personnel Housing - See "Housing Terms."
<b>UFAS</b>	Uniform Federal Accessibility Standard
<b>UFC</b>	Unified Facilities Criteria is a system prescribed by MIL-STD 3007 that provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to military departments, defense agencies, and DOD field activities in accordance with the USD Acquisition, Technology, and Logistics (AT&L) Memorandum dated 29 May 2002.
<b>UGRA</b>	Unitized Group Rations, Option A – See also Meals Ready to Eat (MREs) and T-Rations.
<b>UIC</b>	Unit Identification Code - Every unit/organization occupying Army real property has a unique identifier – See ASIP.



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<b>ULL-G</b>	Unit Level Logistics – Ground
<b>UM</b>	Unit of Measure
<b>UMD</b>	Unit Manning Document
<b>UMMC</b>	Unspecified Minor Military Construction
<b>UMMCA</b>	Unspecified Minor Military Construction, Army
<b>UOPH</b>	Unaccompanied Officer Personnel Housing – See “Housing Terms.”
<b>UOQ</b>	Unaccompanied Officer Quarters – See “Housing Terms.”
<b>UPH</b>	Unaccompanied Personnel Housing – See “Housing Terms.”
<b>UPS</b>	Uninterruptible Power Supply
<b>USACE</b>	United States Army Corps of Engineers
<b>USAF</b>	United States Air Force
<b>USAFMSA</b>	United States Army Force Management Support Agency
<b>USAR</b>	United States Army Reserve
<b>USARC</b>	United States Army Reserve Center
<b>USAREUR</b>	United States Army, Europe
<b>USC</b>	United States Code is a compilation and codification of the general and permanent federal law of the United States. It contains 50 titles and is published every six years by the Office of the Law Revision Counsel of the U.S. House of Representatives.
<b>USCG</b>	United States Coast Guard
<b>U.S. Civ Pop</b>	See “Personnel Terms.”
<b>USD</b>	U.S. Direct Hire (civilians)
<b>USMA</b>	United States Military Academy
<b>USMC</b>	United States Marine Corps
<b>USMEPCOM</b>	U.S. Military Entrance Processing Command
<b>UTA</b>	Unit Training Assembly
<b>UTES</b>	Unit Training and Equipment Site – National Guard term.

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<b>VASI</b>	Visual Approach Slope Indicator
<b>VE</b>	Vehicles (bays); vehicular equipment
<b>VF</b>	Vertical Feet
<b>VFR</b>	Visual Flight Rules
<b>VHF</b>	Very High Frequency
<b>VI</b>	Visual Image, Visual Information
<b>VTC</b>	Video-Teleconference – feature required for adequacy of some facilities.
<b>VTT</b>	Video Tele Training
<b>WB</b>	Work bay
<b>WebTAADS</b>	Web Based Total Army Authorization Document System
<b>WG</b>	Water Gauge is a device used for measuring air pressure differentials; it is used in ventilation standards for indoor firing ranges.
<b>WLC</b>	Warrior Leader Course
<b>WSS</b>	Work Support Space
<b>WT</b>	Warrior(s) in Transition
<b>WTU</b>	Warrior(s) Transition Unit
<b>WWMCCS</b>	Worldwide Military Command and Control System
<b>XO</b>	Executive Officer
<b>YD</b>	Yard(s)

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## A

AAFES (see Exchange)

Access Apron

TEMF Facility 85210

Hangar 11340

Access Control Building 14113

Acetylene

Plants 89112

Storage 44217

ACS Family Resource Center 74033

ACS Spouse Safe Haven 74033

Administration 610

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Company Admin &amp; Supply 14185

Company Headquarters 14185

Criminal Investigation 14114

Data Processing 13131

Division Headquarters 61050

Exchange 61050

Family Housing Office 61050

General Operations 61050

General Purpose 61050

Group Headquarters 14182

Harbor Control 14310

In-Out Processing 61055

Military Personnel 61050

Port Control 61050

Post Headquarters 61050

Provost Marshal 61050

R&amp;D 61050

ADP Building 13131

Airborne Equipment Shop 21881

Air-Conditioning

Combined With Heating 890

Lines 82710

Plants 82610

Aircraft

Arresters 14920

Fuel Tanks 124

Aircraft (continued)

Maintenance 211

Maintenance Hangar 21110

Parking Aprons 113

Parts Storage 21113

Plants 221

Production Parts Storage 44210

Revetment 14915

Airborne Shop 21881

Airfield

Airborne Equipment Shop 21881

Aircraft Arrestor 14920

Aircraft Revetment 14915

Air Delivery Shop 21881

Beacons 134

Compass Swing Base 11610

Control Tower 13310

Dispersed Hardstands/Aprons 113

Fire and Rescue 73010

Fuel Stations 121

Fuel Storage 124

Ground Control Approach System 13430

Hangars 211

Helipads 11120

Hoverpoints 11120

Instrument Landing System 13440

Lighted Beacons 134

Lighting 136

Loading Aprons 1138X

Misc. Fuel Dispensing 126

Navigational Aids 13320

Obstruction Lighting 13450

Operations Building 14110

Parachute Packing 21881

Parking Aprons 113

Pavements 110

Radio Beacons 134

Runways 111

Security Lights 81230

Taxiways 112

Wash Apron 1137X

Weather Station (RWOS) 14115

Wind Indicator 13470

Air Raid Shelter 73050

B

## APPENDIX E

C

Class 6 Store	74056	Communications (continued)	
Classroom (Battalion)	17119	SCIF	14162
Classroom (Organizational)	17119	Telephone Exchange	13115 13120
Clinics		Televideo Center	13175
Car Clinics	74024	Terminal Equipment	13181
Dental	54010	Transmitter	13115 13160
Dispensary	55010	Community Center (ACS)	74033
Exceptional Family Member	55010	Compact Item Repair Shop	21887
First Aid Station	55010	Company	
Hospital	51010	Administration & Supply	14185
Medical / Dental	550 / 540	Headquarters	14185
Veterinary Clinic	53040	Compass Swing Base	11610
Clothing Sales (Military)	74020	Compressed Air Plants	89123
Clubs		Computer / Maintenance Van Site	85225
Boy Scouts	74085	Concrete	
Civilian	74046 74047 74048	Noise Wall	14916
Consolidated	74046	Pad	85225
Enlisted	74047	Plant	22920
Golf Club House	74030	Confinement Facility	73015
NCO	74047	Consolidated Dining Facility (Club)	74046
Officers'	74048	Consolidated Housing Furniture	
Private Organization	74085	Storage	44271
Rod & Gun Club	74085	Consolidated Mailroom	73073
Cold Storage		Continuing Education (ACES)	74025
Battery	424	Controlled Humidity Warehouse	
Ice Plant	22960	Depot	44130
Warehouses	432	Installation	44230
Warehouses (Depot)	431	Control Tower (Aircraft)	13310
Commissary	74021	Cooling Towers	890
Communications	13X	Correctional Custody (CCF)	73015
Antennas	13220	Courses	
Cable Vault	13252	Golf	75040 75041
Central Link	13181	Training	17X
Central Television	13220	Vehicle Driving (Military)	17954 17955
Communication Center	13115 13120	Courtroom	61075
Communication Line Ducts	135	Courts	
Information Processing Ctr	13131	Badminton (Outdoor)	75011
Military Affiliate Radio (MARS)	13125	Basketball	75011
Multimedia Exchange	13115 13120	Handball (Indoor)	74028
Photo Lab	13135	Handball (Outdoor)	75011
Printing Plant	13185	Multiple	75011
Radio Transmitter	13160	Shuffleboard	75011
Receiver	13170	Tennis (Fitness Center)	74028
Reg/Bde Commo Shop	14182	Tennis (Outdoor)	75011
Remote Control System	89220	Volleyball Court	75011

Covered Storage	
Depot	441
Installation	442
Covered Training Area	171 39
Credit Union	740 23
Criminal Investigation	141 14
Cut and Fill	934 10

## D

Dayroom	72111
Dayroom Detached	72360
Decontamination Building	14177
Demolition	
Site	17970
Training Area	17970
Dental	
Clinic	54010
Medical / Dental Clinics	550
Dependent Schools	73046
Deployment Equip Storage	44224
Depot	
Ammunition Pads	42510
Ammunition Storage	421
Cold Storage Warehouses	431
Open Storage Areas	451
Underground Storage	44170
Vehicle Storage	44181 44182
Warehouses	441
Diesel Fuel	
Bulk Storage	41130 41131
Operating Storage	12480 12481
Station	12322
Dining	
Cafeteria (other than AAFES)	74012
Canteen	74013
Consolidated (Club)	74046
Enlisted (DFAC)	72210
Exchange Cafeteria	74051
Lunch Room	74060
NCO / Enlisted (Club)	74047
Officers (Club)	74048
Restaurant (other than AAFES)	74064

Dining (continued)	
Snack Bar	74062
Transient Training	72212
Disciplinary Barracks	72115
Dispatch Office	14166
Dispersed Hardstands	113
Division Headquarters	61050
Docks (Loading/Unloading)	14970
Dog Kennel (MWD)	14126
DPW	
Administration	61050
CFMO Furniture Storehouse	44271
Engineer Shops	219
Engineer Storehouse	44220
Entomology	21922
Lumber & Pipe Shed	44222
Self Help	44220
Warehouse	44220
Drama Center	74010
Driving Range (Golf)	75042
Drug & Alcohol Abuse Center	73028
Drum Reconditioning	21465
Dry Cleaning	73030 73032
Dunnage Facility	21640

## E

Easements	921
Education Center	74025
Electric (Power)	
Lightning Protection	89280
Lines	812
Power Plants	811
Standby Generator	81160
Substations	813
Switching Station	813
Transformers	81360
Electronics	
Exchange Electronic Repair	74056
Maintenance	217
Emergency Operations Center (EOC)	14161
Emergency Shelters	73050

F



## Fire

Airfield Fire and Rescue	73010
Alarm System	88010
Foam Mix Tank	84390
Hose House	73010
Hydrants	843
Sprinkler Systems	880
Standpipe System	88130
Station	73010
Tower	73012
Training Area	17981

Fish & Wildlife	75080
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## Fitness

Gymnasium	74028
Parade and Drill Field	17980
Physical Fitness Center	74028
Running Track	75027
Trail	75065

Flagpole	69010
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Flammables Storehouse	44240
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Flight Simulator	17112
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Football Field	75022
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Foot Bridge	85230
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Foreign Rights Land	923
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Forensics Laboratory	14116
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## Fuel

Aircraft Fuel Stations	121
Bulk Fuel Tanks	411
Misc Fuel Dispensing	126
Operating Fuel Tanks	124
POL Pipeline	125
Pump Stations	123X 126X
Ship Fuel Stations	122
Vehicle Fuel Stations	123

## G

## Garages

Ambulance	53070	53071
Family Housing		71410
Unaccompanied Housing		72350

Garbage Disposal	833
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Collection Pad (concrete)	85225
Station	83312

## Gas

Heating Gas Lines	824
Heating Gas Plants	823
Inert Gas Plants	89117
Training Chamber	17170

## Gasoline Station

Exchange	74052
Military	123
Storage	124

Gates - Entrance	872
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GCA (Ground Control Approach)	13430
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Generator (Electric)	81160
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General Instruction Building	17120
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General Item Repair Shop	21882
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General Purpose Maint Shop	21885
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Girl Scouts	74085
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## Golf

Course Maintenance	74031
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Courses	7504X
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Club House	74030
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Grading (Site)	93210
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Grease Racks	14960
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## Greenhouses

Installation (DPW)	21910
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Morale, Welfare & Rec	74029
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Research and Design	31015
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Groin	16420
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Ground Control Approach System	13430
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Guest House	74032
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Gun Emplacement	14975
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Gymnasium	74028
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## H

## Handball Courts

Indoor	74028
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Outdoor	75052
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Hangars	211
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Hangar Access Apron	11340
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Harbor Control	61050
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Hardstands	85210
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Concrete Pad	85225
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Shop	85210
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Storage Access Apron	85110
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		Family Housing Laundry	71411
J		Laundry (continued)	
		Field Laundry	17989
Jetty	16440	Installation Laundry	73030
Jogging Trail	75065	Leased Land	92210
K		Levee	16430
		Library	
		Branch	74040
		Main	74041
Kennel		Services Center	74041
Animal Shelter	53045	Technical	61065
Research	31061	Lighted Beacons	13450
Working Animal (MWD)	14126	Lighthouse	13710
Kitchens (UEPH)	72111	Lighting	
L		Airfield	136
		Airfield Obstruction	13450
		Security	81230
		Street	81230
		Traffic Signal	89230
Laboratory		Liquor (Class 6) Store	74056
Forensics	14116	Loading Docks	14970
Medical	53020	Locker Room	74028
Photo	13135	Lunch Room	74060
Research & Design	310		
Lacrosse Field	75022	M	
Land			
Cut and Fill	93410	Maintenance	
Easements	921	Airborne Equipment Shop	21881
Foreign Rights	923	Aircraft	211
Impact Area	17730 17731	Air Delivery Shop	21881
Landscape Planting	93220	Ammunition (Depot)	216
Leased	92210	Aprons	113
Licensed	913	Army Reserve Vehicle	21409
Public Domain	91210	Battery Shop	21850
Purchased	911	Canvas & Leather Shop	21882
Site Clearing & Grading	93210	Chemical Shop	21882 21887
Site Demolition	93310	Composite Cleaning	21408
Territories	91410	Computer / Maintenance Van Site	85225
Latrines			
Public Toilet	73075	Concrete Plant	22920
Range Latrine	73075	Dispatch Office	14166
UPH Detached	73075	Drum Reconditioning	21465
Laundry		Dunnage Facility (Depot)	21640
Exchange Coin Operated	74056	Electronics Shops	217

Engineer Shops	219	Medical / Dental Clinics	550
Maintenance (Continued)		Medical (continued)	
Entomology	21922	Medical Laboratory	53020
Exchange Shop	74054	Morgue	53030
General Shop	21885	Supply Warehouse	44220
Golf Course	74031	Veterinary	53040
Grease Racks	14960	Metal & Woodworking Shop	21885
Hangars	211	Military Affiliate Radio	13125
Hardstands	852	Military Clothing Sales	74020
Metal & Woodworking Shop	21882	Military Personnel	61050
Also 21885	21887	Military Police	
Missile	21210	Confinement	73015
National Guard, Vehicle	21407	Correctional Custody	73015
Non-TOE Support Shop	21885	Disciplinary Barracks	73015
Non-TOE Support Shop Office	21885	Kennel	14126
Optical Repair Shop	21887	Police Station	73016
Parachute Packing	21881	Provost Marshal Admin	61050
Quartermaster Shop	21882	Missile	
Railroad Shops	21840	Launcher	14121
Rock Crusher Plant	22930	Launch Pad	85225
Rocket Overhaul	21620	Maintenance	212
Sawmill	22940	Plants	222
Self Service Supply (SSSC)	44220	Revetment	14915
Service Pad	85225	Rocket Overhaul	21620
Ship	213	Service Tower	14940
Small Arms Depot	215	Weapons Storage	42X
Spare Parts Storehouse 21870	21885	Mobilization Barracks	72115
Spray Stands	14962	Mole	16450
Support Maintenance Warehouse	44220	Monuments	76020
Synchronization Ramp	14961	Moorings	163
Vehicle	214	Morale Support Office	74065
Vehicle Shop (DS)	21410	Morgue	53030
Vehicle Shop (GS)	21410	Movie Theater	74010
Vehicle Wash Facilities	14962	Moving Target Simulator	17182
Weapons	215	Multimedia Exchange 13115	13120
Maneuver Areas	177	Museum	76010
Meat Cutting Plant	43220		
Medical		N	
Ambulance Garage	53071		
Consolidated Aid Station	55010	Navigation Aids	
Dental Clinic	54010	Air	133
Hospital	51010	Building	133
Hospital Clinic	51010	Lighting	13450
Medical Clinics	550	Ship	137

NCO Dining 74047

National Guard

Armory 17180

Center 17142

Noise Wall 14916

Non-Organizational Vehicle Parking (POV) 85215

Non-TOE Support Maint. Shop 21885

Nonpotable Water

Lines 845

Ponds 844

Tanks 844

O

Obstruction Lighting 13450

Officers'

Family Housing 7114X

Field Ration Dining 72210

Open Dining (Club) 74048

Quarters (UOPH) 724

Oil

Grease Separator 83180

Storage Building 21470

Water Separator, Gravity 83180

Open Storage

Ammunition Pads 42510

Areas 452

Areas (Depot) 451

Operations Buildings 141

Optical

Exchange Shop 74056

Quality Assurance 21872

Repair Shop 21887

Organizational Storage Building 44224

Organizational Vehicle Parking 85210

Overhead Protection 14179

Overseas Billeting 74032

Oxygen

Plants 89132

Storage 44215

P

Pads

Ammunition 425

Ammunition (Depot) 451

Concrete 85225

Missile Launch 85225

Radar 85225

Tent 72520

Vehicle Service 85225

Paint Shop (Aircraft) 21130

Parachute

Parachute Packing 21881

Parachute Rigging 21881

Parking

Aircraft Aprons 113

Areas 852

Non-Organizational Vehicle 85215

Organizational Vehicle 85210

Parts

Aircraft Parts Storage 4421X

Exchange Auto Parts 74052

Spare Parts Storehouse 21870 21885

Pastry Kitchen 73021

Personnel

Civilian 61050

Military 61050

Shelter 73055

Pharmacy 55050

Photo

Audio/Photo Club 74003

Photo Laboratory 13135

Physical Fitness Center 74028

Picnic Shelter 75052

Piers 151

Recreational Boat 75070

Pipe Shed 44222

Plants (Production) 75052

Acetylene 89112

Aircraft 221

Ammunition 226

Asphalt 22910

Cold Storage Ice 22960

Concrete	22920	Lines	842
Plants (Production) (continued)		Potable Water (continued)	
Ice	22960	Ponds	841
Inert Gas	89117	Tanks	841
Installation	229	Treatment Plants	841
Missile	222	POV Inspection	73074
Oxygen	89132	POV Parking	85215
Procured Items	228	Power Plants (Electric)	811
Rock Crusher	22930	Preservation Shop	14140
Vehicle	224	Printing Plant	13185
Weapon Plants	225	Production	220
Planting (Landscape)	93220	Aircraft	221
Plants (Utility)		Ammunition	226
Air-Conditioning	826	Miscellaneous	228
Chlorinator	84150	Missile	222
Compressed Air	89123	Tank/Auto	224
Electric Heating	82160	Weapons	225
Electric Power	811	Propellant Storage	423
Heating	821	Provost Marshal & MP	610 50
Heating Gas	823	Public	
Sewage Treatment	831	Domain (Land)	912 10
Water Treatment	841	Toilet	730 75
Playground	75018	Purchased Land	911
POL			
Equipment	125		
Oil and Grease Separator	83180		
Oil Storage	21470		
Pipeline	125		
Sampling Facility	14164 14165	Quartermaster Shop	21882 21885
Slop Tank	41215	Quarters	
Waste POL Tank (AG)	41215	Officers	724
Waste POL Tank (UG)	41215	Senior Enlisted	72170
Police Station	73016	Quay Walls	15420
Pollutant Catch Systems	8717X		
Pools			
Indoor Swimming	74072		
Outdoor Swimming	75030		
Service Building	74089		
Wading	75030		
Post Office			
Branch	73072		
Consolidated Mailroom	73073		
Host Nation	73073		
Main	73073		
Potable Water			

## Q

## R

Radio		Rescue	
Aircraft Beacons	13410	Airfield Fire and Rescue	73010
Military Affiliate	13125	Rescue Training Area	17981
Transmitter	13160	Reservoirs	
Railroad		Nonpotable Water Ponds	844
Bridge	86110	Potable Water Ponds	841
Loading Ramp	14970	Restaurant	74064
Maintenance	21840	Revetments	
Scale	86130	Aircraft	14915
Shops	218	Missile Revetments	149
Signals	89250	Riding Stable (Horse)	74049
Track	86010	Riprap	15432
Ramps		Roads	851
Gun Synchronization	14961	Rock Crusher Plant	22930
Railroad Loading	14970	Rocket Overhaul	21620
Vehicle Test	14953	Rod & Gun Club	74085
Range / Ranges	178	Roller Skating Rink	
Indoor Firing (Training)	17121	Indoor	74028
Indoor Firing (Recreation)	17121	Outdoor	75028
Latrine	73075	Running	
Multipurpose Indoor Firing	17121	Fitness Trail	75065
Skeet	75025	Running Track	75027
Support	17123	Runways	111XX
Target House	17122		
Ready Building	14132		
Receiver Building	13170		
Receiving & Shipping	14133		
Recreation			
Campground	75086	Safety Shelter	14181
Indoor Range	17121	Sanitary Sewer	832
Equipment Checkout	74065	Salvage and Surplus Property	
Recreation Building	74068	Warehouse (DRMO)	44220
Recreation Center	74068	Sawmill	22940
Support Facilities	74075	Scales	
Trailer Site	75086	Railroad	86130
Unit Recreation	74068	Scale House	14180
Recreational Billeting	74036	Vehicle	14971
Recycling Station	83320	Schools	
Red Cross	61070	Applied Instruction	1713X
Regiment Headquarters	14182	Battalion Classrooms	17119
Religious Education Facility		Continuing Education	74025
Chapel Center	73017	Dependent Schools	73046
Separate	73018	General Instruction	17120
Remote Control System	89220	School Enclosed Walk	73046
		Signal School	17131

SCIF	14162	Ship	
Scouts		Approach Channel	15950
Boy & Girl	74085	Ferry Slip	15930
Reconnaissance	17858	Fuel Stations	122
Sea Walls	15430	Fuel Storage	1244X
Seating & Stands (Outdoor)	75061	Lighthouse	13710
Security		Maintenance	213
Airfield Security Lights	81230	Misc. Fuel Dispensing	126
Barriers	14915	Navigation Aid	13750
Lighting	81230	Navigation Aids	137
Overwatch Guard Position	14940	Turning Basin	15960
Stations	14113	Shipping and Receiving	14133
Self Service Supply Center	44220	Shower Facility	73075
Senior Enlisted Quarters	72170	Shredder Facility	89150
Sensitive Information Facility (SCIF)		Shuffleboard Court	75011
	14162	Sidewalks	8522X
Sentry Station	14113	Sign	69030
Separator		Signals	
Oil and Grease	83180	Railroad	89250
Oil Water	83180	Signal Wire	135
Water and Grit Separator	83181	Traffic	89230
Septic Tank	83120	Simulators	
Sewage		Combined Arms Weapons	
Lagoon	83130		17112
Lift Station	83150	Flight	17112
Septic Tank	83120	Moving Target	17182
Treatment Plants	831	Site	
Sewer		Clearing & Grading	93210
Industrial Waste	83240	Demolition	93310
Lines	832	Skateboard Park	75029
Storm	871	Skating Rink	
Sheds		Indoor Ice	74082
Bicycle	73070	Indoor Roller	74070
Lumber & Pipe	44222	Skating Rink (Continued)	
Storage	44222	Outdoor Ice	75017
Transit	44220	Outdoor Roller	75028
Shelters		Skeet Field	75025
Air Raid	73050	Ski	
Bandstand & Pavilion	75061	Lift	75062
Emergency	73050	Lodge	74068
Fallout	73050	Skill Development Center	74022
Safety	14181	Small Craft Berth	15510
Smoking	73056	Smoking Shelter	73056
Waiting	73055		



		LP Gas	12483
Snack		Storage (Continued)	
Exchange Snack Stand	74062	Marine Fuel	12440 12441
Exchange Vending	74056	Medical Supply	44220
Snack Bar	74062	Nonpropellants	412
Soccer Field	75022	Oil	21470
Spare Parts Storehouse	21870	Open Areas	452
Spouse Safe Haven (ACS)	74033	Open Areas (Depot)	451
Sprinkler Systems	880	Oxygen Storage	44215
Stable (Horse Riding)	74049	Propellants	12460 12461
Stadium	75060	Salvage	44220 44222
Standpipe System	88130	Self Service Supply Center	44220
Steam Cleaning	21458 21462	Shed	44222
Stockade (Confinement)	73015	Silo	44216
Storage		Spare Parts Storehouse	21870
Acetylene	44217	Also	21885
Aircraft Parts	44210	Steel	44222
Ammunition	422	Storehouses	44X
Ammunition (Depot)	421	Support Maintenance	44220
Ammunition Pads	82510	TISA	43211
Ammunition Propellants	423	Tank Car Fuel	124
Arms	44223	Targets	17122
Arms (Unit Storage)	14185	Transit Shed	44220 44262 44263
Battalion Arms	44223	Underground	44250
Battery Cold Storage	424	Underground (Depot)	44170
Cargo Areas	156	Vehicles (Depot)	44181 44182
Central Issue Facility	44220	Vehicle Fuel	12450 12451
Cold Storage	432	Warehouses	44X
Cold Storage (Depot)	431	Warehouses (Depot)	441
Controlled Humidity	44230	Waste Oil Storage (Non DPW/DOL)	
Company Admin & Supply	14185		21470
Diesel Oil	12480	Waste POL Tank (AG)	41215
Division Breakdown	44220	Waste POL Tank (UG)	41215
Drum Fuel	124	Weapons	421
Dunnage Facility	21640	Storm Sewers	871
Exchange Warehouse	74055	Street Lighting	81230
Family Housing	71420	Substations (Electric)	813
Flammables Storehouse	44240	Supply	
Fuel Oil Admixture	12470	Central Issue Facility	44220
Fuel (Operating)	124	Company	14185
Furniture	44271	Self Service Supply	44220
Gas Storage Tanks	89225	Support Maintenance Warehouse	44220
General Purpose	44220	Swimming	
Heating Fuel Oil	12471	Bath House	73075
Insecticides	44228	Indoor Pool	74072

# CATEGORY CODE FINDER

# APPENDIX E

Outdoor Pool	75030	Indoor w/Dressing Rooms	74010
Swimming (continued)		Theaters (continued)	
Wading Pool	75030	Movie	74010
Synchronization Ramp	14961	Thrift Shop	74078
Systems		TISA	43211
Central TV Antenna	13220	Toilets	
Energy Management	89220	Public Toilet	73075
Fire Alarm	88010	Range Latrine	73075
Intrusion Alarm	88040	Towers	149
Pollutant Catch	871	Antennas	13220
Remote Control	89220	Fire	73012
Sprinkler	880	Flight Control	13310
Standpipe	88130	Guard	14940
Watch Reporting	88020	Missile Service	14951
Weapons Access	88040	Observation	17971
		Radar	14940
		Tracks	
		Automotive Racing	75033
		Running	75027
		Vehicle Test	14937
		Traffic Signals	89230
		Trailer	
		Housing	712
		Housing Sites	713
		Recreational Site	75086
		Trails	
		Fitness Trail	75065
		Tank Trail	85150
		Training	
		Aids Center	14129
		Applied Instruction	171
		Areas	177XX 178XX 179XX
		Band	17115
		Battalion Classroom	17119
		Continuing Education	74025
		Courses	177XX 178XX 179XX
		Covered Area	17139
		Flight Simulator	17112
		Gas Chamber	17170
		Gas Chamber	17949
		General Instruction	17120
		Indoor Range	17121
		Instrument Trainer	17112
		Maneuver Areas	177
		Moving Target Simulator	17182
<b>T</b>			
Tanks (Storage)			
Bulk Fuel	411		
Foam Mix	89245		
Nonpotable Water	844		
POL Slop	41215		
Potable Water	841		
Septic	83120		
Waste POL (UG)	41215		
Tank Trail	85150		
Target			
Moving Target Simulator	17182		
Range Target House	17122		
Storage	17122		
Taxiways	112		
Technical Library	61065		
Telephone			
Center	74058		
Exchange	13115 13120		
Tennis Courts			
Indoor (Stand Alone)	74068		
Outdoor	75011		
Tent Pad	72520		
Terminal Equipment	13181		
Theaters			
Outdoor	75050		
Indoor	74010		

Parade and Drill Field	17980
Training (continued)	
Physical Fitness	74028
Ranges	178
Signal School	17131
Training Aids Center	14129
Vehicle Driving	17954 17955
Transformers	
Electric Distribution	81360
Electric Substation	81360
Transient Barracks	72120
Transit Shed	44220 44262 44263
Transmitters	
Radio	13160
TV	13115 13160
Travel Agents Office	74068
Troop Dispensary	55010
Turning Basin	15960
TV	
Central TV Antenna	13220
TV Broadcasting	13175
TV Transmitter	13160

## U

Underground Storage Facility	44250
United Services Organization (USO)	74068
Utilidors	89340
Utilities	
Lines, Overhead	81241
Lines, Underground	81242
Air-Conditioning	827
Communication	135
Electric Lines	812
Heating Gas Lines	824
Heating Lines	822
Nonpotable Water Lines	845
Potable Water Lines	842
Sewer Lines	832
Storm Sewers	871

## V

Vaults	
Airfield Lighting	13350
Cable	13252
Vehicle	
Bridge	85120
Dispatch Office	14166
Driving Courses	17954 17955
Exchange Auto Parts	74052
Fuel Stations (Tactical)	123
Fuel Stations (AAFES)	74052
Grease Racks	14960
Hardstands	452
Inspection (POV)	73074
Maintenance	214
Non-TOE Shop Office	218 85
Oil Storage	21470
Paint	21855
Parking Areas	852
Plants	224
Service Pad	85225
Shop Office	214
Spray Stands	14955 14962
Storage	44262
Storage (Depot)	44181
Synchronization Ramp	14961
Tank Trail	85150
Test Ramp	14953
Test Track	14937
Wash Facilities	14962
Wash Shop	14955
Veterinary	53040
Visual Approach Slope Indicator	13613
Volleyball Court	75011

## W

Waiting Area (Administrative)	61055
Walls	
Bulkheads	15410
Quay	15420

## CATEGORY CODE FINDER

## APPENDIX E

Retaining	87150	Plants	225
Walls (continued)		Weapon (continued)	
Riprap	15432	Storage (Depot)	421
Sea	15430	Storage (Installation)	422
Warehouses		Weather	
Cold Storage	43X	Airfield Station	14115
Depot	441	Airfield Station (RWOS)	14115
Exchange	74055	Weight rooms (UEPH) 72111	72170
Installation	44220	Physical Fitness Center	74028
Organizational	44220	Wharfs	152
TISA	43211	Wind Indicator	13470
Wash		Woodworking Shop	21885
Car Wash (MWR)	74019		
Wash Platform	14955	Y	
Vehicle Wash Facilities	14962		
Vehicle Wash Spray Stand	14955		
Waste		Youth Center	74066
Hazardous Waste Holding	83312		
Industrial Waste Sewer	83240		
Waste POL Tank	41215		
Waste POL Tank (UG)	41215		
Watch			
Exchange Watch Repair	74056		
Watch Reporting System	88020		
Water			
Chlorinator	84150		
Fire Hydrants	843		
Fire Protection Pond	84730		
Grit Separator	83181		
Nonpotable Lines	845		
Nonpotable Ponds	844		
Nonpotable Tanks	844		
Oil Separator	83180		
Potable Lines	842		
Potable Ponds	841		
Potable Tanks	841		
Retaining Basin	84740		
Standpipe System	88130		
Treatment Plants	841		
Weapon			
Access Delay System	88040		
Demolition Area	17970		
Gun Emplacement	14975		
Impact Area	17730		
Maintenance	215		

This index lists, in numeric sequence, the category codes contained in DA Pam 415-28 Real Property Category Codes and the few added to the STAMIS not yet included in the Pam.

The “Yes” or “No” on the right-hand margin indicates the inclusion of a write-up of established Army criteria on that specific category code.

### **NOTICE:**

This index should not be used as a look-up table for the assignment of category codes. Some codes have restricted use and should not be used to inventory assets. Always review the written material and specific criteria before using a particular category code.

**100 OPERATIONAL AND TRAINING****111 Airfield Runways**

11110	FIXED WING RUNWAY, PAVED .....	Yes
11111	FIXED WING RUNWAY, UNPAVED .....	No
11120	ROTARY WING RUNWAY, PAVED .....	Yes
11121	ROTARY WING RUNWAY, UNPAVED .....	No
11130	ROTARY WING LANDING PAD, PAVED .....	No
11131	ROTARY WING LANDING PAD, UNPAVED .....	No
11151	RUNWAY OVERRUN AREA .....	Yes

**112 Airfield Taxiways**

11212	FIXED WING TAXIWAY, PAVED .....	Yes
11213	FIXED WING TAXIWAYS, UNPAVED .....	No
11221	ROTARY WING TAXIWAY, PAVED .....	Yes
11222	ROTARY WING TAXIWAYS, UNPAVED .....	No

**113 Airfield Aprons**

11310	FIXED WING PARKING APRON, PAVED .....	Yes
11311	FIXED WING PARKING APRON, UNPAVED .....	No
11320	ROTARY WING PARKING APRON, PAVED .....	Yes
11321	ROTARY WING PARKING APRON, UNPAVED .....	No
11330	AIRCRAFT MAINTENANCE PARKING APRON, PAVED .....	No
11331	AIRCRAFT MAINTENANCE PARKING APRON, UNPAVED .....	No
11340	HANGAR ACCESS APRON, PAVED .....	Yes
11341	HANGAR ACCESS APRON, UNPAVED .....	No
11350	AIRCRAFT RUNWAY HOLDING APRON, PAVED .....	Yes
11351	AIRCRAFT RUNWAY HOLDING APRON, UNPAVED .....	No
11370	AIRCRAFT WASHING APRON, PAVED .....	Yes
11371	AIRCRAFT WASHING APRON, UNPAVED .....	No
11380	AIRCRAFT LOADING APRON, PAVED .....	Yes
11383	AIRCRAFT LOADING APRON, UNPAVED .....	No

**116 Other Airfield Pavements**

11610	AIRCRAFT COMPASS SWING BASE .....	Yes
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**121 Aircraft Fuel Dispensing Facilities**

12110	AIRCRAFT DIRECT FUELING FACILITY .....	No
12120	AIRCRAFT FUEL TRUCK LOADING FACILITY .....	No

**122 Marine Fuel Dispensing Facilities**

12210	MARINE FUELING FACILITY .....	No
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**123 Land Vehicle Fuel Dispensing Facilities**

12310	LAND VEHICLE FUELING FACILITY, E-85 .....	No
12311	LAND VEHICLE FUELING FACILITY, MOGAS .....	No
12312	LAND VEHICLE FUELING FACILITY, BIODIESEL .....	No
12313	LAND VEHICLE FUELING FACILITY, HYDRO .....	No
12314	LAND VEHICLE FUELING FACILITY, PROPANE .....	No
12322	LAND VEHICLE FUELING FACILITY, DIESEL / JP8 .....	No
12333	LAND VEHICLE FUELING FACILITY, NATURAL GAS .....	No

**124 Operating Fuel Storage Facilities**

12410	AIRCRAFT FUEL STORAGE TANK, AVGAS, UNDERGROUND .....	No
12411	AIRCRAFT FUEL STORAGE TANK, JET, UNDERGROUND .....	No
12412	AIRCRAFT FUEL STORAGE TANK, AVGAS, ABOVE GROUND .....	No
12413	AIRCRAFT FUEL STORAGE TANK, JET, ABOVE GROUND .....	No
12440	MARINE FUEL STORAGE TANK, UNDERGROUND .....	No

12441	MARINE FUEL STORAGE TANK, ABOVE GROUND .....	No
12450	LAND VEHICLE FUEL STORAGE TANK, MOGAS, UNDERGROUND .....	No
12451	LAND VEHICLE FUEL STORAGE TANK, MOGAS, ABOVE GROUND .....	No
12452	LAND VEHICLE FUEL STORAGE TANK, E-85, UNDERGROUND .....	No
12453	LAND VEHICLE FUEL STORAGE TANK, E-85, ABOVE GROUND .....	No
12454	LAND VEHICLE FUEL STORAGE TANK, BIO-DIESEL, UNDERGROUND .....	No
12455	LAND VEHICLE FUEL STORAGE TANK, BIO-DIESEL, ABOVE GROUND .....	No
12460	PROPELLANT STORAGE TANK, UNDERGROUND .....	No
12461	PROPELLANT STORAGE TANK, ABOVE GROUND .....	No
12470	HEATING FUEL STORAGE TANK, UNDERGROUND .....	No
12471	HEATING FUEL STORAGE TANK, ABOVE GROUND .....	No
12472	KEROSENE STORAGE TANK, UNDERGROUND .....	No
12473	KEROSENE STORAGE TANK, ABOVE GROUND .....	No
12480	LAND VEHICLE FUEL STORAGE TANK, DIESEL / JP8, UNDERGROUND .....	No
12481	LAND VEHICLE FUEL STORAGE TANK, DIESEL / JP8, ABOVE GROUND .....	No
12482	LIQUID PROPANE GAS STORAGE TANK, UNDERGROUND .....	No
12483	LIQUID PROPANE GAS STORAGE TANK, ABOVE GROUND .....	No
<b>125</b>	<b>Petroleum, Oil and Lubricant Pipeline</b>	
12510	POL PIPELINE, ABOVE GROUND .....	No
12520	POL PIPELINE, UNDERGROUND .....	No
<b>126</b>	<b>Other Liquid Fuel and Dispensing Facilities</b>	
12610	HEATING FUEL OIL DISPENSING FACILITY .....	No
12615	KEROSENE DISPENSING FACILITY .....	No
12620	PROPELLANT FUELING FACILITY .....	No
12630	TANK TRUCK LOAD / UNLOAD FACILITY .....	No
12640	TANK CAR LOAD / UNLOADING FACILITY .....	No
12650	BARGE LOAD / UNLOAD FACILITY .....	No
12660	TANKER LOAD / UNLOAD FACILITY .....	No
12670	DRUM LOADING FACILITY .....	No
<b>131</b>	<b>Communications (Information Systems) Buildings</b>	
13115	INFORMATION SYSTEMS FACILITY .....	Yes
13120	COMMUNICATIONS CENTER .....	Yes
13125	MILITARY AFFILIATE RADIO SYSTEM (MARS) STATION .....	Yes
13131	INFORMATION PROCESSING CENTER .....	Yes
13135	PHOTO LAB .....	Yes
13140	INFORMATION SYSTEMS PROCESSING CENTER .....	Yes
13160	TRANSMITTER BUILDING .....	Yes
13170	RECEIVER BUILDING .....	Yes
13175	TELEVIDEO CENTER .....	Yes
13181	TERMINAL EQUIPMENT BUILDING .....	Yes
13185	PRINT PLANT BUILDING .....	Yes
<b>132</b>	<b>Communications Facilities, other than Buildings</b>	
13220	ANTENNA .....	No
13252	CABLE VAULT .....	No
13260	INFORMATION SYSTEMS COMMUNICATION EQUIPMENT .....	No
<b>133</b>	<b>Aviation Navigation and Traffic Aids Buildings</b>	
13310	FLIGHT CONTROL TOWER .....	Yes
13320	NAVIGATION BUILDING, AIR .....	Yes
<b>134</b>	<b>Navigation and Traffic Aids Facilities Other than Buildings</b>	
13410	RADIO BEACON .....	No
13430	GROUND CONTROL APPROACH SYSTEM .....	No
13440	INSTRUMENT LANDING SYSTEM .....	Yes

13450	NAVIGATIONAL LIGHTING .....	Yes
13470	WIND DIRECTION INDICATOR .....	Yes
<b>135</b>	<b>Communications Lines</b>	
13510	COMMUNICATION LINES, UNDERGROUND .....	No
13511	COMMUNICATION LINES, ABOVE GROUND .....	No
13520	COMMUNICATION LINES, MARINE .....	No
<b>136</b>	<b>Airfield (Heliport) Pavement Lighting</b>	
13610	RUNWAY LIGHTING .....	No
13612	APPROACH LIGHTING SYSTEM .....	No
13613	VISUAL APPROACH SLOPE INDICATOR .....	No
13615	ROTARY WING PARKING PAD LIGHTING .....	Yes
13620	TAXIWAY LIGHTING .....	Yes
13621	HOLDING APRON LIGHTING .....	Yes
13670	PARKING APRON / HARDSTAND LIGHTING .....	No
<b>137</b>	<b>Ship Navigation and Traffic Aids Buildings</b>	
13710	LIGHTHOUSE .....	No
13750	NAVIGATION BUILDING, SHIP .....	No
<b>138</b>	<b>Ship Navigation and Traffic Aids other than Buildings</b>	
13810	LIGHTED BEACON, SHIP .....	No
<b>141</b>	<b>Operational Buildings</b>	
14110	AIRFIELD OPERATIONS BUILDING .....	Yes
14112	AVIATION UNIT OPERATIONS BUILDING .....	Yes
14113	ACCESS CONTROL BUILDING .....	Yes
14114	CIDC FIELD OPERATIONS BUILDING .....	Yes
14115	WEATHER STATION .....	Yes
14116	FORENSICS LABORATORY .....	No
14121	MISSILE LAUNCHER AND STORAGE BUILDING .....	No
14126	WORKING ANIMAL BUILDING .....	Yes
14129	TRAINING AIDS CENTER .....	Yes
14132	READY BUILDING .....	No
14133	SHIPPING AND RECEIVING BUILDING .....	No
14140	CARE AND PRESERVATION SHOP .....	Yes
14150	BOX AND CRATE SHOP .....	Yes
14160	BLOCKING AND BANDING FACILITY .....	Yes
14161	EMERGENCY OPERATIONS CENTER (EOC) .....	Yes
14162	SENSITIVE COMPARTMENTED INFORMATION FACILITY (SCIF) .....	Yes
14163	CENTRALIZED WASH BUILDING .....	No
14164	FUELING / POL / WASH SUPPORT FACILITY .....	No
14165	FUELING / POL / WASH SUPPORT BUILDING .....	No
14166	DISPATCH BUILDING .....	No
14167	CYLINDER REFILLING STATION / FACILITY .....	No
14168	CYLINDER REFILLING STATION BUILDING .....	No
14169	PRODUCTION PLANT SUPPORT BUILDING .....	No
14170	PRODUCTION PLANT SUPPORT STRUCTURE .....	No
14175	INDUSTRIAL LAUNDRY .....	No
14176	SAFETY BUILDING .....	No
14177	DECONTAMINATION BUILDING .....	No
14178	EMPLOYEE CHANGING BUILDING .....	No
14179	OVERHEAD PROTECTION .....	Yes
14180	SCALE HOUSE .....	No
14181	SAFETY SHELTER .....	No



14182	BRIGADE HEADQUARTERS BUILDING .....	Yes
14183	BATTALION HEADQUARTERS BUILDING .....	Yes
14184	BATTALION HEADQUARTERS BUILDING: TRANSIENT TRAINING .....	Yes
14185	COMPANY HEADQUARTERS BUILDING .....	Yes
14186	COMPANY HEADQUARTERS BUILDING – TRANSIENT TRAINING .....	Yes
14187	BRIGADE HEADQUARTERS BLDG: TRANSIENT TRAINING .....	Yes
14188	WARRIOR TRANSITION UNIT HEADQUARTERS.....	Yes
14190	COMMAND AND CONTROL FACILITY .....	Yes
<b>142</b>	<b>Helium Plants and Storage</b>	
14220	HELIUM STORAGE BUILDING .....	No
<b>143</b>	<b>Ship Operational Buildings</b>	
14310	SHIP OPERATIONS BUILDING .....	No
<b>149</b>	<b>Operational Support Facilities Other Than Buildings</b>	
14915	PROTECTIVE BARRIER .....	No
14916	SOUND BARRIER .....	No
14920	AIRCRAFT ARRESTING SYSTEM .....	No
14925	FIGHTING POSITION .....	No
14935	BLAST / EXHAUST DEFLECTOR .....	No
14937	VEHICLE TEST TRACK .....	No
14940	TOWER .....	No
14951	MISSILE SERVICE TOWER .....	No
14953	VEHICLE TEST RAMP .....	No
14955	WASH PLATFORM, ORGANIZATIONAL .....	No
14958	VEHICLE DEFUELING FACILITY .....	No
14960	GREASE RACK .....	No
14961	TRACK AND GUN SYNCHRONIZATION RAMP .....	No
14962	CENTRALIZED WASH FACILITY WITH SOAKING CAPABILITY .....	No
14963	WASH PLATFORM, INSTALLATION .....	No
14970	LOADING / UNLOADING DOCKS AND RAMPS .....	No
14971	VEHICLE SCALES .....	No
14975	GUN EMPLACEMENT .....	No
<b>151</b>	<b>Piers and Wharfs</b>	
15110	PIER .....	No
15210	WHARF .....	No
<b>154</b>	<b>Sea Walls, Bulkheads, and Quay Walls</b>	
15410	BULKHEADS .....	No
15420	QUAY WALLS .....	No
15430	SEA WALLS .....	No
15432	RIPRAP .....	No
<b>155</b>	<b>Small Craft Berthing</b>	
15510	SMALL CRAFT BERTHING FACILITY .....	No
<b>156</b>	<b>Cargo Handling Facilities and /or Buildings</b>	
15610	CARGO HANDLING OFFICE BUILDING .....	No
<b>159</b>	<b>Other Waterfront Operational Facilities</b>	
15930	FERRY SLIP .....	No
15950	APPROACH CHANNEL .....	No
15960	TURNING BASIN .....	No
<b>163</b>	<b>Moorings</b>	
16310	OFFSHORE MOORING FACILITY .....	No
<b>164</b>	<b>Marine Improvements</b>	
16410	BREAKWATER .....	No
16420	GROIN .....	No
16430	LEVEE .....	No

16440	JETTY .....	No
16450	MOLE .....	No
<b>171</b>	<b>Training Buildings</b>	
17115	BAND TRAINING BUILDING .....	Yes
17119	ORGANIZATIONAL CLASSROOM .....	Yes
17120	GENERAL INSTRUCTION BUILDING .....	Yes
17121	INDOOR FIRING RANGE .....	Yes
17122	RANGE OPERATIONS AND STORAGE BUILDING .....	No
17123	RANGE SUPPORT FACILITY .....	No
17125	PHYSICAL EDUCATION TRAINING BUILDING: USMA .....	No
17131	COMPACT ITEM REPAIR INSTRUCTIONAL BUILDING .....	Yes
17132	GENERAL ITEM REPAIR INSTRUCTIONAL BUILDING .....	Yes
17133	VEHICLE REPAIR BUILDING .....	Yes
17134	AIRCRAFT MAINTENANCE INSTRUCTIONAL BUILDING .....	Yes
17135	LABORATORY INSTRUCTIONAL BUILDING .....	Yes
17136	AUTOMATION AIDED INSTRUCTIONAL BUILDING .....	Yes
17137	MATERIAL HANDLING INSTRUCTIONAL BUILDING .....	Yes
17138	LIMITED USE INSTRUCTIONAL BUILDING .....	Yes
17139	COVERED TRAINING AREA .....	No
17140	ARMY RESERVE CENTER BUILDING .....	Yes
17141	ARMED FORCES RESERVE CENTER BUILDING .....	No
17142	NATIONAL GUARD / RESERVE CENTER BUILDING .....	Yes
17170	GAS CHAMBER .....	Yes
17180	NATIONAL GUARD READINESS CENTER .....	Yes
<b>172</b>	<b>Simulation Facilities</b>	
17210	SIMULATOR BUILDING (MOTION-BASED) .....	No
17211	SIMULATOR BUILDING (NON-MOTION-BASED) .....	No
17212	MOVING TARGET SIMULATION BUILDING .....	No
17213	SIMULATIONS CENTER .....	No
17214	BATTLE LAB .....	No
<b>177</b>	<b>Impact, Maneuver, and Training Areas</b>	
17710	MANEUVER / TRAINING AREA, LIGHT FORCES .....	Yes
17711	MANEUVER / TRAINING AREA, AMPHIBIOUS FORCES .....	Yes
17720	MANEUVER / TRAINING AREA, HEAVY FORCES .....	Yes
17721	DIGITAL AIR / GROUND INTEGRATION RANGE (DAGIR) .....	Yes
17730	IMPACT AREA DUDDDED .....	Yes
17731	IMPACT AREA NON-DUDDDED .....	Yes
17771	CONVOY LIVE FIRE RANGE .....	Yes
<b>178</b>	<b>Training Ranges</b>	
17801	BASIC 10M-25M FIRING RANGE (ZERO) .....	Yes
17802	FIELD FIRE RANGE, NONAUTOMATED .....	No
17803	AUTOMATED FIELD FIRE (AFF) RANGE .....	Yes
17804	RECORD FIRE RANGE NONAUTOMATED .....	No
17805	AUTOMATED RECORD FIRE (ARF) RANGE .....	Yes
17806	MODIFIED RECORD FIRE RANGE .....	Yes
17807	NIGHT FIRE (SMALL ARMS) RANGE .....	No
17808	AUTOMATED NIGHT FIRE (SMALL ARMS) RANGE .....	No
17809	AUTOMATED QUALIFICATION / TRAINING RANGE (QTR) .....	Yes
17810	KNOWN DISTANCE (KD) RANGE .....	Yes

17811	SNIPER TRAINING-FIELD FIRE RANGE .....	No
17812	AUTOMATED SNIPER TRAINING-FIELD FIRE RANGE .....	Yes
17813	AUTOMATIC RIFLE RANGE .....	No
17814	NONSTANDARD SMALL ARMS RANGE .....	No
17816	BAYONET ASSAULT COURSE .....	Yes
17821	COMBAT PISTOL / MP FIREARMS QUALIFICATION COURSE .....	No
17822	AUTOMATED COMBAT PISTOL / MP FIREARMS QUALIFICATION COURSE .....	Yes
17823	SUBMACHINEGUN RANGE .....	No
17829	HEAVY SNIPER RANGE .....	Yes
17831	MACHINE GUN TRANSITION RANGE .....	No
17832	MACHINE GUN FIELD FIRE RANGE .....	No
17833	AUTOMATED MULTIPURPOSE MACHINE GUN (MPMG) RANGE .....	Yes
17834	40MM (GRENADE) MACHINE GUN QUALIFICATION RANGE .....	No
17841	LIGHT ANTIARMOR WEAPONS (LAW/AT-4) RANGE SUBCALIBER .....	Yes
17842	LIGHT ANTIARMOR WEAPONS (LAW/AT-4) RANGE LIVE .....	Yes
17843	RECOILLESS RIFLE RANGE .....	No
17844	ANTIARMOR TRACKING AND LIVE-FIRE RANGE (NONAUTOMATED) .....	No
17845	AUTOMATED ANTIARMOR TRACKING AND LIVE FIRE RANGE .....	Yes
17851	MORTAR SCALED RANGE .....	No
17852	MORTAR RANGE .....	Yes
17854	FIELD ARTILLERY SCALED RANGE .....	No
17855	FIELD ARTILLERY DIRECT FIRE RANGE .....	No
17856	FIELD ARTILLERY INDIRECT FIRE RANGE .....	Yes
17857	MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) RANGE .....	No
17858	SCOUT / RECCE GUNNERY COMPLEX .....	Yes
17859	DIGITAL MULTIPURPOSE TRAINING RANGE (DMPTR) .....	Yes
17860	DIGITAL MULTIPURPOSE RANGE COMPLEX (DMPRC) .....	Yes
17861	TANK / FIGHTING VEHICLE SCALED GUNNERY RANGE (1:30 AND 1:60) .....	No
17862	TANK / FIGHTING VEHICLE SCALED GUNNERY RANGE .....	Yes
17863	TANK / FIGHTING VEHICLE STATIONARY GUNNERY RANGE .....	Yes
17864	MULTIPURPOSE TRAINING RANGE (MPTR) .....	No
17865	AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) .....	Yes
17866	TANK / FIGHTING VEHICLE PLATOON BATTLE RUN (TABLE XI AND XII) .....	No
17867	MULTIPURPOSE RANGE COMPLEX-LIGHT (MPRC-L) AUTOMATED .....	Yes
17868	MULTIPURPOSE RANGE COMPLEX (MPRC) .....	No
17869	COMBAT ENGINEER VEHICLE (CEV) RANGE .....	No
17870	BATTLE AREA COMPLEX (BAX) .....	Yes
17871	AIR DEFENSE GUNNERY RANGE .....	No
17872	AIR DEFENSE MISSILE FIRING RANGE .....	Yes
17878	URBAN ASSAULT COURSE .....	Yes
17879	LIVE FIRE EXERCISE SHOOTHOUSE .....	Yes
17880	LIVE FIRE EXERCISE BREACH FACILITY .....	Yes
17881	HAND GRENADE ACCURACY COURSE (NONFIRING) .....	No
17882	HAND GRENADE QUALIFICATION COURSE (NONFIRING) .....	Yes
17883	HAND GRENADE FAMILIARIZATION RANGE (LIVE) .....	Yes
17884	GRENADE LAUNCHER RANGE .....	Yes
17885	LIGHT DEMOLITION RANGE .....	Yes
17886	HEAVY DEMOLITION AREA .....	No
17887	FLAME OPERATIONS RANGE .....	No
17888	ENGINEER QUALIFICATIONS RANGE, NONSTANDARDIZED .....	No
17889	ENGINEER QUALIFICATION RANGE, AUTOMATED / STANDARDIZED .....	No

17891	INFILTRATION COURSE, LIVE-FIRE .....	Yes
17892	FIRE AND MOVEMENT RANGE .....	Yes
17893	SQUAD DEFENSE RANGE .....	Yes
17894	INFANTRY SQUAD BATTLE COURSE .....	No
17895	AUTOMATED INFANTRY SQUAD BATTLE COURSE (ISBC) .....	Yes
17896	INFANTRY PLATOON BATTLE COURSE .....	No
17897	AUTOMATED INFANTRY PLATOON BATTLE COURSE (IPBC) .....	Yes
17898	MOUT ASSAULT COURSE (MAC) .....	No
<b>179</b>	<b>Training Facilities Other Than Buildings</b>	
17901	COMBINED ARMS COLLECTIVE TRAINING FACILITY (CACTF) .....	Yes
17905	DIVING TANK .....	No
17908	TARGET DETECTION RANGE (NONFIRING) .....	No
17910	BORESIGHT, SCREENING AND HARMONIZATION RANGE .....	Yes
17911	AERIAL GUNNERY RANGE .....	No
17912	AERIAL GUNNERY RANGE AWSS .....	Yes
17913	CLOSE AIR SUPPORT RANGE .....	No
17914	AERIAL BOMBING RANGE .....	No
17948	HAND TO HAND COMBAT PIT .....	No
17949	PRISONER OF WAR TRAINING AREA .....	No
17950	CONFIDENCE COURSE .....	No
17951	LEADERSHIP REACTION COURSE .....	No
17952	MINE WARFARE AREA .....	No
17954	WHEELED VEHICLE DRIVERS COURSE .....	No
17955	TRACKED VEHICLE DRIVERS COURSE .....	No
17956	AMPHIBIOUS VEHICLE TRAINING AREA .....	No
17958	SHIP LOADING AND UNLOADING MOCKUP .....	No
17959	AIR TRANSPORT MOCKUP .....	No
17961	PARACHUTE LANDING FALL PLATFORM .....	No
17962	SUSPENDED HARNESS MOCKUP .....	No
17963	MOCKUP JUMP TOWER .....	No
17964	UNDERWATER FORDING SITE .....	No
17965	COMBAT TRAIL .....	No
17966	RAPPELLING TRAINING AREA .....	No
17968	ROAD / AIRFIELD CONSTRUCTION TRAINING SITE .....	No
17971	OBSERVATION TOWER .....	No
17972	OBSERVATION BUNKER .....	No
17973	TIMBER BRIDGE AREA .....	No
17974	PANEL BRIDGE AREA .....	No
17975	ARMORED VEHICLE LAUNCH BRIDGE, RAFT, AND FORD AREA .....	No
17976	FLOATING BRIDGE SITE .....	No
17979	PIPELINE CONSTRUCTION TRAINING AREA .....	No
17980	PARADE / DRILL FIELD .....	No
17981	FIRE FIGHTING AND RESCUE TRAINING AREA .....	No
17982	WATER SUPPLY TRAINING AREA .....	No
17983	ARMY AIRFIELD TRAINING AREA .....	No
17984	MEDIUM / HEAVY EQUIPMENT TRAINING AREA .....	No
17987	DECONTAMINATION TRAINING SITE .....	No
17988	POL TRAINING AREA .....	No
17989	LAUNDRY TRAINING FACILITY .....	No
17991	PERSONNEL / EQUIPMENT DROP ZONE .....	No
17892	PHYSICAL EDUCATION TRAINING FIELDS .....	No
17993	POLE ORCHARD .....	No
17994	OBSTACLE COURSE .....	No
17995	COMBAT IN CITIES FACILITY .....	No

17996	COLLECTIVE TRAINING FACILITY (CTF) .....	Yes
17997	MOUT COLLECTIVE TRAINING FACILITY (LARGE) .....	No
17998	LAND NAVIGATION COURSE .....	No
17999	FIELD TRAINING AREA .....	No

## 200 MAINTENANCE AND PRODUCTION

### 211 Aircraft Maintenance Facilities

21110	AIRCRAFT MAINTENANCE HANGAR .....	Yes
21113	AIRCRAFT PARTS STORAGE .....	Yes
21114	AIRCRAFT MAINTENANCE BAY .....	Yes
21115	TACTICAL UNMANNED AERIAL VEHICLE (UAV) HANGAR .....	Yes
21116	HANGAR SHOP SPACE .....	Yes
21117	AVIONICS MAINTENANCE SHOP, INSTALLATION .....	Yes
21120	AIRCRAFT COMPONENT MAINTENANCE SHOP .....	Yes
21130	AIRCRAFT PAINT SHOP .....	Yes
21140	AIRCRAFT ENGINE TEST BUILDING .....	Yes
21141	AIRCRAFT ENGINE TEST STRUCTURE .....	Yes

### 212 Guided Missile Maintenance Facilities

21210	GUIDED MISSILE MAINTENANCE BUILDING, DEPOT LEVEL .....	No
21220	GUIDED MISSILE LAUNCHER EQUIPMENT SHOP, DEPOT LEVEL .....	No

### 213 Ships and Spares Maintenance Facilities

21310	SHIP REPAIR GRAVING DRYDOCK .....	No
21320	MARINE RAILWAY .....	No
21330	SHIP REPAIR SHOP .....	No
21335	SHIP REPAIR FACILITY .....	No
21340	FIXED CRANE .....	No

### 214 Tank and Automotive Maintenance Facilities

21406	TRANSIENT TRAINING VEHICLE MAINTENANCE SHOP .....	Yes
21407	NATIONAL GUARD VEHICLE MAINTENANCE SHOP .....	Yes
21408	COMPONENT CLEANING FACILITY .....	Yes
21409	ARMY RESERVE VEHICLE MAINTENANCE SHOP .....	Yes
21410	VEHICLE MAINTENANCE SHOP .....	Yes
21411	REPAIR BAYS, NON DOL / DPW .....	Yes
21412	MAINTENANCE STORAGE, NON DOL / DPW .....	Yes
21413	ADMINISTRATION AND SHOP CONTROL, NON DOL / DPW .....	Yes
21414	GENERAL ITEM REPAIR SHOP, NON DOL / DPW .....	Yes
21415	COMPACT ITEM REPAIR SHOP, NON DOL / DPW .....	Yes
21416	MISSILE MAINTENANCE BUILDING .....	Yes
21417	VEHICLE PAINT AND PREP SHOP, NON-DOL / DPW .....	Yes
21418	AREA MAINTENANCE SUPPORT ACTIVITY / EQUIPMENT CONCENTRATION SITE .....	No
21419	COMBINED SUPPORT MAINTENANCE SHOP / MANEUVER AREA TRAINING EQUIPMENT SITE .....	Yes
21435	MAJOR END ITEM REBUILD SHOP, DEPOT LEVEL .....	No
21440	COMPONENT REBUILD SHOP, DEPOT LEVEL .....	No
21441	VEHICLE MAINTENANCE FACILITY, DEPOT LEVEL .....	No
21445	TANK / AUTOMOTIVE PARTS STORAGE, DEPOT LEVEL .....	No
21458	STEAM CLEANING BUILDING, DEPOT LEVEL .....	No
21462	STEAM CLEANING FACILITY, DEPOT LEVEL .....	No

21465	DRUM RECONDITIONING PLANT, DEPOT LEVEL .....	No
21470	OIL STORAGE BUILDING, NON DOL / DPW .....	Yes
<b>215</b>	<b>Weapons and Spares Maintenance Facilities</b>	
21510	SMALL ARMS REPAIR SHOP, DEPOT LEVEL .....	No
21512	WEAPON DEMILITARIZATION SHOP, DEPOT LEVEL .....	No
21520	LIGHT GUN SHOP, DEPOT LEVEL .....	No
21522	WEAPON QUALITY ASSURANCE / CALIBRATION FACILITY, DEPOT LEVEL .....	No
21530	HEAVY GUN SHOP, DEPOT LEVEL .....	No
21540	SPECIAL WEAPONS SHOP, DEPOT LEVEL .....	No
21545	WEAPONS REPAIR FACILITY, DEPOT LEVEL .....	No
<b>216</b>	<b>Maintenance – Ammunition / Explosives / Toxics</b>	
21610	AMMUNITION RENOVATION SHOP, DEPOT LEVEL .....	No
21612	AMMUNITION SURVEILLANCE SHOP, DEPOT LEVEL .....	No
21620	ROCKET OVERHAUL SHOP, DEPOT LEVEL .....	No
21622	EXPLOSIVES RECEIVING / SERVICE BUILDING, DEPOT LEVEL .....	No
21630	AMMUNITION DEMOLITION SHOP, DEPOT LEVEL .....	No
21632	AMMUNITION DEMOLITION FACILITY .....	No
21640	DUNNAGE BUILDING, DEPOT LEVEL .....	No
21642	COMPONENT CLEANING SHOP, DEPOT LEVEL .....	No
21650	AMMUNITION QUALITY ASSURANCE / CALIBRATION FACILITY, DEPOT LEVEL ....	No
21660	AMMUNITION MAINTENANCE FACILITY, DEPOT LEVEL .....	No
21670	AMMUNITION INSPECTION, REPAIR, REPACKING BUILDING, INSTALLATION .....	No
<b>217</b>	<b>Electronics and Communications Equipment Maintenance Facilities</b>	
21710	ELECTRONICS MAINTENANCE SHOP, DEPOT LEVEL .....	No
21712	COMMO / ELECTRONICS QUALITY ASSURANCE / CALIBRATION FACILITY, DEPOT LEVEL .....	No
21722	COMMUNICATIONS / ELECTRONICS COMPONENT CLEANING SHOP, DEPOT LEVEL No	
21730	RADAR MAINTENANCE SHOP, DEPOT LEVEL .....	No
21740	AVIONICS MAINTENANCE SHOP, DEPOT LEVEL .....	No
<b>218</b>	<b>Miscellaneous Items and Equipment Maintenance Facilities</b>	
21835	REPAIR BAYS, DOL / DPW / IMMA / IMMD .....	Yes
21840	RAILROAD EQUIPMENT AND ENGINE MAINTENANCE SHOP .....	Yes
21845	ADMINISTRATION AND SHOP CONTROL, DOL / DPW IMMA / IMMD .....	Yes
21850	BATTERY SHOP .....	Yes
21855	VEHICLE PAINT AND PREP SHOP, DOL / DPW / IMMA / IMMD .....	Yes
21865	OIL STORAGE BUILDING, DOL / DPW / IMMA / IMMD .....	Yes
21870	MAINTENANCE STORAGE, DOL / DPW / IMMA / IMMD .....	Yes
21872	QUALITY ASSURANCE / CALIBRATION FACILITY, GENERAL PURPOSE, INSTALLATION .....	Yes
21879	PROCURED ITEM AND EQUIPMENT MAINTENANCE FACILITY .....	Yes
21881	AIRBORNE EQUIPMENT / PARACHUTE REPAIR SHOP .....	Yes
21882	GENERAL ITEM REPAIR SHOP, DOL / DPW / IMMA / IMMD .....	Yes
21885	MAINTENANCE SHOP, GENERAL PURPOSE .....	Yes
21887	COMPACT ITEM REPAIR SHOP, DOL / DPW / IMMA / IMMD .....	Yes
<b>219</b>	<b>Installation, Repair, and Operations Maintenance Facilities</b>	
21910	ENGINEERING / HOUSING MAINTENANCE SHOP .....	Yes
21922	ENTOMOLOGY FACILITY .....	Yes
21925	ENGINEER MAINTENANCE FACILITY .....	Yes
<b>221</b>	<b>Aircraft Production Facilities</b>	
22110	AIRCRAFT ENGINE ASSEMBLY PLANT .....	No
22120	AIRFRAME ASSEMBLY PLANT .....	No



22122	AIRCRAFT QUALITY ASSURANCE / CALIBRATION FACILITY .....	No
22125	AIRCRAFT PRODUCTION STRUCTURE .....	No
<b>222</b>	<b>Guided Missiles Production Facilities</b>	
22210	GUIDED MISSILE ASSEMBLY PLANT .....	No
22220	GUIDED MISSILE HANDLING AND LAUNCHER PLANT .....	No
22228	GUIDED MISSILE QUALITY ASSURANCE / CALIBRATION FACILITY .....	No
22230	GUIDED MISSILE PRODUCTION STRUCTURE .....	No
<b>224</b>	<b>Tank and Automotive Production Facilities</b>	
22410	COMBAT VEHICLE ASSEMBLY PLANT .....	No
22412	ENGINE TEST BUILDING .....	No
22416	HEAT TREATING SHOP .....	No
22422	PLATING SHOP .....	No
22430	MACHINE SHOP .....	No
22434	TANK / AUTOMOTIVE QUALITY ASSURANCE / CALIBRATION FACILITY .....	No
22435	TANK / AUTOMOTIVE PRODUCTION STRUCTURE .....	No
<b>225</b>	<b>Weapons and Spares Production Facilities</b>	
22510	SMALL ARMS PLANT .....	No
22520	LIGHT GUN PLANT .....	No
22525	FORGE SHOP .....	No
22530	HEAVY GUN PLANT .....	No
22532	FOUNDRY .....	No
22535	WELDING SHOP .....	No
22537	MACHINE SHOP, WEAPONS .....	No
22548	WEAPONS QUALITY ASSURANCE / CALIBRATION FACILITY, PRODUCTION .....	No
22565	WEAPONS PRODUCTION STRUCTURE .....	No
<b>226</b>	<b>Ammunition, Explosives, and Toxics Production Facilities</b>	
22610	BAG CHARGE FILLING PLANT .....	No
22612	ACID MANUFACTURING PLANT .....	No
22614	LEAD AZIDE MANUFACTURING PLANT .....	No
22616	EXPLOSIVE MANUFACTURING PLANT .....	No
22618	CHEMICAL, BIOLOGICAL, RADIOLOGICAL PLANT .....	No
22620	CASE OVERHAUL AND TANK FACILITY .....	No
22622	PYROTECHNIC PRODUCTION .....	No
22624	METAL PARTS PRODUCTION .....	No
22625	SMALL CALIBER LOADING PLANT (UNDER 40MM) .....	No
22626	BOMB HIGH EXPLOSIVES FILLING PLANT .....	No
22628	METAL PARTS LOADING PLANT .....	No
22630	MINOR CALIBER LOADING PLANT (40-75MM) .....	No
22632	AMMUNITION FOUNDRY .....	No
22635	MEDIUM CALIBER LOADING PLANT (76-120MM) .....	No
22638	AMMUNITION QUALITY ASSURANCE / CALIBRATION FACILITY, PRODUCTION .....	No
22640	MAJOR CALIBER LOADING PLANT (OVER 120MM) .....	No
22645	LARGE CALIBER ROCKET MOTOR LOADING PLANT .....	No
22650	MEDIUM CALIBER ROCKET MOTOR LOADING PLANT .....	No
22655	CAST HIGH EXPLOSIVE FILLING PLANT .....	No
22660	SPECIAL WEAPONS PLANT .....	No
22665	AMMUNITION WASHOUT FACILITY .....	No
22670	CASE FILLING PLANT .....	No
22680	PROPELLANT PLANT .....	No
22685	AMMUNITION PRODUCTION STRUCTURE .....	No
<b>228</b>	<b>Miscellaneous Items and Equipment Production Facilities</b>	
22810	LEATHER / TEXTILE / CLOTHING PLANT .....	No
22845	MISCELLANEOUS PROCURED ITEM PRODUCTION STRUCTURE .....	No
<b>229</b>	<b>Installation Maintenance and Repair Production Facilities</b>	
22910	ASPHALT PLANT .....	No

22920	CONCRETE PLANT .....	No
22930	QUARRY / ROCK CRUSHER PLANT .....	No
22940	SAWMILL .....	No
22960	ICE PLANT .....	No

### 300 RESEARCH, DEVELOPMENT AND TEST FACILITIES

<b>310</b>	<b>Research, Development, Test and Evaluation (RDT&amp;E) Science Laboratories</b>	
31010	CHEMISTRY LAB .....	No
31015	GREENHOUSE, R&D .....	No
31020	METALLURGY LAB .....	No
31030	NUCLEAR PHYSICS AND CHEMICAL LAB .....	No
31040	PHYSICS LAB .....	No
31050	HUMAN ENGINEERING LAB .....	No
31060	MEDICAL RESEARCH LAB .....	No
31061	MEDICAL RESEARCH LAB ANIMAL SHELTER .....	No
31062	DENTAL RESEARCH LAB .....	No
31063	WILDLIFE OBSERVATION BUILDING .....	No
31065	CLIMATIC CHAMBER BUILDING .....	No
31066	BIO LAB LEVEL 3 LABORATORY .....	No
31067	BIO LAB LEVEL 4 LABORATORY .....	No
31071	ENGINEER RESEARCH AND DEVELOPMENT .....	No
<b>311</b>	<b>Aircraft R&amp;D Buildings</b>	
31110	AIRCRAFT AND FLIGHT EQUIPMENT BUILDING .....	No
<b>312</b>	<b>Missile and Space R&amp;D Buildings</b>	
31210	ASTRONAUTICAL AND GEOPHYSICAL BUILDING .....	No
31220	GUIDED MISSILE BUILDING .....	No
<b>314</b>	<b>Tank and Automotive RDT&amp;E Buildings</b>	
31410	GROUND TRANSPORT EQUIPMENT BUILDING .....	No
<b>315</b>	<b>Weapons and Weapon Systems RDT&amp;E Buildings</b>	
31510	ORDNANCE BUILDING .....	No
<b>316</b>	<b>Ammunition, Explosives, and Toxics RDT&amp;E Buildings</b>	
31610	CHEMICAL EQUIPMENT AND MATERIAL BUILDING .....	No
31620	AMMUNITION / EXPLOSIVES / TOXICS BUILDING .....	No
<b>317</b>	<b>Electronic and Communications Equipment RDT&amp;E Buildings</b>	
31710	COMMUNICATION EQUIPMENT BUILDING .....	No
31720	DETECTION EQUIPMENT BUILDING .....	No
31730	ELECTRICAL EQUIPMENT BUILDING .....	No
31740	ELECTRONIC EQUIPMENT BUILDING .....	No
<b>318</b>	<b>Propulsion RDT&amp;E Buildings</b>	
31810	NUCLEAR PROPULSION BUILDING .....	No
31820	PROPULSION SYSTEMS BUILDING .....	No
<b>319</b>	<b>Miscellaneous Items and Equipment RDT&amp;E Buildings</b>	
31910	NONMETALLIC MATERIAL BUILDING .....	No
31920	LAB AND TEST BUILDING, GENERAL PURPOSE .....	No
31930	VIBRATION TEST LAB .....	No
<b>321</b>	<b>Technical Services RDT&amp;E Buildings</b>	
32110	PRECISION MACHINE SHOP .....	No
<b>371</b>	<b>RDT&amp;E Range Facilities</b>	
37110	RDT&E RANGE BUILDINGS .....	No
37120	RDT&E RANGE STRUCTURES .....	No
<b>390</b>	<b>RDT&amp;E Facilities Other Than Buildings</b>	
39010	AIRCRAFT AND FLIGHT EQUIPMENT FACILITY .....	No
39014	ASTRONAUTICAL AND GEOPHYSICAL FACILITY .....	No



39018	CHEMICAL EQUIPMENT AND MATERIAL FACILITY .....	No
39024	COMMUNICATION EQUIPMENT FACILITY .....	No
39028	DETECTION EQUIPMENT FACILITY .....	No
39030	ELECTRICAL EQUIPMENT FACILITY .....	No
39034	ELECTRONIC EQUIPMENT FACILITY .....	No
39038	GROUND TRANSPORT EQUIPMENT FACILITY .....	No
39040	GUIDED MISSILE FACILITY .....	No
39064	PROPULSION SYSTEMS FACILITY .....	No
39068	ORDNANCE FACILITY .....	No
39069	RDT&E RANGE .....	No
39075	RDT&E RANGE IMPACT AREA .....	No
39076	RDT&E DROP ZONE .....	No
39080	RDT&E RANGE FACILITIES .....	No

## 400 SUPPLY FACILITIES

### 411 Bulk Liquid Fuel Storage

41110	MARINE FUEL STORAGE, BULK, ABOVE GROUND .....	No
41111	MARINE FUEL STORAGE, BULK, UNDERGROUND .....	No
41120	AVIATION GAS STORAGE, ABOVE GROUND, BULK .....	No
41121	JET FUEL STORAGE, ABOVE GROUND, BULK .....	No
41122	AVIATION GAS STORAGE, UNDERGROUND .....	No
41123	JET FUEL STORAGE, UNDERGROUND, BULK .....	No
41130	DIESEL OIL / JP8 STORAGE, ABOVE GROUND, BULK .....	No
41131	DIESEL OIL / JP8 STORAGE, UNDERGROUND, BULK .....	No
41140	GASOLINE STORAGE, ABOVE GROUND .....	No
41141	GASOLINE STORAGE, UNDERGROUND, BULK .....	No
41150	LIQUEFIED GAS STORAGE, ABOVE GROUND .....	No
41151	LIQUEFIED GAS STORAGE, UNDERGROUND .....	No
41160	LIQUID PROPELLANT STORAGE, ABOVE GROUND .....	No
41161	LIQUID PROPELLANT STORAGE, UNDERGROUND .....	No
41170	LUBRICANT STORAGE .....	No
41180	FUEL OIL STORAGE, ABOVE GROUND .....	No
41181	FUEL OIL STORAGE, UNDERGROUND .....	No

### 412 Liquid Storage Other Than Water, Fuel, and Propellants

41210	LIQUID STORAGE NONPROPELLANT .....	No
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### 421 Depot and Arsenal Ammunition Storage

42104	EXPLOSIVE TRANSFER BUILDING, DEPOT LEVEL .....	No
42107	STRADLEY, NONATOMIC BLAST RESISTANT, DEPOT LEVEL .....	No
42110	FUSE AND DETONATOR MAGAZINE, DEPOT LEVEL .....	No
42120	HIGH EXPLOSIVE MAGAZINE, DEPOT LEVEL .....	No
42150	SMOKELESS POWDER MAGAZINE, DEPOT LEVEL .....	No
42160	SPECIAL WEAPONS MAGAZINE, DEPOT LEVEL .....	No
42170	GUIDED MISSILE MAGAZINE, DEPOT LEVEL .....	No
42180	IGLOO STORAGE, DEPOT LEVEL .....	No
42181	AMMUNITION STOREHOUSE, DEPOT LEVEL .....	No
42182	SMALL ARMS AMMUNITION MAGAZINE, DEPOT LEVEL .....	No
42183	GENERAL PURPOSE MAGAZINE, DEPOT LEVEL .....	No
42184	AMMUNITION HUT, DEPOT LEVEL .....	No
42186	AMMUNITION STORAGE STRUCTURE, DEPOT LEVEL .....	No

### 422 Installation and Ready-Issue Ammunition Storage

42210	FUSE AND DETONATOR MAGAZINE, INSTALLATION .....	No
42215	HIGH EXPLOSIVE MAGAZINE, INSTALLATION .....	No
42225	SMOKEDRUM STOREHOUSE, INSTALLATION .....	No

42230	SMALL ARMS AMMUNITION AND PYROTECHNICS MAGAZINE, INSTALLATION	No
42231	AMMUNITION STOREHOUSE, INSTALLATION	No
42235	READY MAGAZINE, INSTALLATION	No
42240	FIXED AMMUNITION MAGAZINE, INSTALLATION	No
42250	SPECIAL WEAPONS MAGAZINE, INSTALLATION	No
42260	GUIDED MISSILE MAGAZINE, INSTALLATION	No
42280	IGLOO STORAGE, INSTALLATION	No
42281	AMMUNITION HUT, INSTALLATION	No
42283	GENERAL PURPOSE MAGAZINE, INSTALLATION	No
42285	UNIT SMALL ARMS AMMUNITION STORAGE, INSTALLATION	No
42286	AMMUNITION STORAGE STRUCTURE, INSTALLATION	No
42288	AMMO STORAGE OTHER THAN DEPOT OR UNIT	No
<b>423</b>	<b>Liquid Propellant Ammunition Storage</b>	
42310	LIQUID PROPELLANT STORAGE, AMMUNITION, BUILDING	No
42311	LIQUID PROPELLANT STORAGE, AMMUNITION, FACILITY	No
42312	LIQUID PROPELLANT STORAGE, AMMUNITION, STRUCTURE	No
<b>424</b>	<b>Weapon-Related Battery Storage</b>	
42410	BATTERY COLD STORAGE BUILDING	No
<b>425</b>	<b>Open Ammunition Storage Pad</b>	
42510	AMMUNITION STORAGE PAD	No
<b>431</b>	<b>Depot and In-Transit Cold Storage</b>	
43110	COLD STORAGE BUILDING, DEPOT LEVEL	No
<b>432</b>	<b>Installation and Ready Issue Cold Storage</b>	
43211	COLD STORAGE BUILDING, INSTALLATION	Yes
43220	MEAT CUTTING PLANT, INSTALLATION	No
<b>441</b>	<b>Depot and Arsenal Covered Storage</b>	
44110	STORAGE BUILDING, GENERAL PURPOSE, DEPOT LEVEL	Yes
44130	CONTROLLED HUMIDITY WAREHOUSE, DEPOT	No
44135	HAZARDOUS MATERIAL STORAGE, DEPOT LEVEL	Yes
44150	FLAMMABLE MATERIAL STOREHOUSE, DEPOT LEVEL	No
44160	RADIOACTIVE STORAGE WAREHOUSE, DEPOT LEVEL	No
44170	UNDERGROUND STORAGE FACILITY, DEPOT LEVEL	No
44180	OPEN WAREHOUSE, DEPOT LEVEL	No
44181	VEHICLE STORAGE FACILITY, DEPOT LEVEL	No
44182	VEHICLE STORAGE BUILDING, DEPOT LEVEL	No
<b>442</b>	<b>Installation and Organizational Covered Storage</b>	
44210	AIRCRAFT PRODUCTION PARTS STORAGE, INSTALLATION	Yes
44215	OXYGEN STORAGE FACILITY, INSTALLATION	No
44216	STORAGE SILO	No
44217	ACETYLENE STORAGE FACILITY, INSTALLATION	No
44220	STORAGE BUILDING, GENERAL PURPOSE, INSTALLATION	Yes
44222	STORAGE SHED, GENERAL PURPOSE, INSTALLATION	Yes
44223	ARMS BUILDING FOR BATTALION AND ABOVE	Yes
44224	ORGANIZATIONAL STORAGE BUILDING	Yes
44228	HAZARDOUS MATERIAL STORAGE BUILDING, INSTALLATION	Yes
44230	CONTROLLED HUMIDITY WAREHOUSE, INSTALLATION	Yes
44240	FLAMMABLE MATERIAL STOREHOUSE, INSTALLATION	Yes
44250	UNDERGROUND STORAGE FACILITY	No
44260	RADIOACTIVE STORAGE WAREHOUSE, INSTALLATION	No
44262	VEHICLE STORAGE SHED, INSTALLATION	Yes
44263	VEHICLE STORAGE BUILDING, INSTALLATION	No
44271	CONSOLIDATED HOUSING FURNITURE STORAGE	Yes

44288	INSTALLATION STORAGE OTHER THAN DEPOT OR ORGANIZATIONAL .....	No
<b>451</b>	<b>Depot Open Storage</b>	
45110	OPEN STORAGE AREA, DEPOT LEVEL .....	No
<b>452</b>	<b>Installation and Organizational Open Storage</b>	
45210	OPEN STORAGE AREA, INSTALLATION .....	Yes
45220	LAND FARM .....	No

## 500 MEDICAL FACILITIES

### 510 Medical Centers and Hospitals

51010	MEDICAL CENTER / HOSPITAL .....	Yes
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### 530 Medical and Medical Support Facilities (Laboratories)

53020	LABORATORY .....	Yes
53025	PHARMACY .....	No
53030	MORGUE .....	No
53040	VETERINARY FACILITY .....	No
53045	ANIMAL SHELTER .....	Yes
53060	MEDICAL WAREHOUSE .....	No
53070	AMBULANCE SHELTER .....	No
53071	AMBULANCE GARAGE .....	No
53080	FISHER HOUSE .....	No

### 540 Dental Clinics

54010	DENTAL CLINIC .....	Yes
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### 550 Dispensaries and Clinics

55010	HEALTH CLINIC .....	No
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## 600 ADMINISTRATIVE FACILITIES

### 610 Administrative Buildings

61001	MILITARY ENTRANCE PROCESSING STATION (MEPS) .....	Yes
61002	RECRUITING STATION STOREFRONT .....	Yes
61050	ADMINISTRATIVE BUILDING, GENERAL PURPOSE .....	Yes
61055	WAITING AREA / IN-OUT PROCESSING .....	Yes
61065	TECHNICAL LIBRARY .....	Yes
61070	RED CROSS BUILDING .....	Yes
61075	COURTROOM .....	Yes

### 620 Underground Administrative Structures

62010	UNDERGROUND ADMINISTRATIVE FACILITY .....	Yes
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### 690 Administrative Structures Other Than Buildings

69010	FLAGPOLE .....	No
69020	INFORMATION STAND .....	No
69030	FACILITY INFORMATION SIGN .....	No

## 700 HOUSING AND COMMUNITY

### 711 Family Housing Dwelling

71111	FAMILY HOUSING, GENERAL OFFICER .....	Yes
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71112	FAMILY HOUSING, COLONEL .....	Yes
71113	FAMILY HOUSING, LT COLONEL AND MAJOR .....	Yes
71114	FAMILY HOUSING, COMPANY GRADE AND WARRANT OFFICER .....	Yes
71115	FAMILY HOUSING, SENIOR NCO .....	Yes
71116	FAMILY HOUSING, JUNIOR NCO / ENLISTED .....	Yes
71117	FAMILY HOUSING, OTHER THAN MILITARY .....	No
<b>712</b>	<b>Family Housing: Trailers</b>	
71210	FAMILY HOUSING TRAILERS .....	No
<b>713</b>	<b>Family Housing: Trailer Sites</b>	
71310	TRAILER SITES .....	No
<b>714</b>	<b>Family Housing Support Facilities</b>	
71410	GARAGE, FAMILY HOUSING .....	No
71411	CARPORT, FAMILY HOUSING .....	No
71420	STORAGE BUILDING, FAMILY HOUSING .....	No
71450	TRAILER PARK SERVICE BUILDING .....	No
<b>720</b>	<b>Transient Housing</b>	
72010	ARMY LODGING .....	Yes
<b>721</b>	<b>Enlisted Personnel Unaccompanied Personnel Housing</b>	
72111	ENLISTED UNACCOMPANIED PERSONNEL HOUSING .....	Yes
72112	UPH, WARRIOR TRANSITION UNIT .....	Yes
72114	TRANSIENT TRAINING ENLISTED BARRACKS .....	Yes
72115	MOBILIZATION ENLISTED BARRACKS .....	Yes
72121	TRANSIENT UPH, ADVANCED INDIVIDUAL TRAINEES (AIT) .....	Yes
72122	TRANSIENT UPH, ADVANCED SKILLS TRAINEES (AST) .....	Yes
72170	UNACCOMPANIED PERSONNEL HOUSING, SENIOR NCO .....	Yes
72181	TRAINEE BARRACKS .....	Yes
<b>722</b>	<b>Unaccompanied Personnel Housing Mess Facilities</b>	
72210	DINING FACILITY .....	Yes
72212	TRANSIENT TRAINING DINING FACILITY .....	Yes
<b>723</b>	<b>Unaccompanied Personnel Housing Detached Facilities</b>	
72310	UPH LAUNDRY BUILDING, DETACHED .....	No
72350	GARAGE, UPH, DETACHED .....	No
72351	CARPORT, UPH .....	No
72360	MISCELLANEOUS FACILITIES, DETACHED .....	No
<b>724</b>	<b>Officers Unaccompanied Personnel Housing</b>	
72410	UNACCOMPANIED OFFICERS QUARTERS, MILITARY .....	Yes
72412	TRANSIENT TRAINING OFFICERS QUARTERS .....	Yes
<b>725</b>	<b>Emergency Unaccompanied Personnel Housing</b>	
72510	HUTMENT .....	No
72520	TENT PAD .....	No
<b>730</b>	<b>Personnel Support and Service Facilities</b>	
73010	FIRE STATION .....	Yes
73011	DETACHED FIRE STATION SUPPORT BUILDING .....	No
73012	FIRE TOWER .....	No
73013	BUS STATION .....	No
73015	CONFINEMENT FACILITY .....	Yes
73016	POLICE / MP STATION .....	Yes
73017	CHAPEL .....	Yes

73018	RELIGIOUS EDUCATION FACILITY .....	Yes
73019	FAMILY LIFE CENTER .....	Yes
73021	GARRISON BREAD AND PASTRY KITCHEN .....	Yes
73028	DRUG AND ALCOHOL ABUSE COUNSELING CENTER .....	No
73030	LAUNDRY / DRY CLEANING FACILITY .....	Yes
73032	LAUNDRY / DRY CLEANING PICK-UP POINT .....	No
73046	DEPENDENT SCHOOL .....	Yes
73050	AIR RAID / FALLOUT SHELTER .....	No
73056	SMOKING SHELTER .....	No
73070	MISCELLANEOUS SHED .....	No
73072	POST OFFICE BRANCH .....	Yes
73073	POST OFFICE, MAIN .....	Yes
73074	PRIVATELY OWNED VEHICLE INSPECTION STATION .....	No
73075	SEPARATE TOILET / SHOWER BUILDING .....	No
73080	CEREMONIAL HALL .....	No
<b>740</b>	<b>Indoor Morale, Welfare, and Recreation Facilities</b>	
74003	NONAPPROPRIATED FUND (NAF) SALES OUTLET .....	No
74006	BANK .....	No
74009	BOAT HOUSE .....	No
74010	AUDITORIUM, GENERAL PURPOSE .....	Yes
74011	BOWLING CENTER .....	Yes
74012	CAFETERIA .....	No
74013	CANTEEN .....	No
74016	CHILD DEVELOPMENT CENTER – SCHOOL-AGE FACILITY .....	Yes
74017	CHILD DEVELOPMENT CENTER – UNDER 6 YEARS OF AGE .....	Yes
74018	MWR CAR WASH BUILDING .....	No
74019	MWR CAR WASH .....	No
74020	MILITARY CLOTHING SALES STORE .....	Yes
74021	COMMISSARY .....	No
74022	SKILL DEVELOPMENT CENTER, NONAUTOMOTIVE .....	Yes
74023	CREDIT UNION .....	Yes
74024	AUTOMOTIVE SKILLS CENTER .....	Yes
74025	ARMY CONTINUING EDUCATION SYSTEM FACILITY .....	Yes
74028	PHYSICAL FITNESS CENTER .....	Yes
74029	GREENHOUSE .....	No
74030	SPORTS PRO SHOP .....	No
74031	GOLF COURSE MAINTENANCE BUILDING .....	No
74033	ARMY COMMUNITY SERVICES CENTER .....	Yes
74034	COMMUNITY ACTIVITIES CENTER .....	No
74035	CONSERVATION BUILDING .....	No
74036	RECREATIONAL BILLETTS .....	No
74040	LIBRARY BRANCH .....	Yes
74041	LIBRARY MAIN .....	Yes
74046	CONSOLIDATED OPEN DINING FACILITY .....	No
74047	ENLISTED OPEN DINING FACILITY .....	Yes
74048	OFFICER OPEN DINING FACILITY .....	Yes
74049	RIDING STABLE .....	Yes
74050	EXCHANGE BRANCH .....	No
74051	EXCHANGE CAFETERIA .....	No
74052	EXCHANGE AUTOMOTIVE SERVICE STATION .....	No
74053	EXCHANGE MAIN RETAIL STORE .....	No

74054	EXCHANGE MAINTENANCE SHOP .....	No
74055	EXCHANGE WAREHOUSE .....	No
74056	EXCHANGE SERVICE OUTLET .....	No
74058	EXCHANGE CONCESSION .....	No
74059	EXCHANGE CAR WASH .....	No
74060	BREAK/LUNCH ROOM .....	No
74062	FAST FOOD / SNACK BAR .....	No
74064	POST (INSTALLATION) RESTAURANT .....	No
74065	RECREATIONAL EQUIPMENT CHECKOUT .....	Yes
74066	YOUTH CENTER .....	Yes
74068	RECREATION CENTER .....	Yes
74069	COMMUNITY FITNESS CENTER .....	No
74070	INDOOR ROLLER SKATING RINK .....	Yes
74072	INDOOR SWIMMING POOL .....	No
74075	RECREATIONAL SUPPORT BUILDING .....	No
74076	MWR KENNEL .....	No
74078	THRIFT SHOP .....	Yes
74079	HOMELESS SUPPORT SHELTER .....	No
74080	SELF STORAGE RENTAL FACILITY .....	No
74082	INDOOR ICE SKATING RINK .....	Yes
74085	PRIVATE / ORGANIZATIONAL CLUB BUILDING .....	No
74087	RECREATION PARK SERVICE BUILDING .....	No
74089	OUTDOOR POOL SERVICE BUILDING .....	No
<b>750</b>	<b>Morale, Welfare and Recreation Facilities</b>	
75011	COURT AREA .....	Yes
75017	OUTDOOR ICE SKATING RINK .....	Yes
75018	PLAYGROUND, GENERAL PURPOSE .....	Yes
75020	BASEBALL FIELD .....	Yes
75021	SOFTBALL FIELD .....	Yes
75022	MULTIPURPOSE ATHLETIC FIELD .....	Yes
75024	ARCHERY RANGE .....	No
75025	SKEET FIELD .....	Yes
75027	RUNNING TRACK .....	Yes
75028	OUTDOOR ROLLER SKATING RINK .....	Yes
75029	SKATEBOARD PARK .....	No
75030	OUTDOOR SWIMMING POOL .....	Yes
75031	AQUATIC CENTER: RECREATIONAL .....	No
75033	VEHICLE RACE TRACK .....	No
75036	RIDING ARENA .....	No
75040	GOLF COURSE, 18-HOLE .....	Yes
75041	GOLF COURSE, 9-HOLE .....	Yes
75042	DRIVING RANGE .....	Yes
75043	PITCH AND PUTT, 18-HOLE .....	Yes
75044	PITCH AND PUTT, 9-HOLE .....	Yes
75045	MINIATURE GOLF COURSE .....	No
75050	OUTDOOR THEATER .....	No
75052	RECREATIONAL SHELTER .....	Yes
75060	STADIUM .....	Yes
75061	GRANDSTAND / BLEACHERS .....	Yes
75062	SKI LIFT .....	No
75065	JOGGING / FITNESS / BIKE TRAIL .....	No



75070	RECREATIONAL PIER / PLATFORM .....	No
75071	OUTDOOR COMMUNITY FITNESS CENTER .....	No
75080	FISH / WILDLIFE MANAGEMENT AREA .....	No
<b>75084</b>	<b>MARINA FACILITIES .....</b>	<b>Yes</b>
75085	RECREATION / PICNIC AREA .....	No
75086	RECREATIONAL TRAILER PARK / CAMPGROUND .....	No
75087	BOAT RAMP .....	No
75088	BATTING CAGE .....	No
75089	STEAM CLEANING FACILITY, MWR .....	No
<b>760</b>	<b>Museums and Memorials</b>	
<b>76010</b>	<b>MUSEUM .....</b>	<b>Yes</b>
76011	MUSEUM OPERATIONS SUPPORT BUILDING .....	No
76012	MUSEUM OPERATIONS SUPPORT STRUCTURE .....	No
76013	HERITAGE CENTER FACILITY .....	No
76020	MONUMENTS / MEMORIALS .....	No
76030	POST CEMETERY .....	No
76031	NATIONAL CEMETERY .....	No
76032	NATIONAL VETERANS CEMETERY .....	No
76033	PET CEMETERY .....	No
76035	COLUMBARIUM BOUNDARY WALL.....	No
76036	COLUMBARIUM NICHE.....	No

## 800 UTILITIES AND GROUND IMPROVEMENTS

<b>811</b>	<b>Electric Power Source</b>	
81113	ELECTRIC POWER, COAL-FIRED .....	No
81115	ELECTRIC POWER, OIL-FIRED .....	No
81117	ELECTRIC POWER, GAS-FIRED .....	No
81121	ELECTRIC POWER, NUCLEAR .....	No
81122	ELECTRIC POWER PLANT, PHOTOVOLTAIC .....	No
81146	WIND TURBINE .....	No
81150	UNINTERRUPTABLE POWER SUPPLY .....	No
81160	STANDBY GENERATOR .....	No
81171	ELECTRIC POWER, HYDRO .....	No
81172	ELECTRIC POWER, HYDROELECTRIC, LARGE .....	No
<b>812</b>	<b>Electric Power Transmission and Distribution Lines</b>	
81230	EXTERIOR LIGHTING .....	No
81241	OVERHEAD ELECTRIC LINES .....	No
81242	UNDERGROUND ELECTRIC LINES .....	No
<b>813</b>	<b>Electric Power Substations and Switching Stations</b>	
81320	SUBSTATION .....	No
81350	ELECTRICAL SWITCHING STATION .....	No
81360	TRANSFORMERS .....	No
<b>821</b>	<b>Heat Source</b>	
82110	HEATING PLANT, COAL-FIRED .....	No
82117	HEATING PLANT, DUAL-FUEL .....	No
82118	HEATING PLANT, WOOD-FIRED .....	No
82120	HEATING PLANT, OIL-FIRED .....	No
82130	HEATING PLANT, GAS-FIRED .....	No
82140	HEATING PLANT, NUCLEAR .....	No
82150	HEATING PLANT, STEAM .....	No
82160	HEATING PLANT, ELECTRIC .....	No
82182	HEATING PLANT, SOLAR .....	No
82187	HEATING PLANT, GEOTHERMAL (ENVIRONMENTAL) .....	No

<b>822</b>	<b>Heat Transmission and Distribution Lines</b>	
82210	STEAM CONDENSATE LINES .....	No
82220	HOT WATER LINES .....	No
82221	HOT/CHILLED WATER LINES .....	No
82240	STEAM LINES .....	No
<b>823</b>	<b>Heat, Gas Source</b>	
82310	GAS GENERATING PLANT .....	No
<b>824</b>	<b>Heat, Gas Transmission</b>	
82410	GAS PIPELINES .....	No
<b>826</b>	<b>Refrigeration (Air Conditioning) Source</b>	
82610	AIR CONDITIONING/REFRIGERATION PLANT .....	No
82625	HEAT PUMP .....	No
<b>827</b>	<b>Chilled Water (Air Conditioning) Transmission and Distribution</b>	
82710	CHILLED WATER DISTRIBUTION SYSTEM .....	No
<b>831</b>	<b>Sewage and Industrial Waste Treatment and Disposal</b>	
83110	PRIMARY WASTE WATER TREATMENT .....	No
83112	SECONDARY WASTE WATER TREATMENT .....	No
83113	ADVANCED WASTE WATER TREATMENT .....	No
83120	SEPTIC TANK AND DRAIN FIELD .....	No
83130	RAW SEWAGE LAGOON AND OXIDATION POND .....	No
83140	INDUSTRIAL WASTE WATER TREATMENT PLANT .....	No
83150	SEWAGE LIFT STATION .....	No
83180	GRAVITY OIL AND GREASE SEPARATOR .....	No
83181	WATER AND GRIT SEPARATOR .....	No
<b>832</b>	<b>Sewage and Industrial Waste Collection</b>	
83210	SANITARY SEWER .....	No
83220	COMBINED SEWER .....	No
83240	INDUSTRIAL WASTE SEWER .....	No
<b>833</b>	<b>Refuse and Garbage</b>	
83310	INCINERATOR FACILITY .....	No
83312	REFUSE COLLECTION FACILITY .....	No
83320	RECYCLING FACILITY .....	No
<b>834</b>	<b>Landfills</b>	
83410	SANITARY LANDFILL .....	No
83420	HAZARDOUS WASTE LANDFILL .....	No
<b>841</b>	<b>Water Supply, And Treatment, Potable</b>	
84110	WATER TREATMENT PLANT .....	No
84125	FILTER PLANT FACILITY .....	No
84130	WATER WELL, POTABLE .....	No
84141	PUMP STATION, POTABLE .....	No
84150	CHLORINATOR FACILITY .....	No
<b>842</b>	<b>Water Distribution System - Potable</b>	
84210	WATER DISTRIBUTION LINES, POTABLE .....	No
84215	SUPPLY MAIN, POTABLE .....	No
<b>843</b>	<b>Water Fire Protection</b>	
84330	FIRE PROTECTION SYSTEM, NONPOTABLE .....	No
<b>844</b>	<b>Water Supply, Storage, NONPOTABLE</b>	
84450	CHLORINATOR FACILITY, NONPOTABLE .....	No
84470	WATER WELL, NONPOTABLE .....	No
84472	PUMP STATION, NONPOTABLE .....	No
<b>845</b>	<b>Water Distribution System, NONPOTABLE</b>	
84510	WATER PIPELINE, NONPOTABLE .....	No
<b>846</b>	<b>Potable Water Storage</b>	
84610	WATER STORAGE TANK, POTABLE .....	No



84620	RESERVOIR, POTABLE .....	No
<b>847</b>	<b>NONPOTABLE Water Storage</b>	
84710	WATER STORAGE TANK, NONPOTABLE .....	No
84720	RESERVOIR, NONPOTABLE .....	No
84730	FIRE PROTECTION POND .....	No
84740	WATER RETAINING BASIN .....	No
<b>851</b>	<b>Roads</b>	
85110	CANTONMENT AREA ROADS, PAVED .....	No
85120	VEHICLE BRIDGE .....	No
85130	CANTONMENT AREA ROADS, UNPAVED .....	No
85150	CANTONMENT AREA TANK TRAILS .....	No
<b>852</b>	<b>Sidewalks and Other Pavements</b>	
85210	ORGANIZATIONAL VEHICLE PARKING, PAVED .....	Yes
85211	ORGANIZATIONAL VEHICLE PARKING, UNPAVED .....	No
85212	STAGING / MARSHALLING AREA .....	No
85215	NONORGANIZATIONAL VEHICLE PARKING, PAVED .....	Yes
85216	NONORGANIZATIONAL VEHICLE PARKING, UNPAVED .....	Yes
85218	NONORGANIZATIONAL VEHICLE PARKING GARAGE .....	Yes
85220	SIDEWALKS AND WALKWAYS, PAVED .....	No
85221	SIDEWALKS AND WALKWAYS, UNPAVED .....	No
85225	PAD .....	No
85230	PEDESTRIAN BRIDGES .....	No
<b>857</b>	<b>Training Area Roads</b>	
87510	TRAINING AREA ROADS, PAVED .....	No
85715	TRAINING AREA ROADS, UNPAVED .....	No
85720	TRAINING AREA TANK TRAILS, PAVED .....	No
85725	TRAINING AREA TANK TRAILS, UNPAVED .....	No
85730	TRAINING AREA BRIDGE .....	No
<b>860</b>	<b>Railroad Tracks</b>	
86010	RAILROAD TRACKS .....	No
<b>861</b>	<b>Railroad Facilities Other Than Track</b>	
86110	RAILROAD BRIDGE .....	No
86120	CRANE TRACKS .....	No
86130	RAILROAD SCALES .....	No
86140	COAL TRESTLE .....	No
<b>871</b>	<b>Grounds, Drainage</b>	
87110	STORM SEWER .....	No
87120	DRAINAGE DITCH .....	No
87130	IRRIGATION FACILITY .....	No
87140	DIKES .....	No
87150	RETAINING STRUCTURE .....	No
87171	POLLUTANT DRAINAGE SYSTEM .....	No
<b>872</b>	<b>Grounds Fencing and Gates</b>	
87210	FENCING AND WALLS .....	No
87224	SECURITY FENCE .....	No
87230	MECHANICAL SECURITY BARRICADE .....	No
87250	ENTRANCE .....	No
87255	FIRE BREAKS .....	No
<b>880</b>	<b>Fire and Other Alarm Systems</b>	
88010	FIRE ALARM SYSTEM .....	No
88020	WATCH REPORTING SYSTEM .....	No
88030	AIR RAID ALARM SYSTEM .....	No
88040	INTRUSION ALARM SYSTEM .....	No
88045	RADIATION SENSING DEVICE .....	No

<b>881</b>	<b>Fire Extinguishing Systems</b>	
88110	AUTOMATIC WATER SPRINKLER SYSTEM .....	No
88120	SPECIAL FIRE EXTINGUISHER SYSTEM .....	No
88130	STANDPIPE SYSTEM .....	No
<b>881-883</b>	<b>Waterways</b>	
88111	Dam .....	No
88121	Lock .....	No
88131	Revetments .....	No
88141	Training Dikes with Dames or Pile Dikes .....	No
88211	Floodway Control Center .....	No
88221	Flood Control Levee or Wall .....	No
88311	Fish Facilities .....	No
<b>891-895</b>	<b>Miscellaneous Utilities</b>	
89111	POWER PLANT BUILDING .....	No
89112	ACETYLENE PLANT .....	No
89113	POWER SUBSTATION/SWITCHING STATION BUILDING .....	No
89115	ENVIRONMENTAL TEST LABORATORY .....	No
89117	INERT GAS FACILITY .....	No
89120	PLANT/UTILITIES BUILDING .....	No
89121	HEATING PLANT BUILDING .....	No
89123	COMPRESSED AIR PLANT .....	No
89126	REFRIGERATION/AIR-CONDITIONING BUILDING .....	No
89127	COMBINED AIR-CONDITIONING / HEAT PLANT BUILDING .....	No
89130	HAZARDOUS BUILDING .....	No
89131	SEWAGE/WASTE TREATMENT BUILDING .....	No
89132	OXYGEN PLANT .....	No
89133	REFUSE AND GARBAGE BUILDING .....	No
89141	WATER SUPPLY/TREATMENT BUILDING, POTABLE .....	No
89144	WATER SUPPLY BUILDING, NONPOTABLE .....	No
89148	WATER STORAGE BUILDING .....	No
89150	SHREDDER FACILITY .....	No
89210	MONITORING WELLS .....	No
89215	ENVIRONMENTAL TEST FACILITY .....	No
89220	ENERGY MANAGEMENT CONTROL SYSTEM .....	No
89225	GAS STORAGE TANKS .....	No
89226	VAPORIZER STATION .....	No
89230	TRAFFIC SIGNALS .....	No
89235	FREQUENCY CONVERTER .....	No
89240	FIRE HYDRANTS .....	No
89250	RAILROAD CROSSING SIGNALS .....	No
89260	DECORATIVE FOUNTAIN/POND .....	No
89270	DAM .....	No
89280	LIGHTNING PROTECTION SYSTEM .....	No
89285	IMPROVED LANDS .....	No
89286	SEMI-IMPROVED GROUNDS .....	No
89287	UNIMPROVED GROUNDS .....	No
89310	INERT GAS LINES .....	No
89320	COMPRESSED AIR LINE .....	No
89330	VACUUM LINE .....	No
89340	UTILIDORS .....	No
89410	COOLING TOWER .....	No
89510	IMHOFF TANK .....	No
89520	POLLUTANT CATCH BASIN .....	No
89530	SEWAGE HOLDING TANK .....	No
89540	FOAM MIX TANK .....	No

89550	WASTE POL STORAGE TANK .....	No
89560	HAZARDOUS WASTE HOLDING TANK .....	No

## 900 REAL ESTATE

### 911 LAND PURCHASE, CONDEMNATION, DONATION OR TRANSFER

91110	LAND PURCHASES AND CONDEMNATION .....	No
91120	LAND DONATION .....	No
91130	PURCHASED LAND TRANSFER FROM AIR FORCE OR NAVY .....	No
91131	DONATION LAND TRANSFER FROM AIR FORCE OR NAVY .....	No
91140	PURCHASED LAND TRANSFER FROM OTHER FEDERAL AGENCIES .....	No
91141	DONATION LAND TRANSFER FROM OTHER FEDERAL AGENCIES .....	No
91150	LAND SET ASIDE .....	No

### 912 PUBLIC DOMAIN WITHDRAWAL

91210	PUBLIC DOMAIN WITHDRAWAL .....	No
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### 913 LICENSE OR PERMIT

91310	PUBLIC DOMAIN USE PERMIT INTERIOR .....	No
91320	PUBLIC DOMAIN PERMIT AIR FORCE OR NAVY .....	No
91330	PUBLIC DOMAIN PERMIT OTHER AGENCIES .....	No
91340	OTHER LICENSE OR PERMIT AIR FORCE OR NAVY .....	No
91350	OTHER LICENSE OR PERMIT FROM OTHER FEDERAL AGENCIES .....	No
91360	OTHER LICENSE FROM PRIVATE OWNERSHIP .....	No
91370	MANEUVER RIGHTS-LICENSE / PERMIT .....	No

### 914 PUBLIC LAND TERRITORIES AND POSSESSIONS

91410	PUBLIC LAND TERRITORIES AND POSSESSIONS .....	No
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### 915 Land Purchase, Donation, or Transfer to State (National Guard Use Only)

91510	LAND PURCHASES AND CONDEMNATION: STATE .....	No
91520	LAND DONATION TO STATE .....	No
91530	PURCHASED LAND TRANSFERRED FROM AIR FORCE OR NAVY TO STATE .....	No
91531	DONATION LAND TRANSFERRED FROM AIR FORCE OR NAVY TO STATE .....	No
91540	PURCHASED LAND TRANSFERRED FROM OTHER FEDERAL AGENCIES TO STATE .....	No
91541	DONATION LAND TRANSFER FROM OTHER FEDERAL AGENCIES TO STATE .....	No
91550	LAND SET ASIDE BY STATE .....	No

### 921 Easements

92110	EASEMENT, PURCHASED OR CONDEMNATION .....	No
92111	DONATION EASEMENT .....	No
92112	EASEMENTS RETAINED DURING FEE DISPOSAL .....	No
92120	PURCHASE EASEMENT TRANSFER FROM AIR FORCE OR NAVY .....	No
92121	DONATION EASEMENT TRANSFER FROM AIR FORCE OR NAVY .....	No
92130	PURCHASE EASEMENT TRANSFER FROM OTHER FEDERAL AGENCIES .....	No
92131	DONATION EASEMENT TRANSFER FROM OTHER FEDERAL AGENCIES .....	No

### 922 In Lease

92210	LAND IN LEASE .....	No
92212	LAND IN STATE LEASE .....	No

### 923 Foreign Rights

92310	TREATY OR BASE RIGHTS AGREEMENT .....	No
92320	RECIPROCAL AID AGREEMENT .....	No
92330	REQUISITIONED LAND .....	No

### 932 Site Improvements

93210	SITE CLEARING AND GRADING .....	No
93220	LANDSCAPE PLANTING .....	No
93230	LANDSCAPE BERMS/MOUNDS .....	No
93240	GROUPS MAINTENANCE .....	No

### 933 Demolition

93310	DEMOLITION .....	No
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<b>934</b>	<b>Site Improvement</b>	
93410	CUT AND FILL .....	No
<b>940</b>	<b>Contaminated Land</b>	
94010	LAND CONTAMINATED .....	No
94011	LIMITED DEPTH TRANSFER LAND.....	No

### **100 OPERATIONAL AND TRAINING FACILITIES**

#### **111 AIRFIELD RUNWAYS**

- 11110 Fixed Wing Runway, Paved
- 11111 Fixed Wing Runway, Unpaved
- 11120 Rotary Wing Runway, Paved
- 11121 Rotary Wing Runway, Unpaved
- 11130 Rotary Wing Landing Pad, Paved
- 11131 Rotary Wing Landing Pad, Unpaved
- 11151 Runway Overrun Area

#### **112 AIRFIELD TAXIWAYS**

- 11212 Fixed Wing Taxiway, Paved
- 11213 Fixed Wing Taxiways, Unpaved
- 11221 Rotary Wing Taxiway, Paved
- 11222 Rotary Wing Taxiways, Unpaved

#### **113 AIRFIELD APRONS**

- 11310 Fixed Wing Parking Apron, Paved
- 11311 Fixed Wing Parking Apron, Unpaved
- 11320 Rotary Wing Parking Apron, Paved
- 11321 Rotary Wing Parking Apron, Unpaved
- 11330 Aircraft Maintenance Parking Apron, Paved
- 11331 Aircraft Maintenance Parking Apron, Unpaved
- 11340 Hangar Access Apron, Paved
- 11341 Hangar Access Apron, Unpaved
- 11350 Aircraft Runway Holding Apron, Paved
- 11351 Aircraft Runway Holding Apron, Unpaved
- 11370 Aircraft Washing Apron, Paved
- 11371 Aircraft Washing Apron, Unpaved
- 11380 Aircraft Loading Apron, Paved
- 11383 Aircraft Loading Apron, Unpaved

#### **116 OTHER AIRFIELD PAVEMENTS**

- 11610 Aircraft Compass Swing Base

#### **121 AIRCRAFT FUEL DISPENSING FACILITIES**

- 12110 Aircraft Direct Fueling Facility
- 12120 Aircraft Fuel Truck Loading Facility

#### **122 MARINE FUEL DISPENSING FACILITIES**

- 12210 Marine Fueling Facility

#### **123 LAND VEHICLE FUEL DISPENSING FACILITIES**

- 12310 Vehicle Fueling Facility, E-85
- 12311 Land Vehicle Fueling Facility, Mogas
- 12312 Vehicle Fueling Facility, Biodiesel
- 12313 Vehicle Fueling Facility, Hydrogen
- 12314 Vehicle Fueling Facility, Propane
- 12322 Land Vehicle Fueling Facility, Diesel / JP8
- 12333 Land Vehicle Fueling Facility, Natural Gas

## TABLE OF CONTENTS 100- and 200-Series

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### **124 OPERATING FUEL STORAGE FACILITIES**

12410	Aircraft Fuel Storage Tank, Avgas, Underground
12411	Aircraft Fuel Storage Tank, Jet, Underground
12412	Aircraft Fuel Storage Tank, Avgas, Above Ground
12413	Aircraft Fuel Storage Tank, Jet, Above Ground
12440	Marine Fuel Storage Tank, Underground
12441	Marine Fuel Storage Tank, Above Ground
12450	Land Vehicle Fuel Storage Tank, Mogas, Underground
12451	Land Vehicle Fuel Storage Tank, Mogas, Above Ground
12452	Land Vehicle Fuel Storage Tank, E-85, Underground
12453	Land Vehicle Fuel Storage Tank, E-85, Above Ground
12454	Land Vehicle Fuel Storage Tank Bio-Diesel, Underground
12455	Land Vehicle Fuel Storage Tank Bio-Diesel, Above Ground
12460	Propellant Storage Tank, Underground
12461	Propellant Storage Tank, Above Ground
12470	Heating Fuel Storage Tank, Underground
12471	Heating Fuel Storage Tank, Above Ground
12472	Kerosene Storage Tank, Underground
12473	Kerosene Storage Tank, Above Ground
12480	Land Vehicle Fuel Storage Tank, Diesel / JP8, Underground
12481	Land Vehicle Fuel Storage Tank, Diesel / JP8, Above Ground
12482	Liquid Propane Gas Storage Tank, Underground
12483	Liquid Propane Gas Storage Tank, Above Ground

### **125 PETROLEUM, OIL AND LUBRICANT PIPELINE**

12510	POL Pipeline, Above Ground
12520	POL Pipeline, Underground

### **126 OTHER LIQUID FUEL AND DISPENSING FACILITIES**

12610	Heating Fuel Oil Dispensing Facility
12615	Kerosene Dispensing Facility
12620	Propellant Fueling Facility
12630	Tank Truck Load / Unload Facility
12640	Tank Car Load / Unloading Facility
12650	Barge Load / Unload Facility
12660	Tanker Load / Unload Facility
12670	Drum Loading Facility

### **131 COMMUNICATIONS (INFORMATION SYSTEMS) BUILDINGS**

13115	Information Systems Facility
13120	Communications Center
13125	Military Affiliate Radio System (Mars) Station
13131	Information Processing Center
13135	Photo Lab
13140	Information Systems Processing Center
13160	Transmitter Building
13170	Receiver Building
13175	Televideo Center
13181	Terminal Equipment Building

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<b>131</b>	<b>COMMUNICATIONS (INFORMATION SYSTEMS) BUILDINGS (continued)</b>
13185	Print Plant Building
<b>132</b>	<b>COMMUNICATIONS FACILITIES, OTHER THAN BUILDINGS</b>
13220	Antenna
13252	Cable Vault
<b>133</b>	<b>AVIATION NAVIGATION AND TRAFFIC AIDS BUILDINGS</b>
13310	Flight Control Tower
13320	Navigational Building, Air
<b>134</b>	<b>NAVIGATION AND TRAFFIC AIDS FACILITIES OTHER THAN BUILDINGS</b>
13410	Radio Beacon
13430	Ground Control Approach System
13440	Instrument Landing System
13450	Navigational Lighting
13470	Wind Direction Indicator
<b>135</b>	<b>COMMUNICATIONS LINES</b>
13510	Communication Lines, Underground
13511	Communication Lines, Above Ground
13520	Communication Lines, Marine
<b>136</b>	<b>AIRFIELD (HELIPORT) PAVEMENT LIGHTING</b>
13610	Runway Lighting
13612	Approach Lighting System
13613	Visual Approach Slope Indicator
13615	Rotary Wing Parking Pad Lighting
13620	Taxiway Lighting
13621	Holding Apron Lighting
13670	Parking Apron / Hardstand Lighting
<b>137</b>	<b>SHIP NAVIGATION AND TRAFFIC AIDS BUILDINGS</b>
13710	Lighthouse
13750	Navigation Building, Ship
<b>138</b>	<b>SHIP NAVIGATION AND TRAFFIC AIDS OTHER THAN BUILDINGS</b>
13810	Lighted Beacon, Ship
<b>141</b>	<b>OPERATIONAL BUILDINGS</b>
14110	Airfield Operations Building
14112	Aviation Unit Operations Building
14113	Access Control Building
14114	CIDC Field Operations Building
14115	Weather Station
14116	Forensic Laboratory
14121	Missile Launcher and Storage Building
14126	Animal Building
14129	Training Aids Center
14132	Ready Building
14133	Shipping and Receiving Building
14140	Care and Preservation Shop
14150	Box and Crate Shop
14160	Blocking and Banding Facility

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### **141 OPERATIONAL BUILDINGS (continued)**

14161	Emergency Operations Center (EOC)
14162	Sensitive Compartmented Information Facility (SCIF)
14163	Centralized Wash Building
14164	Fueling / POL / Wash Support Facility
14165	Fueling / POL / Wash Support Building
14166	Dispatch Building
14167	Cylinder Refilling Station / Facility
14168	Cylinder Refilling Station Building
14169	Production Plant Support Building
14170	Production Plant Support Structure
14175	Industrial Laundry
14176	Safety Building
14177	Decontamination Building
14178	Employee Changing Building
14179	Overhead Protection
14180	Scale House
14181	Safety Shelter
14182	Brigade Headquarters Building
14183	Battalion Headquarters Building
14184	Battalion Headquarters Building: Transient Training
14185	Company Headquarters Building
14186	Transient Training Company Headquarters Building
14187	Transient Training Brigade Headquarters Building
14188	Warrior In Transition Unit Headquarters .....(New – not in DA PAM 415-28)
14190	Echelons Above Brigade (EAB), C2 Facility

### **142 HELIUM PLANTS AND STORAGE**

14220	Helium Storage Building
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### **143 SHIP OPERATIONAL BUILDINGS**

14310	Ship Operations Building
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### **149 OPERATIONAL SUPPORT FACILITIES OTHER THAN BUILDINGS**

14915	Protective Barrier
14916	Sound Barrier
14920	Aircraft Arresting System
14925	Fighting Position
14935	Blast / Exhaust Deflector
14937	Vehicle Test Track
14940	Tower
14951	Missile Service Tower
14953	Vehicle Test Ramp
14955	Wash Platform, Organizational
14958	Vehicle Defueling Facility
14960	Grease Rack
14961	Track and Gun Synchronization Ramp
14962	Centralized Wash Facility with Soaking Capability
14963	Wash Platform, Installation



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### **149 OPERATIONAL SUPPORT FACILITIES OTHER THAN BUILDINGS**

(continued)

14970 Loading / Unloading Docks and Ramps

14971 Vehicle Scales

14975 Gun Emplacement

### **151 PIERS AND WHARFS**

15110 Pier

15210 Wharf

### **154 SEA WALLS, BULKHEADS and QUAY WALLS**

15410 Bulkheads

15420 Quay Walls

15430 Sea Walls

15432 Riprap

### **155 SMALL CRAFT BERTHING**

15510 Small Craft Berthing Facility

### **156 CARGO HANDLING FACILITIES AND /OR BUILDINGS**

15610 Cargo Handling Office Building

### **159 OTHER WATERFRONT OPERATIONAL FACILITIES**

15930 Ferry Slip

15950 Approach Channel

15960 Turning Basin

### **163 MOORINGS**

16310 Offshore Mooring Facility

### **164 MARINE IMPROVEMENTS**

16410 Breakwater

16420 Groin

16430 Levee

16440 Jetty

16450 Mole

### **171 TRAINING BUILDINGS**

17115 Band Training Building

17119 Organizational Classroom

17120 General Instruction Building

17121 Indoor Firing Range

17122 Range Operations and Storage Building

17123 Range Support Facility

17125 Physical Education Training Building: USMA

17131 Compact Item Repair Instructional Building

17132 General Item Repair Instructional Building

17133 Vehicle Repair Instructional Building

17134 Aircraft Maintenance Instructional Building

17135 Laboratory Instructional Building

17136 Automation Aided Instructional Building

17137 Material Handling Instructional Building

17138 Limited Use Instructional Building

17139 Covered Training Area

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### **171      TRAINING BUILDINGS (continued)**

- 17140      Army Reserve Center Building
- 17141      Armed Forces Reserve Center Building
- 17142      National Guard / Reserve Center Building
- 17170      Gas Chamber
- 17180      National Guard Readiness Center

### **172      SIMULATION FACILITIES**

- 17210      Simulator Building (Motion-Based)
- 17211      Simulator Building (Non-Motion-Based)
- 17213      Simulations Center
- 17214      Battle Lab

### **177      IMPACT, MANEUVER, AND TRAINING AREAS**

- 17710      Maneuver / Training Area, Light Forces
- 17711      Maneuver / Training Area, Amphibious Forces
- 17720      Maneuver / Training Area, Heavy Forces
- 17721      Digital Air/Ground Integration Range (DAGIR)
- 17730      Impact Area Dudded
- 17731      Impact Area Non-Dudded
- 17771      Convoy Live Fire Range

### **178      TRAINING RANGES**

- 17801      Basic 10m-25m Firing Range (Zero)
- 17802      Field Fire Range, Nonautomated
- 17803      Automated Field Fire (AFF) Range
- 17804      Record Fire Range Nonautomated
- 17805      Automated Record Fire (ARF) Range
- 17806      Modified Record Fire (MRF) Range
- 17807      Night Fire (Small Arms) Range
- 17808      Automated Night Fire (Small Arms) Range
- 17809      Automated Qualification / Training Range (Qtr)
- 17810      Known Distance Range
- 17811      Sniper Field Fire Range
- 17812      Automated Sniper Field Fire (SFF) Range
- 17813      Automatic Rifle Range
- 17814      Nonstandard Small-Arms Range
- 17816      Bayonet Assault Course
- 17821      Combat Pistol / MP Firearms Qualification Course
- 17822      Automated Combat Pistol / MP Firearms Qualification Course (CPQC/MPFQC)
- 17823      Submachine Gun Range
- 17829      Heavy Sniper Range
- 17831      Machine Gun Transition Range
- 17832      Machine Gun Field Fire Range
- 17833      Automated Multipurpose Machine Gun (MPMG) Range
- 17834      40mm (Grenade) Machine Gun Qualification Range
- 17841      Light Antiarmor Weapons (Law) At-4 Range, Subcaliber
- 17842      Light Antiarmor Weapons (Law) At-4 Range, Live Fire
- 17843      Recoilless Rifle Range

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<b>178</b>	<b>TRAINING RANGES (continued)</b>
17844	Antiarmor Tracking and Live-Fire Range (Nonautomated)
17845	Automated Antiarmor Tracking and Live-Fire Range
17851	Mortar Scaled Range
17852	Mortar Range
17854	Field Artillery Scaled Range
17855	Field Artillery Direct Fire Range
17856	Field Artillery Indirect Fire Range
17857	Multiple Launch Rocket System (MLRS) Range
17858	Scout / RECCE Gunnery Complex
17859	Digital Multipurpose Training Range (DMPTR)
17860	Digital Multipurpose Range Complex (DMPRC)
17861	Tank / Fighting Vehicle Scaled Gunnery Range (1:30 and 1:60)
17862	Tank / Fighting Vehicle Scaled Gunnery Range (1:5 and 1:10)
17863	Tank / Fighting Vehicle Stationary Gunnery Range
17864	Multipurpose Training Range (MPTR)
17865	Automated Multipurpose Training Range (MPTR)
17866	Tank / Fighting Vehicle Platoon Battle Run (Table XI and XII)
17867	Multipurpose Range Complex-Light (MPRC-L) Automated
17868	Multipurpose Range Complex (MPRC)
17869	Combat Engineer Vehicle (CEV) Range
17870	Battle Area Complex (BAX)
17871	Air Defense Gunnery Range
17872	Air Defense Missile Firing Range
17878	Urban Assault Course
17879	Live Fire Exercise Shoothouse
17880	Live Fire Exercise Breach Facility
17881	Hand Grenade Accuracy Course (Nonfiring)
17882	Hand Grenade Qualification Course (Non-Firing)
17883	Hand Grenade Familiarization Range (Live)
17884	Grenade Launcher Range (GLR)
17885	Light Demolition Range
17886	Heavy Demolition Range
17887	Flame Operations Range
17888	Engineer Qualifications Range, Nonstandardization
17889	Engineer Qualification Range, Automated / Standardized
17891	Infiltration Course, Live Fire
17892	Fire and Movement Range
17893	Squad Defense Range
17894	Infantry Squad Battle Course
17895	Automated Infantry Squad Battle Course (ISBC)
17896	Infantry Platoon Battle Course
17897	Automated Infantry Platoon Battle Course (IPBC)
17898	MOUT Assault Course (MAC)
<b>179</b>	<b>TRAINING FACILITIES OTHER THAN BUILDINGS</b>
17901	Combined Arms Collective Training Facility (CACTF)

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<b>179</b>	<b>TRAINING FACILITIES OTHER THAN BUILDINGS (continued)</b>
17905	Diving Tank
17908	Target Detection Range (Nonfiring)
17910	Boresight, Screening and Harmonization Range
17911	Aerial Gunnery Range
17912	Aerial Gunnery Range AWSS
17913	Close Air Support Range
17914	Aerial Bombing Range
17948	Hand To Hand Combat Pit
17949	Prisoner Of War Training Area
17950	Confidence Course
17951	Leadership Reaction Course
17952	Mine Warfare Area
17954	Wheeled Vehicle Drivers Course
17955	Tracked Vehicle Drivers Course
17956	Amphibious Vehicle Training Area
17958	Ship Loading and Unloading Mockup
17959	Air Transport Mockup
17961	Parachute Landing Fall Platform
17962	Suspended Harness Mockup
17963	Mockup Jump Tower
17964	Underwater Fording Site
17965	Combat Trail
17966	Rappelling Training Area
17968	Road / Airfield Construction Training Site
17971	Observation Tower
17972	Observation Bunker
17973	Timber Bridge Area
17974	Panel Bridge Area
17975	Armored Vehicle Launch Bridge, Raft, and Ford Area
17976	Floating Bridge Site
17979	Pipeline Construction Training Area
17980	Parade / Drill Field
17981	Fire Fighting and Rescue Training Area
17982	Water Supply Training Area
17983	Army Airfield Training Area
17984	Medium / Heavy Equipment Training Area
17987	Decontamination Training Site
17988	POL Training Area
17989	Laundry Training Facility
17991	Personnel / Equipment Drop Zone
17992	Physical Education Training Fields
17993	Pole Orchard
17994	Obstacle Course
17995	Combat in Cities Facility
17996	Collective Training Facility (CTF)

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### **179      TRAINING FACILITIES OTHER THAN BUILDINGS (continued)**

- 17997      MOUT Collective Training Facility (Large)
- 17998      Land Navigation Course
- 17999      Field Training Area

## **200      MAINTENANCE AND PRODUCTION FACILITIES**

### **211      AIRCRAFT MAINTENANCE FACILITIES**

- 21110      Aircraft Maintenance Hangar
- 21113      Aircraft Parts Storage
- 21114      Aircraft Maintenance Bay
- 21115      Tactical Unmanned Aerial Vehicle (UAV) Hangar
- 21116      Hangar Shop Space
- 21117      Avionics Maintenance Shop, Installation
- 21120      Aircraft Component Maintenance Shop
- 21130      Aircraft Paint Shop
- 21140      Aircraft Engine Test Building
- 21141      Aircraft Engine Test Structure

### **212      GUIDED MISSILE MAINTENANCE FACILITIES**

- 21210      Guided Missile Maintenance Building, Depot Level
- 21220      Guided Missile Launcher Equipment Shop, Depot Level

### **213      SHIPS and SPARES MAINTENANCE FACILITIES**

- 21310      Ship Repair Graving Drydock
- 21320      Marine Railway
- 21330      Ship Repair Shop
- 21335      Ship Repair Facility
- 21340      Fixed Crane

### **214      TANK and AUTOMOTIVE MAINTENANCE FACILITIES**

- 21406      Transient Training Vehicle Maintenance Shop
- 21407      National Guard Vehicle Maintenance Shop
- 21408      Component Cleaning Facility
- 21409      Army Reserve Vehicle Maintenance Shop
- 21410      Vehicle Maintenance Shop
- 21411      Repair Bays, Non DOL / DPW
- 21412      Maintenance Storage, Non DOL / DPW
- 21413      Administration and Shop Control, Non DOL / DPW
- 21414      General Item Repair Shop, Non DOL / DPW
- 21415      Compact Item Repair Shop, Non DOL / DPW
- 21416      Missile Maintenance Building
- 21417      Vehicle Paint and Prep Shop, Non-DOL / DPW
- 21418      Area Maintenance Support Activity / Equipment Concentration Site
- 21419      Combined Support Maintenance Shop / Maneuver Area Training Equipment Site
- 21435      Major End Item Rebuild Shop, Depot Level
- 21440      Component Rebuild Shop, Depot Level
- 21441      Vehicle Maintenance Facility, Depot Level

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<b>214</b>	<b>TANK and AUTOMOTIVE MAINTENANCE FACILITIES (continued)</b>
21445	Tank / Automotive Parts Storage, Depot Level
21458	Steam Cleaning Building, Depot Level
21462	Steam Cleaning Facility, Depot Level
21465	Drum Reconditioning Plant, Depot Level
21470	Oil Storage Building, Non DOL / DPW
<b>215</b>	<b>WEAPONS and SPARES MAINTENANCE FACILITIES</b>
21510	Small Arms Repair Shop, Depot Level
21512	Weapon Demilitarization Shop, Depot Level
21520	Light Gun Shop, Depot Level
21522	Weapon Quality Assurance / Calibration Facility, Depot Level
21530	Heavy Gun Shop, Depot Level
21540	Special Weapons Shop, Depot Level
21545	Weapons Repair Facility, Depot Level
<b>216</b>	<b>MAINTENANCE – AMMUNITION / EXPLOSIVES / TOXICS</b>
21610	Ammunition Renovation Shop, Depot Level
21612	Ammunition Surveillance Shop, Depot Level
21622	Explosives Receiving / Service Building, Depot Level
21630	Ammunition Demolition Shop, Depot Level
21632	Ammunition Demolition Facility
21640	Dunnage Building, Depot Level
21642	Component Cleaning Shop, Depot Level
21650	Ammunition Quality Assurance / Calibration Facility, Depot Level
21660	Ammunition Maintenance Facility, Depot Level
21670	Ammunition Inspection, Repair, Repacking Building, Installation
<b>217</b>	<b>ELECTRONICS and COMMUNICATIONS EQUIPMENT MAINTENANCE FACILITIES</b>
21710	Electronics Maintenance Shop, Depot Level
21712	Communications/ Electronics Quality Assurance / Calibration Facility, Depot Level
21722	Communications / Electronics Component Cleaning Shop, Depot Level
21730	Radar Maintenance Shop, Depot Level
21740	Avionics Maintenance Shop, Depot Level
<b>218</b>	<b>MISCELLANEOUS ITEMS and EQUIPMENT MAINTENANCE FACILITIES</b>
21835	Repair Bays, DOL / DPW / IMMA / IMMD
21840	Railroad Equipment / Engine Maintenance Shop
21845	Administration and Shop Control, DOL / DPW IMMA / IMMD
21850	Battery Shop
21855	Vehicle Paint and Prep Shop, DOL / DPW / IMMA / IMMD
21865	Oil Storage Building, DOL / DPW / IMMA / IMMD
21870	Maintenance Storage, DOL / DPW / IMMA / IMMD
21872	Quality Assurance / Calibration Facility, General Purpose, Installation
21879	Procured Item / Equipment Maintenance Facility
21881	Airborne Equipment / Parachute Repair Shop
21882	General Item Repair Shop, DOL / DPW / IMMA / IMMD
21885	Maintenance Shop, General Purpose
21887	Compact Item Repair Shop, DOL / DPW / IMMA / IMMD

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### **219      INSTALLATION, REPAIR, and OPERATIONS MAINTENANCE FACILITIES**

21910      Engineering / Housing Maintenance Shop

21922      Entomology Facility

21925      Engineer Maintenance Facility

### **221      AIRCRAFT PRODUCTION FACILITIES**

22110      Aircraft Engine Assembly Plant

22120      Airframe Assembly Plant

22122      Aircraft Quality Assurance / Calibration Facility

22125      Aircraft Production Structure

### **222      GUIDED MISSILES PRODUCTION FACILITIES**

22210      Guided Missile Assembly Plant

22220      Guided Missile Handling and Launcher Plant

22228      Guided Missile Quality Assurance / Calibration Facility

22230      Guided Missile Production Structure

### **224      TANK and AUTOMOTIVE PRODUCTION FACILITIES**

22410      Combat Vehicle Assembly Plant

22412      Engine Test Building

22416      Heat Treating Shop

22422      Plating Shop

22430      Machine Shop

22434      Tank / Automotive Quality Assurance / Calibration Facility

22435      Tank / Automotive Production Structure

### **225      WEAPONS and SPARES PRODUCTION FACILITIES**

22510      Small Arms Plant

22520      Light Gun Plant

22525      Forge Shop

22530      Heavy Gun Plant

22532      Foundry

22535      Welding Shop

22537      Machine Shop, Weapons

22548      Weapons Quality Assurance / Calibration Facility, Production

22565      Weapons Production Structure

### **226      AMMUNITION, EXPLOSIVES, and TOXICS PRODUCTION FACILITIES**

22610      Bag Charge Filling Plant

22612      Acid Manufacturing Plant

22614      Lead Azide Manufacturing Plant

22616      Explosive Manufacturing Plant

22618      Chemical, Biological, Radiological Plant

22620      Case Overhaul and Tank Facility

22622      Pyrotechnic Production

22624      Metal Parts Production

22625      Small Caliber Loading Plant (Under 40mm)

22626      Bomb High Explosives Filling Plant

22628      Metal Parts Loading Plant

22630      Minor Caliber Loading Plant (40-75mm)

22632      Ammunition Foundry



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### **226 AMMUNITION, EXPLOSIVES, and TOXICS PRODUCTION FACILITIES** (continued)

22635	Medium Caliber Loading Plant (76-120mm)
22638	Ammunition Quality Assurance / Calibration Facility, Production
22640	Major Caliber Loading Plant (Over 120mm)
22645	Large Caliber Rocket Motor Loading Plant
22650	Medium Caliber Rocket Motor Loading Plant
22655	Cast High Explosive Filling Plant
22660	Special Weapons Plant
22665	Ammunition Washout Facility
22670	Case Filling Plant
22680	Propellant Plant
22685	Ammunition Production Structure

### **228 MISCELLANEOUS ITEMS and EQUIPMENT PRODUCTION FACILITIES**

22810	Leather / Textile / Clothing Plant
22845	Miscellaneous Procured Item Production Structure

### **229 INSTALLATION MAINTENANCE and REPAIR PRODUCTION FACILITIES**

22910	Asphalt Plant
22920	Concrete Plant
22930	Quarry / Rock Crusher Plant
22940	Sawmill
22960	Ice Plant



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A flexible or rigid paved airfield surface used for normal takeoffs and landings of fixed wing aircraft. It can also accommodate rotary wing aircraft. For inventory purposes, include only the paved runway.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3).

#### Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SY

Secondary: LF

FAC: SY

Planning: LF

Other: LF

Report and program runways in SY. Plan them in LF based on the planned aircraft to be served.

#### Units of Measure:

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY

### 5. Functional Areas

Functional areas, by definition, are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

Army criteria normally allow one Army airfield per real property site hosting fixed wing aircraft or having a requirement to support fixed wing operations. The criteria base the class of the runway on the type of aircraft the airfield supports. See the Airfield Complexes section in Chapter 4 for a more detailed discussion.

## 2. Programmatic Application

RPLANS provides an allowance for a Class A runway of 58,889 SY (49,239 SM) for sites with a documented (TOE/TDA) unit stationed on the site with an authorization for at least one fixed wing aircraft.

## C. Planning

### 1. Planning Level

The planning level for runways is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. The minimum size for the prepared landing surface of a Class A runway is 5,000 feet (1,524 meters) long by 75 feet (22.8 m) wide, i.e., 41,667 SY (34,839 SM). This is based on the acceleration and stopping distances for the Army OV-10 and the C-12. The length is then adjusted for airfield elevation and temperature factors as shown in Table 11110-1 – Class A Runway Lengths.

The following narrative describes the algorithm of Table 11110-1 – Class A Runway Lengths: Add 500 feet (152.4 m) (10 percent) for each full 1,000 feet (304.8 m) increment of airfield elevation above 2,000 feet (609.6 m) MSL. Add 200 feet (60.9 m) (4 percent) for each full 10 degrees Fahrenheit (F) (5.5 degrees Celsius) increment above 59 F (15 C) for the average daily temperature of the hottest month.

Table 11110-1 – Class A Runway Lengths Based on Elevation and Air Temperature					
Temperature	Elevation At or Above Sea Level				
	Sea Level	1,000 FT 304 m	2,000 FT 610 m	5,000 FT 1,524 m	6,000 FT 1,828 m
60°F 15°C	5,300 FT 1,615 m	5,500 FT 1,676 m	5,800 FT 1,768 m	6,700 FT 2,042 m	7,100 FT 2,164 m
85°F 30°C	5,600 FT 1,707 m	5,900 FT 1,798 m	6,200 FT 1,890 m	7,500 FT 2,286 m	8,000 FT 2,438 m
105°F 40°C	5,900 FT 1,798 m	6,200 FT 1,890 m	6,700 FT 2,042 m	8,100 FT 2,469 m	8,800 FT 2,682 m
<b>Notes:</b>					
1- Based on zero runway gradient and a clean, dry runway surface for the most critical aircraft in the Army's inventory to date (RC-12N).					
2- Metric units apply to new airfield construction, and where practical, to modifications to existing airfields and heliports.					

Table 11110-2 – Fixed Wing Runways, addresses the many planning criteria and restrictions on fixed wing aircraft runways.

Table 11110-2 – Fixed Wing Runways		
Description	Class A Runway	Class B Runway
Length	See Table 11111-2	See Note 1.
Width	100 FT = 30 m	150 FT = 46 m
Paved Shoulder	25 FT = 7.5 m (each side)	
Unpaved Shoulder	25 FT = 8 m	175 FT = 53 m
Longitudinal grades	Max. 1.0 percent. See Note 2.	
No longitudinal grade changes from end of runway	1,000 FT = 305 m	3,000 FT = 914 m
Internal longitudinal grade changes	See Note 3.	
Rate of longitudinal grade change	Max. 0.167 percent per 100 LF = 30 m See Note 4.	
Longitudinal sight distance	Minimum 5,000 FT = 1,524 m See Note 5.	
Transverse grade of paved shoulder	2.0 percent minimum to 3.0 percent maximum – slope downward away from runway.	
Transverse grade of unpaved shoulder	5.0 percent for 10 FT = 3 m from edge of pavement, then 2.0 percent minimum to 4.0 percent maximum for remainder.	
Runway lateral clearance zone (RLCZ)	500 FT = 152.4 m each side of centerline. See Note 6.	
Longitudinal grades within RLCZ	Maximum 10.0 percent	
Transverse grades within RLCZ (in direction of surface drainage)	Minimum 2.0 percent Maximum 10.0 percent	
Distance between centerlines of parallel runways		
VFR without parallel taxiway between them	700 FT = 213.36 m	1,000 FT = 304.80 m
VFR with parallel taxiway between them	2,075 FT = 632.46 m	
IFR simultaneous ops: Depart-Depart and Depart-Arrival	3,500 FT = 1,067.00 m	
IFR simultaneous approaches	4,300 FT = 1,310.64 m	
Notes:		
1- Determined by Air Force MAJCOM for the most critical aircraft in support of the site's mission.		
2- May be both positive and negative, but must not exceed limit. Shoulders with arresting systems may not exceed 3.0 percent.		

Table 11110-2 – Fixed Wing Runways

Description	Class A Runway	Class B Runway
3-	Constant centerline gradient preferred – where needed, distance between two successive points of intersection (PI) (changes in grade) not less than 1,000 FT = 300 m. Two successive distances between PIs will not be the same.	
4-	Maximum change is produced by vertical curves with 600 LF = 183 m cords for each percent of algebraic difference between two grades. Exception: 0.4 percent for edge of runways at runway intersections.	
5-	Any two points 8 FT = 2.4 m above pavement must be visible by each other for at least the minimum distance. Exception: runways shorter than the minimum shall have height of measurement reduced proportionally.	
6-	Limits coincide with limits of primary surface and end at end of runway. Must be free of fixed (including aboveground drainage structures and headwalls, etc.) or mobile obstacles (including taxiing or parked aircraft), except meteorological or navigational equipment.	

### 3. Assigning Space

#### a. Guidance

Airfields are normally assigned to the garrison/installation.

#### b. Facility Utilization Metrics

The Army has not established space utilization metrics for this facility category code. Utilization is based on the number of flight operations. The airfield commander or DPTM maintains data on capacity and utilization.

## D. Programmable Increments

### 1. Standard Facilities

Runways are mission-, and site-specific, and therefore do not fall under any Army Design standards or standard designs. Program to bring a substandard runway up to the required length or width based on an airfield survey.

### 2. Programming Units

Programming documents report runways in square yards. Design and construction become part of larger aviation projects. The smallest runway will be based on the sea level minimum stated under B.1. above, and adjusted by Table 11110-2 for elevation.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Runways are part of an Airfield Complex, designed with the airfield. See Airfield Complexes in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complexes in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

Additional runways may be necessary to accommodate operational demands, minimize adverse wind conditions, or overcome environmental impacts. A parallel runway may be provided based on operational requirements.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### **4. See Also**

See Chapter 4 for more on the Airfield Complex.

**1. DA Pam 415-28 Description / Definition**

An unpaved prepared surface for training, emergency, and other special takeoff and landing operations for fixed wing aircraft. It can also accommodate rotary wing aircraft. For inventory purposes, include only the prepared runway surface.

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- Airfield

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY

**4. See Also**

See Chapter 4 for more on the Airfield Complex.

See CATCD 11110, Fixed Wing Runway, Paved.

See UFC 3-260-01: Airfield and Heliport Planning and Design (11/17/2008)

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved airfield or heliport surface provided for the exclusive use of rotary wing takeoffs and landings. Marked surfaces used as reference or control points for arriving and departing aircraft (hover points) are part of the runway. For inventory purposes, include only the paved runway surface.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Centers of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SY  
Secondary: LF  
FAC: SY  
Planning: LF

#### Units of Measure:

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY
- Planning UM = LF

Report and program runways in SY. Plan them in LF based on the planned aircraft served.

### 5. Functional Areas

Functional areas, by definition, are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow this facility at sites without fixed wing aircraft with UICs authorized rotary wing aircraft. They may also be authorized when air traffic density or other operational factors prohibit mixing of medium rotary and fixed wing aircraft. Criteria allow a fixed wing runway of 75 feet wide by 1,600 feet long = 120,000 SF or 13,333 SY, at airfields that support only rotary wing

missions. Operations will determine whether an installation requires both rotary wing runways and fixed wing runways.

## 2. Programmatic Application

RPLANS provides an allowance for a runway of 13,333 SY on the basis of a maximum of one rotary wing runway for each site where no fixed wing runway allowance is provided and rotary wing aircraft are present.

## C. Planning

### 1. Planning Level

The planning level for runways is other-than-unit. The authorized flying units at the site share their use, while the installation is responsible for operation and maintenance.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complexes in Chapter 4.

Sites such as major training areas that do not have permanently assigned aircraft may require this facility if they support rotary wing aircraft training, or if require medical evacuation capabilities to support maneuver training conducted at the site.

### 3. Assigning Space

#### a. Guidance

Airfields are normally assigned to the garrison/installation.

#### b. Facility Utilization Metrics

The Army has not established space utilization rates for this facility category code. Utilization is based on the number of flight operations per day. The airfield commander or DPTM maintain data on utilization and capacity.



## D. Programmable Increments

### 1. Standard Facilities

Runways are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs. The Installation should program to bring a substandard runway up to the required length or width as based on an airfield survey.

### 2. Programming Units

Programming documents report runways in SY to facilitate cost comparisons between projects. Design and construction become part of larger aviation installation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

### 2. Site Planning Considerations

See Airfield Complexes in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

See Airfield Complexes in Chapter 4.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

UFC 3-260-01 Unified Facilities Criteria (UFC)	17-NOV-08
Airfield and Heliport Planning and Design	
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

## 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface used exclusively for training, emergency, and other special takeoff and landing operations of rotary wing aircraft. For inventory purposes, include only the prepared runway.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See Chapter 4 for Airfield Complex.

See CATCD 11120, Rotary Wing Runway, Paved.

See UFC 3-260-01: Airfield and Heliport Planning and Design (11/17/2008)

### Proponent:

- DCS, G-3

### COS:

- Mobile

### Complex:

- Airfield

### Units of Measure:

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY

### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

A paved surface for takeoffs and landings of rotary wing aircraft. It is physically smaller than a rotary wing runway, typically 100 by 100 feet square, and is normally located at a site that is remote from an airfield or heliport. For inventory purposes, include only the paved pad area.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

This facility may be required at hospitals and medical centers to receive incoming medical evacuation flights. Coordinate requirements with the medical command.

## 4. See Also

See Chapter 4 for Airfield Complex.

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

### Proponent:

- DCS, G-3

### COS:

- Mobile

### Complex:

- Airfield

### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface centered within a clear area and used exclusively for training, emergency, and other special landing and takeoff operations of rotary wing aircraft. For inventory purposes, include only the prepared pad area.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for Airfield Complex.

See CATCD 11130 Rotary Wing Landing Pad, Paved.

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A cleared area extending beyond the ends of a runway. These are not normal traffic areas, and are intended only to minimize the probability of serious damage to aircraft using these areas accidentally or in cases of emergency.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Centers of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SY

Secondary: LF

FAC: SY

Planning: LF

#### Units of Measure:

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY
- Planning UM = LF

Report and program overruns in SY. Plan them in LF based on the planned aircraft served.

### 5. Functional Areas

Functional areas, by definition, are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow this facility to support accident potential zones in the presence of a runway. The basis of calculation is the class and type of runway.

## 2. Programmatic Application

RPLANS does not calculate an allowance for this category code. As of RPLANS Version 31, RPLANS sets allowances equal to assets.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

Overruns are required for the landing and takeoff area. Table 11151-1, Fixed Wing Runway Overrun, shows the dimensional requirements for fixed wing aircraft overruns.

Table 11151-1 Fixed Wing Runway Overrun			
Description	Class A Runway	Class B Runway	See Note
Length	200 FT = 60 m	1,000 FT = 300 m	1.
Width	Sum of runway + shoulders		2.
Longitudinal Centerline Grade	Same as last 1,000 FT = 300 m of runway	First 300 FT = 90 m same as last 3,000 FT = 900 m of runway. Remainder 1.5 percent max. +/-	
Transverse Grade	Min. 2.0 percent to Max. 3.0 percent with 1.5 inches = 40 mm drop-off at edge of paved overrun		
Notes:			
1. Pave entire length			
2. Pave width of runway extended – fine-grade widths of shoulders			

Table 11151-2 Rotary Wing Runway Overrun shows the dimensional requirements for rotary wing aircraft overruns.

Table 11151-2 Rotary Wing Runway Overrun	
Description	Dimensions
Total Length	75 FT = 23 m
Paved Length	25 FT = 7.5 m
Width (Standard)	125 FT = 38 m
Width (Serving H-53 aircraft)	150 FT = 45 m
Longitudinal Centerline Grade	Max. 1.0 percent
Transverse Grade (Total)	Min. 2.0 percent Max. 3.0 percent

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Follow dimensions and grade requirements in references.

### **2. Programming Units**

Programming documents report overruns in SY to facilitate cost comparisons between projects. Design and construction become part of larger aviation installation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Airfield Complexes in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complexes in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

See Airfield Complexes in Chapter 4.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

## References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

## 3. See Also

See Chapter 4 for more on the Airfield Complex.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Paved surfaces serving as designated pathways on an airfield constructed for taxiing fixed wing aircraft. They provide safe conditions for ground movement of aircraft between the runway and the taxi lanes serving the aircraft parking and maintenance areas. For inventory purposes, include only the paved taxiway surface.

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

### 2. Proponent and Center of Standardization

**Proponent**

Deputy Chief of Staff, G-3 (DCS, G-3)

**Centers of Standardization**

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

**Complex:**

- Airfield

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

Report and program taxiways in SY.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = NONE
- FAC UM = SY
- Planning UM = SY

### 5. Functional Areas

Functional areas, by definition, are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

Army criteria allow taxiways based on a site's allowance for one or more 11110 Fixed Wing Runway, Paved. The basis of calculation is the length of the runway.

## 2. Programmatic Application

As of APR 02, RPLANS provides an allowance of one parallel taxiway at 5,300 feet by 50 feet, and three crossover taxiways per runway at 625 feet by 50 feet in CONUS ( 39,861 SY); and OCONUS with a width of 40 feet ( 31,889 SY). Pavement areas in parenthesis include one parallel taxiway and three crossover taxiways per Class A runway.

## C. Planning

### 1. Planning Level

The planning level for runways is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Chapter 4.

### 3. Assigning Space

#### a. Guidance

Airfields are normally assigned to the garrison/installation.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Taxiways are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs. Programming to bring a substandard taxiway up to the required length or width is based on an airfield survey.

### 2. Programming Units

Programming documents report taxiways in square yards. Design and construction are normally part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

## 2. Site Planning Considerations

See Airfield Complexes in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

Unpaved prepared surfaces serving as designated pathways on an airfield constructed for taxiing fixed wing aircraft. They provide safe conditions for ground movement of aircraft between the runway and the taxi lanes serving the aircraft parking and maintenance areas. For inventory purposes, include only the prepared taxiway surface.

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- Airfield

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

### 4. See Also

See Chapter 4 for more on the Airfield Complex.  
See CATCD 11212 Fixed Wing Taxiway, Paved for size criteria  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Paved surfaces serving as designated pathways on an airfield or heliport constructed for taxiing rotary wing aircraft. They provide safe conditions for ground movement of aircraft between the runway and the taxi lanes serving the aircraft parking and maintenance areas. For inventory purposes, include only the paved taxiway surface.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Centers of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

Report and program taxiways in SY.

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

### 5. Functional Areas

Functional areas, by definition, are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a rotary wing runway. The basis of calculation is the length of the runway.

## 2. Programmatic Application

If a site has an allowance for Rotary Wing Runway, Paved (CATCD 11120), then RPLANS provides a maximum allowance of 15,972 SY for RW taxiway.

## C. Planning

### 1. Planning Level

The planning level for runways is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complexes in Chapter 4.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison/installation.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Taxiways are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs.

Programming to bring a substandard taxiway up to the required length or width must be based on an airfield survey.

### 2. Programming Units

Programming documents report taxiways in square yards. Design and construction become part of larger aviation installation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

## **2. Site Planning Considerations**

See Airfield Complexes in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### **4. See Also**

See Chapter 4 for more on the Airfield Complex.

## 1. DA Pam 415-28 Description / Definition

Unpaved prepared surfaces serving as designated pathways on an airfield or heliport constructed for taxiing rotary wing aircraft. They provide safe conditions for ground movement of aircraft between the runway and the taxi lanes serving the aircraft parking and maintenance areas. For inventory purposes, include only the prepared taxiway surface.

### Proponent:

- DCS, G-3

### COS:

- Mobile

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### Complex:

- Airfield

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

## 4. See Also

See Chapter 4 for Airfield Complex.  
See CATCD 11221 Rotary Wing Taxiway, Paved for size criteria.  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

### Planning Level:

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved airfield surface used for fixed wing aircraft parking. The area includes parking lanes, taxi lanes, exits, and entrances. Aircraft move under their own power to the parking spaces, where they may be parked and secured with tie-downs. Parking designed to distribute aircraft for the purpose of increased survivability (dispersed hardstands) is included in this CATCD. For inventory purposes, include only the paved apron surface.

**Proponent:**

- DCS, G-3

**COS:**

- None

### 2. Proponent and Center of Standardization

**Proponent**

Deputy Chief of Staff, G-3 (DCS, G-3)

**Center of Standardization**

None.

### 3. Complex

See Chapter 4 for a discussion of the Aviation Unit Complex.

**Complex:**

- Aviation Unit

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

Report and program parking aprons in SY.

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization for this CATCD is the presence of fixed wing aircraft. The basis for calculation is the number and size of supported aircraft. In the absence of other information, Army fixed wing parking is based on the C12 aircraft.

## 2. Programmatic Application

RPLANS provides an allowance based on the number and type of aircraft.

## C. Planning

### 1. Planning Level

The planning level for parking aprons is unit for organizations assigned to the installation. Specific units receive assigned parking aprons based on their TOE or TDA. Transient parking and special-purpose parking are other-than-unit level, based on missions.

#### Planning Level:

- Unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complexes and Aviation Unit Complexes in Chapter 4.

The basic requirement for parking is the width of the aircraft multiplied by the length in feet. The C-12J requires a space 55 feet wide by 60 feet long. The fixed wing parking must be arranged to provide 10 feet of wing tip separation, and interior and through taxi lanes to provide for movement to and from taxiways.

### 3. Assigning Space

#### a. Guidance

This facility is assigned to the unit operating the aircraft.

#### b. Facility Utilization Metrics

The Army has not established space utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Parking aprons are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs.

### 2. Programming Units

Programming documents report parking aprons in SY. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Aviation Unit Complex in Chapter 4.

### **2. Site Planning Considerations**

See Airfield and Aviation Unit Complexes in Chapter 4.

An airfield engineering study is required when planning or programming fixed wing parking.

## **F. Other Considerations**

### **1. Special Instructions**

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC)	17-NOV-08
Airfield and Heliport Planning and Design	
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### **4. See Also**

See Chapter 4 for more on the Aviation Unit Complex.

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared airfield surface used for fixed wing aircraft parking. The area includes parking lanes, taxi lanes, exits, and entrances. Aircraft move under their own power to the parking spaces, where they may be parked and secured with tie-downs. Parking designed to distribute aircraft for the purpose of increased survivability (dispersed hardstands) is included in this CATCD. For inventory purposes, include only the prepared apron surface.

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- Aviation Unit

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.  
See CATCD 11310 Fixed Wing Parking Apron, Paved.  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved airfield surface used for rotary wing aircraft parking. The area includes parking lanes, taxi lanes, exits, and entrances.

Aircraft move under their own power to the parking spaces, where they may be parked and secured with tie-downs. Parking designed to distribute aircraft for the purpose of increased survivability (dispersed hardstands) is included in this CATCD. For inventory purposes, include only the paved apron surface.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Aviation Unit Complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

Report and program parking aprons in SY.

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow units this facility type for 85 percent of authorized aircraft. See Airfield Complexes and Aviation Unit Complexes in Chapter 4.

## 2. Programmatic Application

RPLANS provides an allowance based on calculations for specific UICs.

## C. Planning

### 1. Planning Level

The planning level for parking aprons is unit for organizations assigned to the installation. Specific units receive assigned parking aprons based on their TOE or TDA. Transient parking and special-purpose parking are other-than-unit level, based on missions.

Planning Level:

- Unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complexes and Aviation Unit Complexes in Chapter 4.

Parking spaces are provided for 85 percent of a unit's aircraft for CONUS, Korea, and Alaska, and 100 percent for Europe. Each type of aircraft is assigned to one of three groups (A, B, or C) based on parking arrangements and area allowances, as shown in Table 11320-1.

Table 11320-1 Rotary Wing Parking Apron Factors			
Group	A	B	C
Aircraft	UH-1 OH-58 AH-1	UH-60 AH-64 OH-6A	CH-47
Row Arrangement	Double-Parallel	Single Lane	
Width	80 FT (24.38 m)	100 FT (30.48 m)	100 FT (30.48 m)
Length	100 FT (30.48 m)		150 FT (45.72 m)
Width of Through Taxi Lanes	120 FT (36.58 m)		
Width of Peripheral Taxi Lanes	85 FT (25.90 m)		
Spaces per row	16	7	7

### 3. Assigning Space

#### a. Guidance

This facility is assigned to the unit operating the aircraft.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Parking aprons are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs.

### **2. Programming Units**

Programming documents report parking aprons in SY. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Aviation Unit Complex in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complex and Aviation Unit Complex in Chapter 4.

Rotary wing aircraft are parked in one of two configurations referred to as Type 1 or Type 2.

Type 1: In this configuration, rotary wing aircraft are parked in a single lane that is perpendicular to the taxi lane. When parked in this configuration, the parking arrangement resembles that of fixed wing aircraft. This parking arrangement is preferred for wheeled aircraft.

The parking space dimensions for all rotary wing aircraft in the Type 1 configuration, except the CH-47, have a width of 80 feet (25 m) and a length of 100 feet (30 m). The parking space dimensions for the CH-47 rotary wing aircraft in the Type 1 configuration have a width of 100 feet (30 m) and a length of 150 feet (46 m).

Type 2: In this configuration, rotary wing aircraft are parked in a double lane that is parallel to the taxi lane. This parking arrangement is preferred for skid-gear aircraft. The parking space dimensions for all skid-gear rotary wing aircraft in the Type 2 configuration have a width of 80 feet (25 m) and a length of 100 feet (30 m). The parking space dimensions for all wheeled rotary wing aircraft in the Type 2 configuration have a width of 100 feet (30 m) and a length of 160 feet (50 m).

## F. Other Considerations

### 1. Special Instructions

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.



## 1. DA Pam 415-28 Description / Definition

An unpaved prepared airfield surface used for rotary wing aircraft parking. The area includes parking lanes, taxi lanes, exits, and entrances. Aircraft move under their own power to the parking spaces, where they may be parked and secured with tie-downs. Parking designed to distribute aircraft for the purpose of increased survivability (dispersed hardstands) is included in this CATCD. For inventory purposes, include only the prepared apron surface.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.  
See CATCD 11320, Rotary Wing Parking Apron, Paved.  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

### Proponent:

- DCS, G-3

### COS:

- Mobile

### Complex:

- Aviation Unit

### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A paved apron for parking fixed or rotary wing aircraft awaiting maintenance. For inventory purposes, include only the paved apron surface.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.  
Appendix F, CATCD 21110 Aircraft Maintenance Hangar  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

**Complex:**

- Aviation Unit

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared apron for parking fixed or rotary wing aircraft awaiting maintenance. For inventory purposes, include only the prepared apron surface.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.  
See CATCD 11330, Aircraft Maintenance Parking Apron, Paved.  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

#### Complex:

- Aviation Unit

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved surface that connects an aircraft parking apron or taxiway with a hangar. It is generally equipped with tie-downs and grounding devices. For inventory purposes, include only the paved apron surface.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Aviation Unit Complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

Report, plan, and program Hangar Access Aprons in SY.

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis of Authorization and Calculation

The basis for authorization is an aviation maintenance mission.  
The basis of calculation is the size of the hangar.

## 2. Programmatic Application

RPLANS provides an allowance for a Hangar Access Apron 75 feet deep in front of each 21110, Aircraft Maintenance Hangar. The nominal width of hangars of 300 feet produces an allowance of 2,500 SY per apron.

## C. Planning

### 1. Planning Level

The planning level for Hangar Access Aprons is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

### 3. Assigning Space

#### a. Guidance

This facility is assigned to the unit occupying the hangar.

#### b. Facility Utilization Metrics

The Army has not established facility utilization rates for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Hangar aprons are included with their adjacent hangar under the Army Design standards and standard designs. Programming to bring a substandard runway up to the required length or width must be based on an airfield survey.

### 2. Programming Units

Programming documents report runways in SY. Design and construction become part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Aviation Unit Complex in Chapter 4.

## 2. Site Planning Considerations

See Airfield Complex and Aviation Unit Complex in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC3-260-02 Pavement Design for Airfields	30-JUN-01
Revised Army Standard Aircraft Maintenance Hangar (HGR) Complex	13-APR-12

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface that connects an aircraft parking apron or taxiway with a hangar. It is generally equipped with tie-downs and grounding devices. For inventory purposes, include only the prepared apron surface.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for more on the Aviation Unit Complex.

See CATCD 11340 Hangar Access Apron, Paved for size criteria

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

**Complex:**

- Aviation Unit

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved surface providing an aircraft holding area accessible from a taxiway. It is located near the intersection of taxiways and the ends of runways, and is provided for before-takeoff engine and instrument checks. For inventory purposes, include only the paved apron surface.

**Proponent:**

- DCS, G-3

**COS:**

- None

### 2. Proponent and Center of Standardization

**Proponent**

Deputy Chief of Staff, G-3 (DCS, G-3)

**Center of Standardization**

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

**Complex:**

- Airfield

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

Report, plan, and program runway holding aprons in SY.

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis for Authorization and Calculation

Basis for authorization is not less than two per runway. Basis of calculation is the size of assigned and transient aircraft which normally use the runway. They should not exceed 3,750 SY each.



## 2. Programmatic Application

RPLANS provides an allowance for a maximum of 7,500 SY for sites that have one or more 11110 Fixed Wing Runway, Paved.

## C. Planning

### 1. Planning Level

The planning level for holding aprons is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complexes in Chapter 4.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established space utilization rates for this facility category code. Utilization is based on the number of flight operations per day. The airfield commander or DPTM maintains data on utilization.

## D. Programmable Increments

### 1. Standard Facilities

Holding aprons are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs. Programming to bring a substandard runway up to the required length or width is based on an airfield survey.

### 2. Programming Units

Programming documents report runways in SY. Design and construction become part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

## 2. Site Planning Considerations

See Airfield Complexes in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 2. References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### 3. See Also

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface providing an aircraft holding area accessible from a taxiway. It is located near the intersection of taxiways and the ends of runways, and is provided for before-takeoff engine and instrument checks. For inventory purposes, include only the prepared apron surface.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

See CATCD 11350 Aircraft Runway Holding Apron, Paved for size criteria.

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A rigid pavement area for washing and cleaning aircraft. It normally includes electric and water service, drainage, and wastewater collection equipment. For inventory purposes, include only the paved apron surface.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

Mobile District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

See Chapter 4 for a discussion of the Aviation Unit Complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

Report, plan, and program Aircraft Wash Aprons in SY.

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis of Authorization and Calculation

The basis for authorization is an aviation maintenance mission.  
The basis of calculation is the type of supported aircraft.

## 2. Programmatic Application

RPLANS provides an allowance for units that have an allowance for an aviation hangar. Rotary wing units without CH-47 aircraft authorized are allowed 970 SY. Units authorized CH-47 aircraft and units with aviation intermediate maintenance (AVIM) capability are allowed 1,711 SY. Fixed wing units are allowed from 733 SY to 944 SY, depending on the aircraft type.

## C. Planning

### 1. Planning Level

The planning level for Aircraft Washing Aprons is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

Units with CH-47 aircraft and AVIM units require an apron of 110 feet by 140 feet. Other rotary wing units require an apron that is 74 feet by 110 feet. Units authorized C12 fixed wing aircraft require a pad that is 55 feet by 120 feet. The wash aprons accommodate two aircraft, except for the Ch-47.

### 3. Assigning Space

#### a. Guidance

This facility is assigned to the unit occupying the hangar.

#### b. Facility Utilization Metrics

The Army has not established space utilization rates for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Wash aprons are included with their adjacent hangar under the Army design standards and standard designs.

### 2. Programming Units

Programming documents report aprons in SY. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Aviation Unit Complex in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complex and Aviation Unit Complex in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01
Revised Army Standard Aircraft Maintenance Hangar (HGR) Complex	13-APR-12

### **4. See Also**

See Chapter 4 for more on the Aviation Unit Complex.

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface for washing and cleaning aircraft. It normally includes electric and water service, drainage, and wastewater collection equipment. For inventory purposes, include only the prepared apron surface.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for Aviation Unit Complex.

See CATCD 11370 Aircraft Washing Apron, Paved.

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

#### Complex:

- Aviation Unit

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A paved surface for loading cargo aircraft; loading personnel for medical evacuation and transient aircraft operations; or providing an apron area for fueling aircraft; arming and disarming aircraft weapons; loading and unloading ammunition; special handling or decontamination of chemical, biological, and radiological (CBR) warfare items; and for special security operations. For inventory purposes, include only the paved apron surface.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

Report and program aprons in SY.

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

### 5. Functional Areas

Functional Areas by definition are only in buildings.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a requirement for an airfield operations building. The basis for calculation is the size and type of aircraft assigned to or routinely operating from the airfield, not to exceed 7,000 SY.



## 2. Programmatic Application

RPLANS provides an allowance of 7,000 SY for sites with an allowance for CATCD 14110, Airfield Operations Building.

## C. Planning

### 1. Planning Level

The planning level for loading aprons is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. See Airfield Complex in Chapter 4.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established space utilization rates for this facility category code. Utilization is based on the number of flight operations per day. The airfield commander or DPTM maintains data on utilization.

## D. Programmable Increments

### 1. Standard Facilities

Loading aprons are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs. Programming to bring a substandard loading apron up to the required length or width must be based on an airfield survey.

### 2. Programming Units

Programming documents report loading aprons in square yards. Design and construction may be part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complex in Chapter 4

## 2. Site Planning Considerations

See Airfield Complex in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 2. References

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
UFC 3-260-02 Pavement Design for Airfields	30-JUN-01

### 3. See Also

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

An unpaved prepared surface for loading cargo aircraft; loading personnel for medical evacuation and transient aircraft operations; or providing an apron area for fueling aircraft; arming and disarming aircraft weapons; loading and unloading ammunition; special handling or decontamination of CBR warfare items; and for special security operations. For inventory purposes, include only the prepared apron surface.

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- Airfield

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

### 4. See Also

See Chapter 4 for Airfield Complex.

See CATCD 11380 Aircraft Loading Apron, Paved for size criteria

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A rigid paved pad in a magnetically quiet zone of the airfield. The pad surface is painted with alignment markings that are used in the precise calibration of air navigation equipment. The facility may include a taxiway that connects the pad to the main taxiway or apron.

**Proponent:**

- DCS, G-3

**COS:**

- None

### 2. Proponent and Center of Standardization

**Proponent**

Deputy Chief of Staff, G-3 (DCS, G-3)

**Center of Standardization**

None.

**Complex:**

- Airfield

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY  
Planning: SY

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = SY

Report, plan, and program Aircraft Compass Swing Base in SY.

### 5. Functional Areas

Functional areas, by definition, are only in buildings measured in GSF.

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow one per airfield or heliport when 15 or more aircraft are permanently assigned and at Army depots where aircraft maintenance missions are assigned (per AR 750-1). The basis of calculation is the size of aircraft assigned to or supported at the airfield.

## 2. Programmatic Application

As of June 1995, RPLANS provides an allowance for a maximum of 1,600 SY for sites that have 15 or more assigned aircraft.

## C. Planning

### 1. Planning Level

The planning level for aircraft compass swing base is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Aircraft compass facilities require a magnetic survey. Obtain requirements from the approved magnetic survey. In addition to the 25-foot (7.5 m)-wide shoulders, the minimum pavement includes a square or circular pad of 120 feet (36.5 m) per side or diameter, plus a taxiway at least 280 feet (85 m) by 50 feet (1,555 SY) from the edge of any other taxiway, apron, or other potential electromagnetic source. This produces a minimum taxiway requirement of 1,555.5 SY reported as a part of 11212, Fixed Wing Taxiway, Paved. Note that taxiway lighting is not authorized for the taxiway to the aircraft compass swing base. See Airfield Complex in Chapter 4.

### 3. Assigning Space.

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established space utilization rates for this facility category code. Utilization is based on the number of flight operations per day. The airfield commander or DPTM maintains data on utilization.

## D. Programmable Increments

### 1. Standard Facilities

There are no Army design standards or standard designs for this category code. The references give typical diagrams.

## **2. Programming Units**

Programming documents report Aircraft Compass Swing Base in SY. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Airfield Complex in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complex in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC) 17-NOV-08  
Airfield and Heliport Planning and Design

### **4. See Also**

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

A structure for dispensing aircraft fuel under pressure from operational storage tanks directly into the fuel tanks of the aircraft.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Proponent:**

- DCS, G-4

**COS:**

- Mobile

**Complex:**

- Airfield

**Units of Measure:**

- Primary UM = GM
- Secondary UM = OL
- FAC UM = GM

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to transfer aircraft fuels from storage tanks to refueling vehicles (tank, truck, fuel, and tank and pump units).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for Airfield Complex.

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-4

#### COS:

- Mobile

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = GM
- Secondary UM = OL
- FAC UM = GM

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A structure used to transfer marine fuel from storage tanks directly into the fuel tanks of any size marine vessels. Each fueling facility consists of a central pumping station with electrical power and control wiring to valve and equipment pits. Pipelines and electrical control circuits extend from these pits to individual refueling points. Control and fueling support facilities are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = GM
- Secondary UM = None
- FAC UM = GM

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established criteria or allowances for this facility category code. RPLANS sets allowance equal to assets for this facility category code. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure for dispensing E-85 ethanol to military vehicles. It is normally referred to either as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

122xx, 123xx, and 124xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for dispensing gasoline to military vehicles. It is normally referred to either as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

122xx, 123xx, and 124xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for dispensing biodiesel fuel to military vehicles. It is normally referred to as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used for dispensing hydrogen as a fuel to military vehicles. It is normally referred to as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used for dispensing propane as fuel to military vehicles. It is normally referred to as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used for dispensing diesel fuel or JP8 to military vehicles. It is normally referred to as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building; or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

122xx, 123xx, and 124xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure for dispensing natural gas as a fuel to military vehicles. It is normally referred to as a fuel-dispensing island, or simply as fuel pumps. The CATCD is used to report only the dispensing portion of a vehicle fueling station. One outlet is equivalent to one dispensing nozzle. Facilities for attendants are operational facilities accounted for with 14165, Fueling/POL/Wash Support Building, or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

122xx, 123xx, and 124xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

Underground storage tanks used in support of direct fueling and/or tank truck fueling of aircraft that use aviation gasoline (AVGAS). See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage, for bulk fuel storage, and 12412, Aircraft Fuel Storage Tank, AVGAS, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates allowances based on the number and type of aircraft assigned to the UIC, their fuel capacity, and annual flying hours.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, 16 Aug 10, Change 1 Nov 13

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks used in support of direct fueling and/or tank truck fueling of aircraft that use jet fuel (JP-4/5/8). See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage, for bulk fuel storage, and 12413, Aircraft Fuel Storage Tank, Jet, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates allowances based on the number and type of aircraft assigned to the UIC, their fuel capacity, and annual flying hours.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.  
UFC 3-460-01, 16 Aug 10, Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used in support of direct fueling and/or tank truck fueling of aircraft using aviation gasoline (AVGAS). See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12410, Aircraft Fuel Storage Tank, AVGAS, Underground, for underground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates allowance based on number and type of aircraft assigned to UIC, their fuel capacity and annual flying hours.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, 16 Aug 10, Change 1 Nov 13

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used in support of direct fueling and/or tank truck fueling of aircraft using jet fuel (JP-4/5/8). See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12411, Aircraft Fuel Storage Tank, Jet, Underground, for underground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates allowances based on the number and type of aircraft assigned to the UIC, their fuel capacity, and annual flying hours.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.  
UFC 3-460-01, 16 Aug 10, Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks used for operational fueling of small boats and craft. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage; and 12441, Marine Fuel Storage Tank, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used for operational fueling of small boats and craft. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12440, Marine Fuel Storage Tank, Underground, for underground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using gasoline. They are connected to pumps (outlets) on fuel-dispensing islands. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12451, Land Vehicle Fuel Storage Tank, MOGAS, Above Ground, for aboveground operational storage tanks.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates the allowance based on the number and type of vehicles assigned to the UIC and their fuel capacity

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using gasoline. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12450, Land Vehicle Fuel Storage Tank, MOGAS, Underground, for operational storage tanks underground.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates the allowance based on the number and type of vehicles assigned to the UIC and their fuel capacity

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

**Planning Level:**

- Unit



### 1. DA Pam 415-28 Description / Definition

Underground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using E-85 Ethanol. They are connected to pumps (outlets) on fuel-dispensing islands. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12453, Land Vehicle Fuel Storage Tank, E-85 Ethanol, Above Ground, for aboveground operational storage tanks.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS assigns a value of zero to the allowance.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using E-85 Ethanol. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12452, Land Vehicle Fuel Storage Tank, E-85 Ethanol, Underground, for underground operational storage tanks.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS assigns a value of zero to the allowance.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

#### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

Underground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using biodiesel. They are connected to pumps (outlets) on fuel-dispensing islands. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage. and 12455, Land Vehicle Fuel Storage Tank, Bio-Diesel, Above Ground, for aboveground operational storage tanks.

### Proponent:

- DCS, G-4

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS assigns a value of zero to the allowance.

### Complex:

- None

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

## 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used at fuel-dispensing stations for operational fueling of land vehicles using biodiesel. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12454, Land Vehicle Fuel Storage Tank, Bio-Diesel, Underground, for underground operational storage tanks.

### Proponent:

- DCS, G-4

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS assigns a value of zero to the allowance.

### Complex:

- None

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

## 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 1312455

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks associated with facilities used to dispense liquid propellants. See the 411-series, Bulk Liquid Fuel Storage, for bulk fuel storage; and 12461, Propellant Storage Tank, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks associated with facilities used to dispense liquid propellants. See the 411-series, Bulk Liquid Fuel Storage, for bulk fuel storage; and 12460, Propellant Storage Tank, Underground, for underground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks of several types: heating fuel oil tanks at dispensing stations, tanks that are physically connected to heating systems, and fuel tanks that support or are physically connected to electrical power plants. Heating oil tanks for individual heating systems are usually small underground types, although it is not uncommon in Europe for them to be located in building basements or subbasements. Tanks for central heating plants or those at sites that dispense fuel into delivery trucks are larger. Electric power plant tanks may be belowground and as large as bulk storage types. Only underground tanks are accounted for with this code. All uses are operational and do not include bulk storage. See the 411-series, Bulk Liquid Fuel Storage, for bulk fuel storage; and 12471, Heating Fuel Storage Tank, Above Ground, for aboveground operational storage tanks.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks containing heating fuel at any of several locations: dispensing stations, connected to heating systems, or electrical power plants. See the 411-series, Bulk Liquid Fuel Storage, for bulk fuel storage; and 12470, Heating Fuel Storage Tank, Underground, for underground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facilities category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Underground storage tanks containing kerosene fuel at any of several locations: dispensing stations, connected to heating systems, or electrical power plants. See 12473, Kerosene Storage Tank, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- Gas UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facilities category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks of kerosene fuel at any of several locations: dispensing stations, connected to heating systems, or electrical power plants. See 12472, Kerosene Storage Tank, Underground, for operational storage tanks underground.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

Underground storage tanks used at military vehicle fuel-dispensing stations for land vehicles using diesel fuel or JP-8. They are connected to pumps (outlets) on fuel-dispensing islands. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage, for bulk fuel storage, and 12481, Land Vehicle Fuel Storage Tank, Diesel/JP8, Above Ground, for aboveground operational storage tanks.

### Proponent:

- DCS, G-4

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Based on similar facility category codes, RPLANS calculates the allowance based on the number and type of vehicles assigned to the UIC, and their fuel capacity

### Complex:

- None

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### Planning Level:

- Unit

## 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks used at military vehicle fuel-dispensing stations for land vehicles using diesel fuel or JP-8. They are connected to pumps (outlets) on fuel-dispensing islands. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12480, Land Vehicle Fuel Storage Tank, Diesel/JP8, Underground, for underground operational storage tanks.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Area UM = None
- Other UM = GA
- Programming UM = GA

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established separate criteria for this facility category code. Based on similar facility category codes, RPLANS calculates the allowance based on the number and type of vehicles assigned to the UIC, and their fuel capacity.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code.

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Underground storage tanks for the immediate backup storage and dispensing of liquid propane gas. See the 411-series, Bulk Liquid Fuel Storage, for bulk fuel storage; and 12483, Liquid Propane Gas Storage Tank, Above Ground, for aboveground operational storage tanks.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facilities category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground storage tanks for the immediate backup storage and dispensing of liquid propane gas. See the 411-series, Bulk Liquid, Fuel, and Nonpropellant Storage for bulk fuel storage, and 12482, Liquid Propane Gas Storage Tank, Underground, for underground operational storage tanks.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this category code. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 122xx, 123xx, and 124xx for related facility category codes. UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Aboveground pipelines that carry petroleum products such as fuel and oil; they may be welded, coupled, or of hose line construction. There are assault, tactical, and logistical pipe categories; however, the logistical category is used for the type normally associated with permanently installed real property. This CATCD is used only for major transmission or distribution systems. All equipment that is an integral part of the pipeline system should be carried in an equipment table for the pipeline. Any facilities associated with the pipeline system should be carried as 14165, Fueling/POL/Wash Support Building or 14164, Fueling/POL/Wash Support Facility. Aboveground POL pipelines are generally made of black carbon steel, but aluminum and black reinforced plastic pipe are also used.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

12520 POL Pipeline, Underground

### 1. DA Pam 415-28 Description / Definition

Underground pipelines that carry petroleum products such as fuel and oil; they may be of welded, coupled, or hose line construction. There are assault, tactical, and logistical pipe categories; however, the logistical category is the type normally associated with permanently installed real property. This CATCD is used only for major transmission or distribution systems. All equipment that is an integral part of the pipeline system should be carried in an equipment table for the pipeline. Any facilities associated with the pipeline system should be carried as 14165, Fueling/POL/Wash Support Building, or 14164, Fueling/POL/Wash Support Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

12510 POL Pipeline, Above Ground



### 1. DA Pam 415-28 Description / Definition

A structure to dispense heating fuel oil. This CATCD includes only the fuel dispensing system, and not the storage tanks. Heating fuel oil storage is in the 124-series, Fuels Storage. One OL is the equivalent of one dispensing nozzle.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

### 4. See Also

See 126xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure to dispense kerosene. This CATCD includes only the fuel dispensing system, and not the storage tanks. Kerosene storage is in the 124-series, Fuels Storage. One OL is the equivalent of one dispensing nozzle.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

### 4. See Also

See 126xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for ready-use storage of propellant rocket fuels for (noncryogenic) fixed-site weapons systems. A propellant is any agent used for consumption or combustion in a rocket, from which the rocket derives its thrust. Facility design is determined by the type of fuel to be stored. One OL is the equivalent of one dispensing nozzle.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 126xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used to dispense fuel from bulk storage tanks into fuel delivery trucks, or vice versa. It is also known as a truck fill stand. The facility is generally a top-loading type that consists of an elevated structural steel platform with stairway, and a telescoping loading arm assembly. This CATCD includes only the fuel loading and/or unloading system, and not the storage tanks. One OL is the equivalent of one dispensing nozzle.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 126xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to dispense fuel from bulk fuel storage tanks into railroad tank cars, or vice versa. It is generally an open-grate steel platform located alongside and about 10 feet above the rail spur. A counterbalanced tank car loading arm assembly and drop walkway are located at each loading outlet. Unloading generally consists of one or more suction-type (gravity) hose lines from riser pipes. This CATCD includes only the fuel loading and/or unloading system, and not the storage tanks. One OL is the equivalent of one dispensing nozzle.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 126xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used to dispense fuel from bulk storage tanks into fuel barges, or vice versa. Loading and/or unloading generally consists of fuel outlets, pumps, and a pipeline cross-connection between the product withdrawal and receiving lines from a dock or pier. This CATCD includes only the fuel loading/unloading system, and not the storage tanks. One OL is the equivalent of one dispensing nozzle.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 126xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used to dispense fuel from bulk storage tanks into fuel tankers, or vice versa. It generally consists of fuel outlets, pumps, and a pipeline cross-connection between the product withdrawal and receiving lines from a dock or pier. This CATCD includes only the fuel loading and/or unloading system, and not the storage tanks. One OL is the equivalent of one dispensing nozzle.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

### 4. See Also

See 126xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to load drums with fuel, propellants, or lubricants. One OL is the equivalent of one dispensing nozzle.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 126xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = OL
- Secondary UM = None
- FAC UM = OL

#### Planning Level:

- Other-than-unit



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that serves as a single information center and houses a majority of garrison-level information management/information technology services, and the associated administrative support, telephone operators, and shop space for field crews. This building houses the mainframe computers, support equipment, microfilming services, and personnel who operate and maintain the centralized garrison automated data processing systems, and all communications systems feeding into it. This building can house the Military Affiliate Radio System (MARS) station and garrison visual information (VI) services, including motion picture, still photography, television production, audio support, graphic arts, and the audio-visual (AV) lending library. Use this category only for those facilities built using the Standard (definitive) Design with all services at one location. If services are spread among several buildings, use the category appropriate for each facility. Individual CATCDs also may be used to break this multipurpose category into its component parts.

***Note:** A standard information systems facility accommodates several different divisions of the information systems, including the Command Group, Plans and Resource Management Division, Operations Division, Logistics Division, and the Records Management Division. At some installations, the information systems facility also supports the following divisions: Printing and Publications Division or Visual Information Division.*

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

Proponent:

- CIO, G-6

COS:

- Norfolk

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

#### 4. Units of Measure

Area = GSF: Total gross square feet of the building  
 Primary: SF  
 Secondary: SF  
 FAC: SF  
 Other: None

##### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### 5. Functional Areas

Table 13115-1 lists functional areas by type and adequacy requirements for the Information Systems Facility.

Table 13115-1 Functional Area and Adequacy Requirements		
Functional Area	Type	Presence
Main Entrance and Security Checkpoint	Mission	A
Private Offices (See Appendix A for criteria)	General	A
Open Offices	General	A
Logistics Division	Mission	A
Operations Division	Mission	A
Input / Output Spaces in Support of Operating Divisions	Mission	A
Plans and Resource Management Division	Mission	A
Printing and Publications Division	Mission	A
Records Management Division	Mission	A
Visual Information Division	Mission	A
Lunch Room	General	A
Public Restrooms	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

#### 1. Basis of Allowance

The criteria authorize this facility category for installations that have an information systems mission and appropriate staff or contracted team capable of performing the mission.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The information systems installationwide mission triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The required capacity is an engineering decision. When planning space in existing facilities, base calculations on PN for administrative space. Obtain support from information systems professionals to determine requirements. Use Table 13115-2 as a planning guide in determining requirements for the required functional areas. Not all locations require all of the functional areas displayed in the table.

The basis for the medium Standard Design is a staff of 180 in a 51,000 GSF area. This Standard Design may be modified to suit local installation requirements, provided the functional relationships of space are maintained.

Table 13115-2: Basic Criteria based on a New Medium Building				
Room/Area	Personnel	Admin (NSF)	Special Purpose (NSF)	Public / Common (NSF)
<b>Command Group</b>				
DOIM's OFFICE	1	200	200	
Deputy DOIM's Office	1	150		
NCOIC's Office	1	150		
Sec, Reception & Filing	2	410	200	
<b>Command Group Total</b>	<b>5</b>	<b>910</b>	<b>400</b>	<b>-</b>
<b>Plans and Resources Management Division</b>				
Division Chief's Office	1	150		
Secretary	1	80		
Work Area	24	2,100		
<b>Plans &amp; Resource Management Total</b>	<b>26</b>	<b>2,330</b>	<b>-</b>	<b>-</b>
<b>Operations Division</b>				
Division Chief's Office	1	150		
Secretary	1	60		
Work Area	19	1,500		
Computer Specialists	18	1,700		
Network Controllers	9	1,000		
Document Library			600	
DPU/TCC	10		4,800	

Table 13115-2: Basic Criteria based on a New Medium Building				
Room/Area	Personnel	Admin (NSF)	Special Purpose (NSF)	Public / Common (NSF)
SCIF Vault	2	180	220	
Crypto Vault			400	
Data Reduction			475	
Telephone Operators	4		300	
Remote TDM	3		400	
Tape Library			625	
Vendor Office	2		240	
HF/MARS	3	280	120	
I/O & Vestibule	3	280	1,020	
Equipment Room			60	
DPI/TCC Storage	1		1,700	
<b>Operations Total</b>	<b>76</b>	<b>5,150</b>	<b>10,960</b>	<b>-</b>
Logistics Division				
Division Chief's Office	1	150		
Secretary	1	80		
Work Area/Storage	6	550	700	
Foremen's Office (2)	2	200		
Clerk/Typist	1	80		
Storage				325
Workbench				325
Field Crew Workroom				300
Locker Room (2)				250
<b>Logistics Total</b>	<b>11</b>	<b>1,060</b>	<b>700</b>	<b>1,200</b>
Visual Information Division				
Division Chief's Office	1	150		
Secretary	1	80		
Work Area	14		3,200	
<b>Visual Information Total</b>	<b>16</b>	<b>230</b>	<b>3,200</b>	<b>-</b>
Printing and Publications Division				
Division Chief's Office	1	150		
Secretary	1	80		
Work Area	18	1,620	1,580	
Warehouse			1,700	
<b>Printing &amp; Publications Total</b>	<b>20</b>	<b>1,850</b>	<b>3,280</b>	<b>-</b>
Records Management Division				
Division Chief's Office	1	150		
Secretary	1	80		
Work Area	14	1,250	950	
Mail Room	5		925	
Classified Storage			275	
<b>Record Management Total</b>	<b>21</b>	<b>1,480</b>	<b>2,150</b>	<b>-</b>
Common/Public Spaces				
Lunch/Break Room			65	1,000
Security	2	180	125	
Lobby & Security Vestibule				600

Table 13115-2: Basic Criteria based on a New Medium Building

Room/Area	Personnel	Admin (NSF)	Special Purpose (NSF)	Public / Common (NSF)
Information Center	3			650
Conference Center			600	
Projection Room			250	
Toilets				830
<b>Common/Public Total</b>	<b>5</b>	<b>180</b>	<b>1,040</b>	<b>3,080</b>
<b>Mechanical and Utility Rooms</b>				
Remote Telephone Switching Room			400	
Telephone Closets (4)			80	
Electric/UPS				400
Generator Room				500
Battery Room				300
Mechanical Room				1,700
<b>Mechanical Total</b>	<b>-</b>	<b>-</b>	<b>480</b>	<b>2,900</b>

Use Appendix A, as opposed to the Standard, to determine general functional area space requirements based on the actual number and positions of the staff. Determine which of the functions associated with special spaces in Table 13115-2 (e.g., records management, printing and publications, visual information) the activity performs. Then calculate requirements on the NSF of special space in the table. If the organization does not perform all of the major functions, calculate and attribute the requirement to the applicable 131-series category code.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management, or to the service provider.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. While it is possible to determine utilization rates for general functional areas, the nature of the activity/activities is/are not compatible with shared use.

For administrative space, calculate building utilization in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces

(including special and storage spaces that are included as general functional areas in Appendix A.)

The service nature of this activity suggests that the operating personnel judge the degree of utilization based upon hours of operation, not on floor space. Determine film and equipment storage utilization by measuring the amount of occupied storage space and comparing it with the storage space available.

Figure 13115-1 depicts the Standard Design medium-size building. The notation C/PS refers to Common/Public Spaces.

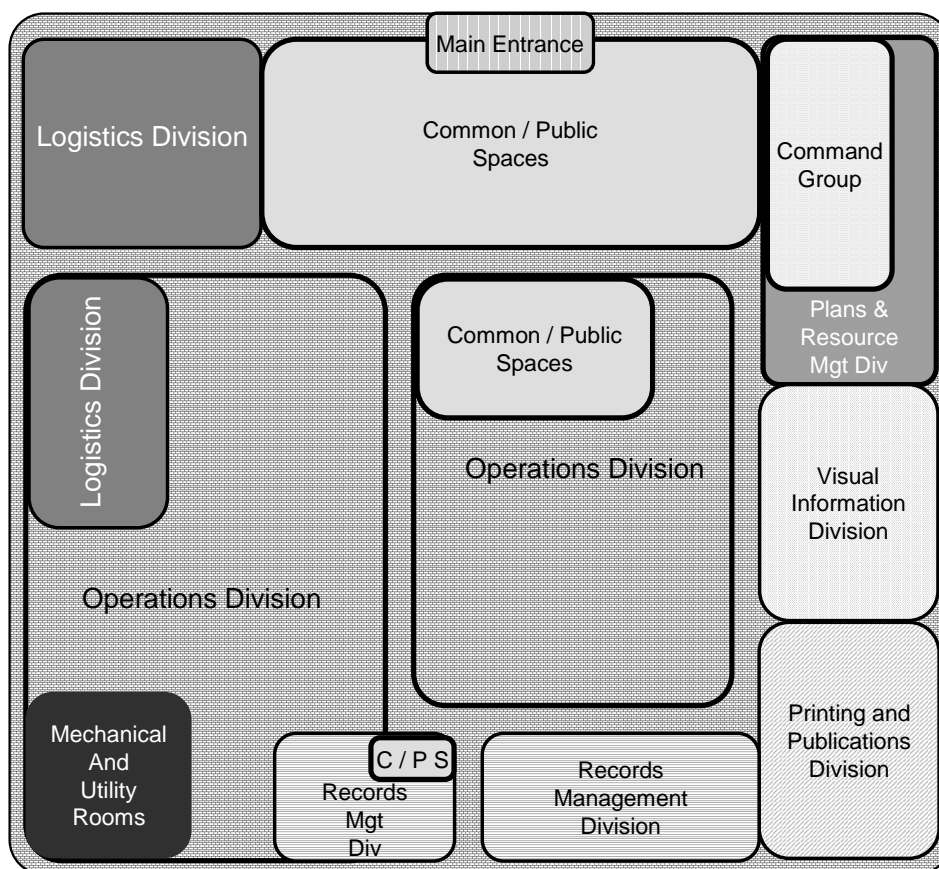


Figure 13115-1: Standard Design Medium-Size Facility

## D. Programmable Increments

### 1. Standard Facilities

Because of changes in technology and organizational realignments within the Army, the Standard Design is of limited value for programming. Contact the US Army Information Systems Command (ISEC) when planning an information systems facility. The Standard Design is based on a medium-size building with an approximate staff of 180 persons. Modify the Standard Design to suit local installation requirements while maintaining the functional relationships of space.

#### Programming UM:

- GSF

### 2. Programming Units

ISEC and the COS determine programmable units on a case-by-case basis.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is consistent with most land uses. As a hub for communications within the installation, proximity to communications lines may take priority over strict land use considerations.

### 2. Site Planning Considerations

This facility requires a loading dock that provides access for delivery vehicles.

## F. Other Considerations

### 1. Special Instructions

Consult ISEC when planning or programming this building.

### 2. Exceptions

Direct questions or exceptions to the Norfolk District office and the COS Manager POC.

**3. References**

Information Systems Facilities (ISF), Standard Design Criteria	MAY 2013
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

**4. See Also**

13120	Communications Center
13125	Military Affiliate Radio System (MARS) Station
13140	Information Systems Processing Center
13160	Transmitter Building
13170	Receiver Building
13175	Televideo Center
13181	Terminal Equipment Building
13131	Information Processing Center
13135	Photo Lab
13185	Print Plant Building



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides a central location for internal and external communications. Cable from local transmitter and receiver facilities, commercial telephone entrance points, and other communications systems feed through this structure. Defense Switched Network (DSN) and Defense Data Network (DDN) switching equipment, local commercial telephone feeds, and control of all point-to-point communications are associated with this facility. This category code should be used for standalone buildings, or to delineate functional areas within a multipurpose facility.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## 5. Functional Areas

Table 13120-1 lists functional areas by type and adequacy requirements for a Communications Center.

Table 13120-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Crypto Storage Vault	Mission	A
Equipment Rooms	Mission	A
Maintenance	Mission	A
Administrative Space	General	A
Operations Offices	General	A
Training Room	General	A
Storage Area for Message Records	General	A
Generator Rooms	Mission	A
Restrooms, Men	Support	A
Restrooms, Women	Support	A
Janitor's Closet	Support	A
Electrical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category when an installation has the mission of operating a telephone exchange, or providing such a building to a commercial provider.

The installationwide communications mission triggers the requirement.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Information Systems Engineering Command (ISEC) determines the functions and space requirements to be included in the building.

Conduct a detailed requirements survey with ISEC assistance when planning for this building.

For a preliminary planning estimate, calculate the space listed in Table 13120-2, which includes a telephone exchange and message and support areas.

Table 13120-2 Allowance by Number of Lines				
Telephone Lines	GSF	NSF	GSM	NSM
200 - 1,200	6,500	4,875	603.9	452.9
1,201 - 2,600	8,100	6,075	752.5	564.4
2,601 - 3,600	10,000	7,500	929.0	696.8
3,601 - 5,400	12,000	9,000	1,114.8	836.1
5,401 - 8,000	14,500	10,875	1,347.1	1,010.3

This facility category is generally planned and programmed with CATCD 13115 (Information Systems Facility).

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management, or to the service provider.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to base utilization on communications capacity requirements compared with capabilities.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

### 2. Programming Units

Program this facility category to requirements.

Programming UM:

- GSF

## **E. Land Use and Site Considerations**

### **1. Land Use Considerations**

Communications centers have positive land use correlations with administrative activities, and negative ones with family housing, maintenance, and ammunition storage activities. Consider collocation of electronic data processing centers and emergency operations centers when planning communications centers.

### **2. Site Planning Considerations**

Parking requirements are based on 38 percent of assigned personnel at 35 SY (29 SM) per space, with a minimum of one space per center.

## **F. Other Considerations**

### **1. Special Instructions**

Refer to CATCD 13115 (Information Systems Facility).

Consult ISEC when planning or programming this facility category.

### **2. Exceptions**

None.

### **3. References**

Information Systems Facilities, Standard Design Criteria	MAY 2013
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Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
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### **4. See Also**

13115 Information Systems Facility

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides voice communications services for armed forces and authorized U.S. government civilian personnel stationed throughout the world. Operators participate in and contribute to the mission of providing auxiliary or emergency communications on a local, national, or international basis.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 13125-1 lists functional areas by type and adequacy requirements of a MARS.

Table 13125-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Operational Area	Mission	A
Open Offices	General	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category when a MARS element is present.

The MARS mission for the Army triggers the requirement.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculation

Sizes of the MARS station vary with the type of operation and equipment each station uses.

Planning UM:

- NSF

Interview the user to determine the number of people and the amount and size of equipment supported. Calculate general functional areas in accordance with Appendix A. Calculate mission functional areas based on supported equipment. The Information Systems Facility (CATCD 13115) Standard Design for a medium facility provides 400 NSF; i.e. 280 NSF for three personnel, and 120 NSF for equipment for the MARS mission. Use this as a guide in evaluating requirements for new or modified missions.

### 3. Assigning Space

#### a. Guidance

The MARS activity usually consists of volunteer staff. When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign space to the sponsoring official activity.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standard sizes for a MARS Station.

Programming UM:

- GSF

### 2. Programming Units

Do not program new facilities in this facility category without permission from HQ IMCOM. Accommodate the service it supports within existing buildings.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

MARS facilities have positive land use relationships with other communications facilities. If located contiguous to the antenna tower, the site should be remote from other facilities. If separated from the antenna tower, the station is compatible with other administrative buildings.

### 2. Site Planning Considerations

None.

## F. Other Considerations

### 1. Special Instructions

Coordinate with Information Systems Engineering Command (ISEC) when planning or programming this facility category.

### 2. Exceptions

None.

### 3. References

Information Systems Facilities (ISF), Standard Design	MAY 2013
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

### 4. See Also

13115 Information Systems Facility

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for central, crew-served computer equipment and the personnel immediately responsible for the management and operation of electronic information using automated data processing systems. Because of the special temperature, humidity, and other environmental control requirements; standby controlled power requirements; and security measures associated with this type of facility, these functions will be accounted for separately from all other parts of a facility. This CATCD is used for standalone facilities, or to delineate functional space within other facilities. Included in this CATCD are the “Star Wars” buildings at the National Training Center, the Joint Readiness Training Center, and the Combat Maneuver Training Center.

**Note:** Apply this category code to the Network Operations Center (NOC) in the Brigade Headquarters, and the Command and Control Facility (C2F).

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary:	SF
Secondary:	None
FAC:	SF
Other:	None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

Calculate NSF and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 13131-1 lists the functional areas by type and adequacy requirements for the Information Processing Center.

Table 13131-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Server Rooms	Mission	A
Open Offices	General	A
Private Offices (See Appendix A for Criteria)	General	A
Work Area	Mission	A
Public Restrooms	Support	A
Janitor's Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for organizations that operate computer equipment systems for global, regional, or local networks, or for other functions.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit for networks or computer systems missions.

The planning level is unit when assigning this facility category as the “Star Wars” building at training centers or an NOC in a C2F, brigade HQ, or other unit building.

#### Planning Level:

- Other-than-unit
- Unit

#### Planning UM:

- NSF

## 2. Requirements Calculation

Determine the number of personnel that require space in general functional areas. Determine the amount and type of equipment the organization uses to perform its mission. Calculate the area needed to support the equipment, including maintenance areas, tests areas, and other functional areas.

For the brigade headquarters, calculate a requirement for 2,250 NSF, unless a survey documents a larger requirement.

For the C2F, use Appendix A to calculate general functional areas. Contact the COS (Mobile for ASCC and above, Savannah for Division and Corps) for assistance in determining and calculating the mission functional areas.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Assign this building to the director of installation management or the service provider for other-than-unit requirements, and to the using organization for unit requirements.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. For administrative space, calculate building utilization in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total useable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

The target utilization rate is between 85 and 100 percent for the office space.

## D. Programmable Increments

### 1. Standard Facilities

The Standard Designs for brigades and C2F apply for units and organizations that are authorized those facility categories.

There is no Standard Design for other applications of this facility category.

Programming UM:

- GSF

## 2. Programming Units

The building size is mission-dependent. Program to requirements.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is compatible with all land uses, except residential and community. It generally works in direct support of other activities. Determine land use consistent with the supported activity.

### 2. Site Planning Considerations

When this is a standalone building, it may require physical security measures. Provide parking on-site for 80 percent of authorized staff.

## F. Other Considerations

### 1. Special Instructions

Contact Information Systems Engineering Command (ISEC) when planning this facility.

Because of special temperature, humidity, and other environmental control requirements; standby controlled power requirements; and security measures associated with this facility category, account for these functions separately from all other parts of a facility.

### 2. Exceptions

None.

### 3. References

Information Systems Facilities, Standard Design Criteria	MAY 2013
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

### 4. See Also

14182 Brigade Headquarters Building  
14190 Command and Control Facility

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

AZ building including a photographic laboratory and/or a visual image (VI) exchange. The photographic laboratory may support tactical and nontactical missions. The most common nontactical mission is providing photography and other visual services in support of basic installation operations. Typical tactical mission support includes technical services for the processing of reconnaissance and intelligence information. The VI (film library and equipment) exchange is a nontactical building that is used to store film and videotapes, and to issue and store VI training equipment. This CATCD should be used for separate facilities or to delineate functional areas within 14129, Training Aids Center; or 13115, Information Systems Facility.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## 5. Functional Areas

Table 13135-1 lists functional areas by type and adequacy requirements for a photo lab.

Table 13135-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
VI Film Library	Mission	A
Equipment Exchange	Mission	A
Dark Room	Mission	A
Open Offices	General	A
Shop Space	Mission	A
Photo Studio	Mission	A
Changing Room	Mission	A
Public Restrooms	Support	A
Janitor's Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for organizations having a mission to perform photographic services.

**The photo services mission for the installation triggers the requirement.**

The criteria allow administrative space based on the number of people that require office space in order to perform their assigned duties.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Calculate requirements based on the functional areas the user requires. Determine by interview the number and type of work areas that personnel need to perform their authorized functions.

### Planning UM:

- NSF

If the activity provides official photography services for file photographs and passports, determine the number of photo sessions per day. Calculate one studio per 24 photo sessions, and two changing rooms per studio, if there are sufficient authorized photographers to support that number of sessions on a sustained basis. Calculate at least 250 NUA for each studio, and two (2) changing rooms of 64 NUA per studio room. If the organization has more than one photographer, calculate a second studio.

Calculate general functional area requirements for the number of personnel who require administrative-type work spaces.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. Base overall utilization on the number of available photo sessions compared with photo sessions performed. The photo lab staff should have records to document utilization.

## D. Programmable Increments

### 1. Standard Facilities

There are no standard sizes for photo lab. This facility category is frequently part of the Training Aids Center (CATCD 14129).

### 2. Programming Units

Program to requirements.

### Programming UM:

- GSF

---

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

As a standalone building, this facility category is suitable for Professional/Institutional or Community land use areas.

### 2. Site Planning Considerations

In addition to staff parking, include customer parking based on two spaces per studio. Provide for additional customer parking based on the average number of additional customers per hour.

## F. Other Considerations

### 1. Special Instructions

Refer to category code 13115 (Information Systems Facility).  
Contact ISEC when planning a photo lab.

### 2. Exceptions

None.

### 3. References

Information Systems Facilities (ISF), Standard Design	MAY 2013
	1-MAR-05
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	
	30-JUL-04
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	

### 4. See Also

13115      Information Systems Facility

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that supports information management/information technology services, but does not meet the scope of an Information Systems Facility or the definition of some other appropriate CATCD. This includes switches, information processing centers/facilities, microfilm laboratories, VI services, AV lending centers, and records management activities that include the records holding area, the official mail and distribution center, and storage for classified mail. The administrative support space and shop space for field crews is also included in this CATCD. This CATCD should be used for standalone facilities or to delineate functional areas within the information systems facility.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: SF  
FAC: SF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SF
- FAC UM = SF
- Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 13140-1 lists the functional areas by type and adequacy requirements in the Information Systems Processing Center.

Table 13140-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Official Mail and Distribution Center	Mission	A
Classified Mail Storage	Mission	A
Microfilm Laboratories	Mission	A
Open Offices	General	A
Shop Space	Mission	A
Visual Information Services	Mission	A
Audio-Visual Lending Center	Mission	A
Records Management (records holding area)	Mission	A
Switch Room	Mission	A
Public Restrooms	Support	A
Janitor's Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
C - Required, Vicinity		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for organizations having the mission functional areas as determined by an engineering survey.

The information processing mission for the installation triggers the requirement.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

This facility category is generally planned and programmed with the Information Systems Facility, CATCD 13115.

Planning UM:

- NSF

Interview the using activity to determine the number of personnel and the amount and type of equipment, if any, the building will support. Calculate requirements using Appendix A for general functional areas. Calculate requirements for equipment or work area based on equipment types and sizes, and the types of shop tasks performed.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management, or to the service provider.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

For administrative space, calculate utilization in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

## D. Programmable Increments

The Army does not program this facility category.

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

### 2. Programming Units

Program renovations to requirements.

---

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

As a standalone building, this facility category is suitable for Professional/Institutional or Community land use areas.

### 2. Site Planning Considerations

Consider traffic patterns and access if there is a requirement for a loading dock.

## F. Other Considerations

### 1. Special Instructions

Refer to category code 13115 (Information Systems Facility).  
Contact ISEC prior to planning an Information Systems Facility or Information Systems Processing Center.

### 2. Exceptions

None.

### 3. References

Information Systems Facilities (ISF), Standard Design	MAY 2013
	1-MAR-05
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	
	30-JUL-04
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	

### 4. See Also

13115	Information Systems Facility
13120	Communications Center
13131	Information Processing Center

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building housing the necessary communications equipment for the transmission and/or boosting of radio or television signals. This CATCD should be used for standalone facilities, or to delineate functional areas within the information systems facility.

***Note:** This facility is an unoccupied building, housing equipment that the user manages from a remote location.*

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF

Secondary: None

FAC: SF

Planning: SF

Other: PN Office capacity in general functional areas

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- Other = PN

The primary unit of measure for this facility category is SF.

## 5. Functional Areas

Table 13160-1 lists the functional areas by type and adequacy requirements for the transmitter building.

Table 13160-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Control Room	Mission	A
Equipment Area	Mission	A
Public Restrooms	Support	A
Janitor's Closet	Support	A
Electrical Room	Support	A
Generator Room	Mission	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number, size and type of transmitters and, where applicable, the number of personnel assigned to the activity.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The equipment supporting installationwide communications mission triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Plan this facility category as part of a larger information systems building when possible. To plan this facility category, perform a requirements survey to determine the size and type of equipment.

Planning UM:

- NSF

### 3. Assigning Space

#### a. Guidance

Assign buildings in this category to the director of information management, or to the service provider.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

Missions require this facility category to function as a whole.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this facility category.

Programming UM:

- GSF

**2. Programming Units**

Consult Information Systems Engineering Command (ISEC) to coordinate requirements surveys before programming this facility category.

**E. Land Use Site Planning Considerations****1. Land Use Considerations**

This building is compatible with administrative activities. However, consider antenna siting, which might dictate a more remote location.

**2. Site Planning Considerations**

As a transmitter, consider the radiation of the antenna.

**F. Other Considerations****1. Special Instructions**

Refer to category code 13115 (Information Systems Facility). Consult ISEC when planning or programming these facilities.

**2. Exceptions**

None.

**3. References**

Information Systems Facilities, Standard Design Criteria	MAY 2013
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

**4. See Also**

13120	Communications Center
13125	Military Affiliated Radio System (MARS) Station
13131	Information Processing Center
13140	Information Systems Processing Center
13175	Televideo Center
13181	Terminal Equipment Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building housing the necessary communications equipment for receiving radio or television signals. This CATCD should be used for stand-alone facilities or to delineate functional areas within the information systems facility.

***Note:** This facility is an unoccupied building, housing equipment that the user manages from a remote location.*

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: SF  
FAC UM: SF  
Planning: SF

The primary unit of measure for this facility category is SF.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SF
- FAC UM = SF
- Planning UM = SF



## 5. Functional Areas

Table 13170-1 lists the functional areas by type and adequacy requirements for the Receiver Building.

Table 13170-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Equipment Area	Mission	A
Telephone Closet	Support	D
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number, size, and type of receivers.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The equipment supporting installationwide communications mission triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Plan this function as part of a larger information systems facility when possible.

Planning UM:

- NSF

To plan this building, perform a requirements survey to determine the size and type of equipment, and the number of personnel, if any.

### 3. Assigning Space

#### a. Guidance

Assign NUA of an existing building for the required NSF of functional areas in this category to the director of information management, or to the service provider.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

The mission requires this facility category to function as a whole.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this facility category.

Programming UM:

- SF

**2. Programming Units**

Consult Information Systems Engineering Command (ISEC) to coordinate requirements survey before programming facilities in this facility category. Program to requirements.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

This building is compatible with other communications activities. However, consider antenna siting, which might dictate a more remote location.

**2. Site Planning Considerations**

Consider potential obstacles to the receiver.

**F. Other Considerations****1. Special Instructions**

Refer to category code 13115 (Information Systems Facility).

**2. Exceptions**

None.

**3. References**

Information Systems Facilities, Standard Design Criteria	MAY 2013
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

**4. See Also**

13160	Transmitter Building
13181	Terminal Equipment Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the production of television programs and that serves as the central point for televideo conferencing. It may consist of a soundproofed studio with overhead lighting system, television and video cameras, space for the construction and storage of sets, and control rooms for monitoring video and audio output. This CATCD should be used for standalone facilities, or to delineate functional areas within the information systems facility.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF:  
Secondary: None  
FAC UM: SF  
Other: None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other = None

## 5. Functional Areas

Table 13175-1 lists the functional areas by type and adequacy requirements in a Televideo Center.

Table 13175-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Soundproof studio	Mission	A
Control Room	Mission	A
Private Offices (See Appendix A for criteria)	General	A
Open Offices	General	A
Tape/film library	Mission	A
Work Areas	General	A
Supply and Equipment Storage	General	A
Lobby	Support	A
Men's Restrooms	Support	A
Women's Restrooms	Support	A
Loading Dock	Support	A
Janitor's Closet	Support	A
Telephone Closets	Support	A
Electrical	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations that have a televideo mission. Contact the US Army Information Systems Engineering Command when planning a televideo center. Use this facility category for inventory purposes only; the criteria allow the functional area as part of an information systems facility.

The televideo mission triggers the requirement.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

This facility category may be part of an armed forces television station or a TRADOC school that produces training programming. A special study is necessary to determine the appropriate requirements.

Table 13175-2 lists space requirements for broadcast production facilities.

Table 13175-2 Space Requirements				
Personnel Assigned	GSF	NSF	GSM	NSM
14 to 20	5,100	3,927	473.8	364.8
21 to 27	7,900	6,083	733.9	565.1
28 to 40	11,550	8,893	1,073.0	826.2

Where high-volume videotape duplication/dubbing capability is required, add 200 GSF/154 NSF (18.6 GSM/14.3 NSM). When tape-to-film transfer capability is required, add 200 GSF/154 NSF for each video film recorder.

This facility category is generally planned and programmed with CATCD 13115 (Information Systems Facility). This category code generally is used for inventory purposes only.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management, or to the service provider.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

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## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

Programming UM:

- GSF

### 2. Programming Units

Do not program CATCD 13175 without prior approval from IMCOM.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is compatible with land uses associated with administrative activities.

### 2. Site Planning Considerations

Locate this building near Photo Lab, CATCD 13135; Information Systems Facility, CATCD 13115; or Training Aids Center, CATCD 14129. Collocation permits more efficient and economical operation, management, and space utilization of audio-visual services.

## F. Other Considerations

### 1. Special Instructions

Cross-reference the following facility categories: Photo Lab, CATCD 13135; Information Systems Facility, CATCD 13115; and Training Aids Center, CATCD 14129.

### 2. Exceptions

None.

**3. References**

Information Systems Facilities (ISF), Standard Design	MAY 2013
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	1-MAR-05
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	30-JUL-04

**4. See Also**

13120	Communications Center
13131	Information Processing Center
13135	Photo Lab
13140	Information Systems Processing Center
13160	Transmitter Building
13170	Receiver Building
13181	Terminal Equipment Building



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building housing the necessary electronic equipment for receiving and transmitting satellite signals. This building is separate and distinct from other facilities associated with microwave or cable emanations.

***Note:** This facility is an unoccupied building that houses equipment that the user manages from a remote location.*

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO/G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

### 5. Functional Areas

Table 13181-1 lists the functional areas by type and adequacy requirements for the terminal equipment building.

Table 13181-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Equipment Room	Mission	A
Telephone Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

Proponent:

- CIO, G-6

COS:

- Norfolk

Complex:

- None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category when terminal equipment is located away from occupied buildings for operational reasons.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. Base the requirement on the size and quantity of equipment.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

This facility category is generally planned and programmed with CATCD 13115 (Information Systems Facility). This category code is generally used for inventory purposes only.

### 3. Assigning Space

#### a. Guidance

When assigning an existing building, assign the NUA of that building for the required NSF for each functional area in this category. Assign this space to the director of information management, or to the service provider.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

The mission requires this facility category to function as a whole.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

## 2. Programming Units

There are no standard sizes for Terminal Equipment Buildings. Contact the US Army Information Systems Engineering Command when planning a Terminal Equipment Building.

Programming UM:

- GSF

## E. Land Use/Site Considerations

### 1. Land Use Considerations

As needed to support other facilities.

### 2. Site Planning Considerations

Consider antennae or receivers in the area.

## F. Other Considerations

### 1. Special Instructions

Refer to category code 13115 (Information Systems Facility).

### 2. Exceptions

None.

### 3. References

Information Systems Facilities (ISF), Standard Design	MAY 2013
	1-MAR-05
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	
	30-JUL-04
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	

### 4. See Also

13120	Communications Center
13131	Information Processing Center
13140	Information Systems Processing Center
13160	Transmitter Building
13170	Receiver Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for printing government publications and other official documents.

### 2. Proponent and Center of Standardization

#### a. Proponent

CIO / G-6

#### b. Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

Calculate NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

#### Proponent:

- CIO, G-6

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other = None

## 5. Functional Areas

Table 13185-1 lists the functional areas by type and adequacy requirements in the Print Plant Building.

Table 13185-1 Functional Areas and Adequacy Requirements		
Functional Area	• Type	Presence
Private Offices (See Appendix A for criteria)	• General	• A
• Open Offices	• General	• A
• Reception	• General	• A
• Work Area/Printing Press Area	• Mission	• A
• Break Room	• General	• A
• Storage	• General	• A
• Lobby	• Support	• A
• Printing Supplies Storage	• Mission	• A
• Public Restroom	• Support	• A
• Janitor's Closet	• Support	• A
• Electrical	• Support	• A
• Mechanical	• Support	• A
• <b>Presence Requirements for Adequacy:</b>		
• A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for organizations that have a printing mission based on the type, size of equipment, and volume of printing.

The presence of an organization with a printing mission triggers the requirement.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

Planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

If new requirements occur, base requirement calculations on the size and type of equipment, circulation lanes, and functional relationships necessary to support the process. Determine the necessary information by interview.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the director of information management, or to the service provider.

Provide a loading dock for delivery of paper and supplies.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

### 2. Programming Units

Do not program this facility category without prior approval from IMCOM.

Programming UM:

- SF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is compatible with many land uses, except Airfield and Residential.

### 2. Site Planning Considerations

Provide POV parking for 100 percent of the authorized workforce plus two spaces for customer parking.

**F. Other Considerations****1. Special Instructions**

Refer to facility category 13115, Information Systems Facility.

**2. Exceptions**

None.

**3. References**

Information Systems Facilities (ISF), Standard Design	MAY 2013
	1-MAR-05
Standard Definitive 131-20-01: DA Standard Design Package for Information Systems Facility	
	30-JUL-04
TI 800-01 – Technical Instruction, Design Criteria: Appendix A	

**4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A metallic aerial, antenna, or communications tower for sending and receiving electromagnetic waves (including telephone transmissions). A transmitting antenna converts electrical signals from a transmitter into an electromagnetic wave, which it then emanates. A receiving antenna intercepts an electromagnetic wave and converts it back into electrical signals that can be decoded by a receiver. Central television, pole and wire, and switching station antennas, as well as satellite dishes and communications towers, are included within this CATCD. May be used in conjunction with Terminal Equipment Building (13181) when both the building and tower/antenna exist.

**Proponent:**

- CIO, G-6

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Planning Level:**

- Other-than-unit

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 131xx, 132xx, and 135xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A structure that houses the communications channel (wires, cables, and so on) connecting the individual components of a communications system.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 131xx, 132xx, and 135xx for related facility category codes.

#### Proponent:

- CIO, G-6

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An air terminal building that, by the use of communications systems, visual signaling, and other equipment, provides air traffic control service to aircraft at airfields or heliports.

***Note:** If the Flight Control Tower is in the same building as the Airfield Operations Building, CATCD 14110, report the respective areas by category.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

Mobile District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

A Flight Control Tower, or an Air Traffic Control Tower (ATCT) is part of the Airfield Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Capacity: PN

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = PN

## 5. Functional Areas

Table 13310-1 lists functional areas by type and adequacy requirements for a Flight Control Tower.

Table 13310-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Tower Cab	Mission	A
Heating, Ventilating, Air Condition Room	Support	A
Upper Electronics Equipment Room	Mission	A
Lower Electronics Equipment Room	Mission	A
Training or Crew Briefing Room	Mission	A
Chief Controller Office	General	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow one Flight Control Tower per Army airfield supported by an air traffic control (ATC) staff when there is a requirement for a runway. The basis of calculation is the number of personnel and the amount of equipment supported by the building.

### 2. Programmatic Application

RPLANS sets allowances equal to assets if the installation has an allowance for an Airfield Operations Building (14110). If 14110 generates no allowance, the allowance for 13310 also is zero.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The airfield mission triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Calculate a maximum of 2,800 GSF if any of the units stationed generate an allowance for either fixed wing or rotary wing aircraft parking (11310 or 11320) and the airfield has no existing asset. Coordinate with the Air Traffic Services Command (ATSCOM) when planning or programming facilities.

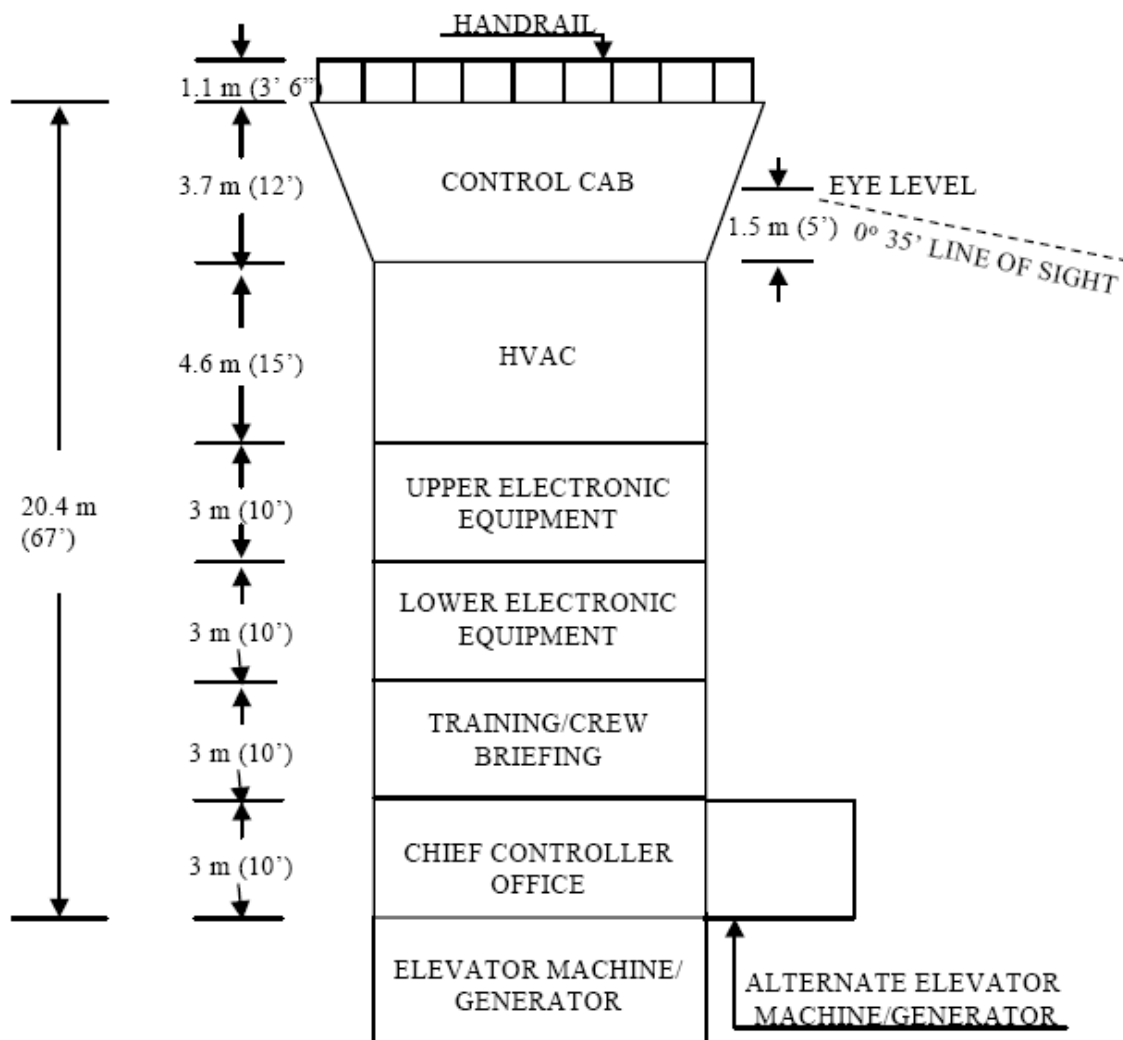
### 3. Assigning Space

#### a. Guidance

In stationing, provide no additional space for this FCG if the airfield has an existing asset. Assign to DPTM airfield operations or, if none, assign to the senior aviation unit commander.

Figure 13310-1 depicts a typical flight control tower.

**Figure 13310-1 Flight Control Tower**



#### b. Facility Utilization Metrics

The Army has not established space utilization metrics for this facility category code.

Missions require this facility category.

---

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility category.

### 2. Programming Units

The normal tower area is approximately 2,800 GSF. Coordinate with the ATSCOM when programming facilities.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is belongs at the Airfield. use.

### 2. Site Planning Considerations

See Chapter 4, Complexes.

An aviation engineering study will position the tower such that the controllers and main console in the control cab are parallel to the primary runway. Access to the tower should be possible without having to cross active aircraft areas. The tower should be located at least 1,000 feet from Terminal Very High Frequency Omnidirectional (TVOR), Airport Surveillance Radar (ASR), and Tactical Air Navigation (TACAN) facilities to prevent electrical interference.

The air traffic controllers operating this building must have a clear, unobstructed, and direct view to all operating positions of the airport traffic area; to the approach end of the primary instrument runway; and to all other active runways, taxiways, parking aprons, test pads, and similar areas. The tower should be located close to runway midpoints, and be equidistant from other airfield areas to the greatest extent possible.

The site must provide sufficient area to accommodate the initial building and any planned expansions, including vehicle parking, fuel storage tanks, and exterior transformers.

At minimum, the site must conform to ground system and obstruction clearance criteria for Category II Instrument Landing Operations (see Federal Aviation Administration Handbook [FAAH] 7110.65, Air Traffic Control, and AFI 11-230).

Site the Flight Control Tower where it will not detract from the performance of existing or planned electronic air navigational facilities [TVOR, ASR, and TACAN]. There are no criteria that establish minimum distances from electronic air navigational facilities. However, the facilities most likely affected are the TVOR, TACAN, and ASR. The ATCT should be no closer than 1,000 feet (300 meters) from these three facilities. Other electronic air navigation facilities (precision approach radar, ILS) are not as likely to be affected because their usage is more directed along the runway's major axis. However, take care to site the Flight Control Tower so that it does not conflict with proper operation of these facilities.

Provide sufficient depth perception of all surface areas to be controlled. This is the ability to differentiate the number and type of grouped aircraft and ground vehicles, and to observe their A18-1 movement and position relative to the airfield surface areas. Provide proper depth perception so that the controller's line of sight is perpendicular or oblique to the line established by aircraft and ground vehicle movement, and where the line of sight intersects the airfield surface at a vertical angle of 35 minutes or more.

## F. Other Considerations

### 1. Special Instructions

Coordinate all air traffic control planning with ATSCOM.

### 2. Exceptions

Siting should conform to airfield and airspace criteria. Coordinate with ATSCOM for waivers.

### 3. References

UFC 3-260-01 Airfield and Heliport Planning and Design Attachment 18 17-NOV-08

AR 95-2 Airspace, Airfields/Heliports, Flight Activities, Air Traffic Control, and Navigational Aids 16-OCT-08

### 4. See Also

13320 Navigation Building, Air  
14110 Airfield Operations Building  
14115 Weather Station

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses designated types of equipment systems for the exchange of information between airfields and aircraft. Also included are air traffic control facilities that provide approach control services to aircraft arriving, departing, and transiting the airspace controlled by the airfield or heliport. Also included are unmanned buildings containing regulators, relays, emergency generators, service feeder switches, and secondary control panels for lighting at Army airfields or heliports.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

Mobile District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

Navigation Building, Air is part of the Airfield Complex. Refer to Chapter 4 for more information on this complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SF

Secondary: None

FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Table 13320-1 lists functional area by type and adequacy requirements for a Navigation Building, Air.

Table 13320-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Equipment Room	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow a Navigation Building, Air at installations having airfield requirement for a runway.

### 2. Programmatic Application

RPLANS sets allowances equal to assets at installations with an allowance for an Airfield Operations Building, CATCD 14110.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The airfield mission triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Calculate requirements based on the size of the equipment that requires housing in the building.

Table 13320-2 lists standard sizes for a Navigation Building, Air.

Table 13320-2 Standard Navigation Buildings, Air	
Type	Size (GSF)
Equipment Room Only	156
Equipment Room with One Generator	344
Equipment Room with Two Generators	452
Equipment Room with Three Generators	560

### 3. Assigning Space

#### a. Guidance

Air navigation buildings typically are not inhabited; they contain automated navigational equipment.

#### b. Facility Utilization Metrics

The Army has not established space utilization metrics for this facility category code.



**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this facility category.

**2. Programming Units**

Program to requirements.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

This facility category is compatible with the Airfield land use.

**2. Site Planning Considerations**

Site buildings in this facility category based on the approved engineering study.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

UFC 3-260-01 Airfield and Heliport Planning and  
Design Attachment 18

17- NOV-08

**4. See Also**

14110 Airfield Operations Building  
14112 Aviation Unit Operations Building  
14115 Weather Station  
13310 Flight Control Tower

### 1. DA Pam 415-28 Description / Definition

Radio beacons are of three types: nondirectional, air navigation marker, and terminal very high frequency (VHF) omnirange (TVOR). The nondirectional beacon (NDB) transmits a signal from which the pilot of a suitably equipped aircraft can determine the aircraft's bearing to or from the facility. The NDB operates in the frequency range of 200 to 535.5 kilohertz, with a variable radio frequency output power of from 25 to 50 watts. An air navigation marker is part of an instrument landing system (ILS); it provides accurate radio fixes along the approach zone. The Category II ILS required by the Army includes inner, middle, and outer markers. A TVOR beacon transmits VHF signals 360 degrees. These signals are oriented from magnetic north to provide aircraft with course and bearing information. The TVOR periodically identifies itself, and may use voice recordings on an automatic terminal information service recorder. All of these facilities are normally small, unmanned structures.

#### Proponent:

- DCS, G-3

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for more information on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

A radar approach system operated by air traffic control personnel in support of instrument flight rules (IFR) activities. The approach may be conducted with airport surveillance radar (ASR) only, or with both ASR and precision approach radar. The facility normally consists of small, unmanned structures that house electronic equipment, and other equipment installed in the control tower.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- Airfield

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

The ILS consists of three main elements: a directional localizer, a glide slope indicator, and radio marker beacons. These three precision electronic elements provide aircraft with course alignment, descent, and range information, respectively, during IFR approaches to the runway under adverse weather conditions or poor visibility. The ILS normally consists of small, unmanned facilities that house electronic equipment.

In addition to DA Pam 415-28's description and definition, note that the real property facility excludes electronic equipment and antenna systems that form the integral, equipment-in-place (EIP) component of this navigation aid.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: EA

Secondary: None

FAC: EA

Report and program Instrument Landing System (ILS) as EA for each complete system composed of the bases for the electrical equipment that is not real property.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

One per instrument flight rules (IFR) Army airfield.  
See Airfield Complexes in Chapter 4.

### 2. Programmatic Application

RPLANS does not calculate allowances for this category code.

## C. Planning

### 1. Planning Level

The planning level for ILS is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

Guidelines in AR 95-2 state that requirements for an ILS may normally be justified if: (1) the site's IFR air traffic activity count is 6,000 or more operations per year, and (2) historical weather data supports the need for precision instrument approach. Additional considerations such as topography and the relative location and accessibility of nearby precision approaches must also be examined.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison/site.

#### b. Facility Utilization Metrics

The Army has not established facility utilization rates for this facility category code. Utilization is based on the number of IFR flight operations per day. The airfield commander or DPTM maintains data on utilization.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standard facilities for this category code. The equipment shall be capable of meeting Category II ILS flight check criteria as contained in TM 95-225.

Use this category code to plan and program the facilities that house and support the ILS equipment. Cross-reference category codes 13410, Radio Beacon, and 13430, Ground Control Approach System.

### **2. Programming Units**

Programming documents report ILS as each complete system. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Airfield Complexes in Chapter 4.

### **2. Site Planning Considerations**

See Airfield Complexes in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

Special justification should be submitted to the Office of the Chief of Engineers for Department of the Army approval.

Construction for foundations and equipment pads will be accomplished by the using service.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

**3. References**

UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
TM 95-225 U.S. Standard Flight Inspection Manual	01-OCT-05

**4. See Also**

See Chapter 4 for more on the Airfield Complex.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Navigational lighting consists of three types: rotating light beacons, flashing light beacons, and air navigation obstruction lighting. Rotating light beacons are the internationally recognized white and green flashing light signals that indicate an airfield.

In addition to DA Pam 415-28's description and definition, note that the facility normally consists of high-candlepower unmanned equipment operating red, or high-intensity white lights that identify hazards to aircraft operation. Flashing and steady-burning red obstruction lights may be used during darkness or periods of reduced daytime visibility. Flashing high-intensity white lights may be used for both daytime and nighttime conditions. The facility normally consists of unmanned piece(s) of equipment.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC: EA

Report and program navigational lighting as EA for each complete system. Do not report individual lights, beacons, etc.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 5. Functional Areas

None. This facility is a purchased equipment item. Construction of a supporting structure may be required. The function of this facility is to radiate a visible light signal.



## B. Criteria

### 1. Basis for Authorization and Calculation

Basis of authorization is the presence of an Army airfield. Provide a complete system at each Army airfield.

### 2. Programmatic Application

RPLANS does not generate allowances for this category code.

## C. Planning

### 1. Planning Level

The planning level for navigational lighting is other-than-unit. The installation is responsible for operation and maintenance.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

The general requirement is one rotating light beacon for each operational Army airfield. The requirement for flashing light beacons is one per heliport or rotary wing landing pad.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization rates for this facility category code. Utilization is based on the number of IFR flight operations per day. The airfield commander or DPTM maintains data on utilization and capacity.

## D. Programmable Increments

### 1. Standard Facilities

Navigational lighting systems are mission- and site-specific, and therefore do not fall under any Army design standards or standard designs.

## **2. Programming Units**

The Army does not have a minimum number or size of unit for this category code. Programming documents report navigational lighting as EA to make cost comparisons between projects. Design and construction become part of larger aviation projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See Airfield Complexes in Chapter 4.

### **2. Site Planning Considerations**

Generally, locate the airfield beacon between 750 feet (229 meters) and 5,000 feet (1,524 meters) from the control tower, positioned so that it is not in the line of sight between the control tower and the final approach to the runway. It may be mounted on an existing structure, such as a water tank.

Approach lighting system presents in planar view a configuration of lights located symmetrically about and along the extended imaginary centerline of the runway. The system originates at the threshold of the usable landing area, and extends out a distance of 1,400 feet. Condenser discharge lights will flash in sequence toward the threshold. When the condenser discharge lights are used, this system will be indicated as Medium-Intensity Approach Light System with Sequenced Flashers (MALSF). Normally, an approach lighting system will be installed only on the end of a runway most frequently used as the approach to the runway. Medium-intensity runway edge lights will be installed in support of nighttime VFR and nonprecision instrument approaches only.

## **F. Other Considerations**

### **1. Special Instructions**

See Airfield Complexes in Chapter 4.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### **2. Exceptions**

None.

### 3. References

AR 95-2 Airspace, Airfields / Heliports, Flight Activities, Air Traffic Control and Navigational Aids	10-APR-07
UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
TM 5-811-5 Army Aviation Lighting	13-DEC-91
TB 95-1 US Army Air Traffic Control and NAVAID Facility Standards	10-AUG-90

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure that provides a visual indication of surface wind direction at Army airfields, heliports, and helipads. The type and shape of these facilities includes wind socks, wind cones, and wind tees. The facility normally consists of an unmanned piece of equipment.

In addition to DA Pam 415-28 description and definition, note that only the supporting structure should be reported as real property.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA

Report and program wind-direction indicators as EA.

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization for Wind Direction Indicators is the presence of an operational Army airport, heliport, or rotary wing landing pad. Each Army airfield is authorized not less than one.

## 2. Programmatic Application

RPLANS does not generate an allowance for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study. The general requirement is for one lighted wind direction indicator at each operational Army airport, heliport, or rotary wing landing pad.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

A wind direction indicator is a required facility for an operational airfield, heliport, and helipad; it is 100 percent utilized for the operations in which it is required.

## D. Programmable Increments

### 1. Standard Facilities

This facility is a purchased equipment item. Construction of a supporting structure may be required.

### 2. Programming Units

Programming documents report wind direction indicators as EA. Design and construction may be part of a larger aviation project.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

## 2. Site Planning Considerations

Locate outside the clearance zones, in a conspicuous central airfield operations area where it will not be influenced by adjacent structures or aircraft turbulence, at least 400 feet from the centerline of the runway.

## F. Other Considerations

### 1. Special Instructions

The indicator shall normally be a lighted cone, commonly known as a wind sock; it is the standard general-purpose wind indicator.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

AR 95-2 Airspace, Airfields / Heliports, Flight Activities, Air Traffic Control and Navigational Aids	10-APR-07
UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08
TM 5-811-5 Army Aviation Lighting	13-DEC-91
TB 95-1 US Army Air Traffic Control and NAVAID Facility Standards	10-AUG-90

### 4. See Also

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

Underground cables that are components of major communications systems. Do not report minor assets such as individual facility connections to main systems. For aboveground lines, use 13511, Communication Lines, Above Ground; for marine lines, use 13520, Communication Lines, Marine.

**Proponent:**

- CIO, G-6

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = MI
- Secondary UM = None
- FAC UM = MI

### 4. See Also

See 131xx, 132xx, and 135xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Overhead and any other aboveground installed cables that are components of major communications systems. Do not report minor assets such as individual facility connections to main systems. For underground lines, use 13510, Communication Lines, Underground; for marine lines, use 13520, Communication Lines, Marine.

**Proponent:**

- CIO, G-6

**Complex:**

- None

**Units of Measure:**

- Primary UM = MI
- Secondary UM = None
- FAC UM = MI

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 131xx, 132xx, and 135xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

Marine and other underwater cables that are components of major communications systems. Do not report minor assets such as individual facility connections to main systems. For underground lines, use 13510, Communication Lines, Underground; for aboveground lines, use 13511, Communication Lines, Above Ground.

**Proponent:**

- CIO, G-6

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = MI
- Secondary UM = None
- FAC UM = MI

### 4. See Also

See 131xx, 132xx, and 135xx for related facility category codes.

**Planning Level:**

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

Lighting consisting of two configurations of lights, one that defines the lateral (side) limits of the runway, and another that defines the longitudinal threshold (end) limits of the runway. The lateral lights are called runway edge lighting; they emit white light. The longitudinal lights are called inboard and winged-out threshold lighting; each threshold fixture emits both red and green light. A medium-intensity system is approximately 45 watts, while a high-intensity system is about 200 watts.

### Proponent:

- DCS, G-3

### COS:

- Mobile

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### Complex:

- Airfield

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

## 4. See Also

See Chapter 4 for more on the Airfield Complex.  
See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A configuration of light bars located along the extended centerline of the runway. These bars are typically elevated and have multiple fixtures that emit white light to assist aircraft in approaching the end of the runway.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

**Complex:**

- Airfield

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A light system made up of red and white lights mounted on bars that are located near the landing end of the runway. The purpose of the visual approach slope indicator (VASI) is to visually assist pilots on the descent (slope) to the runway.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A perimeter system of yellow lights around the edge of the rotary wing landing/parking pad. It may also include other systems, such as a landing direction system (a series of yellow lights placed along the extended landing pad centerline), or an approach system (a series of white lights that extend out from the landing direction lights). Inset lights are a series of blue lights placed within the landing surface to aid depth perception. Landing pad floodlights are general illumination lights that are placed parallel to the normal approach.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

### 4. Units of Measure

Primary: LF  
Secondary: None  
FAC: LF

Report and program lighting in LF.

### 5. Functional Areas

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF
- Planning UM = LF

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow rotary wing parking pad lighting at each 11320, Rotary Wing Parking Apron, Paved.

## 2. Programmatic Application

None.

## C. Planning

### 1. Planning Level

The planning level for rotary wing parking pads is other-than-unit. The installation carries the responsibilities for operation and maintenance.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison/site.

#### b. Facility Utilization Metrics

Rotary wing parking pad lighting is a required facility for an operational heliport and helipad; it is 100 percent utilized for the operations in which it is required.

## D. Programmable Increments

### 1. Standard Facilities

Rotary wing parking pad lighting is mission- and site-specific, and therefore does not fall under any Army design standards or standard designs.

### 2. Programming Units

Programming documents report rotary wing parking pad lighting in LF. Design and construction become part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See Airfield Complexes in Chapter 4.

## 2. Site Planning Considerations

See Airfield Complexes in Chapter 4.

## F. Other Considerations

### 1. Special Instructions

Lighting will be provided for helipads to be used at night and during periods of poor visibility. Given the operational need for lighting, the only mandatory system is the perimeter lighting; other systems must be justified and approved by HQDA.

Follow setbacks and dimensions in reference materials.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

TM 5-811-5: Army Aviation Lighting	13-DEC-91
UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	(17-NOV-08)

### 4. See Also

See Chapter 4 for Airfield Complex.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A configuration of lighting fixtures that defines the lateral limits of aircraft movement along a taxiway. The configuration normally consists of a line of blue lights paralleling each side of the taxiway, plus yellow entrance and exit lights. Taxiing routes between rotary wing landing pads and apron areas (hover lanes) have lighting consisting of a single row of semiflush blue lights illuminating the centerline. The ends of centerlines may be marked with red limit lights.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-3

#### COS:

- None

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: LF  
Secondary: None  
FAC: LF

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

Report and program taxiway lighting in LF.

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the requirement to operate a 11110 Fixed Wing Runway, Paved; or a 11120 Rotary Wing Runway, Paved. The basis of calculation is the length of the taxiway.



## 2. Programmatic Application

RPLANS does not calculate allowances for this category code.

## C. Planning

### 1. Planning Level

The planning level for taxiway lighting is other-than-unit. The installation is responsible for operation and maintenance.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

Taxiway lighting is a required facility for an operational airfield, heliport, and helipad; it is 100 percent utilized for the operations in which it is required.

## D. Programmable Increments

### 1. Standard Facilities

Taxiway lighting is mission- and site-specific, and therefore does not fall under any Army design standards or standard designs.

### 2. Programming Units

Programming documents report taxiway lighting in LF, in order to make cost comparisons between projects. Design and construction become part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is associated with an Airfield Complex.

### 2. Site Planning Considerations

Follow setbacks and dimensions in reference materials.

## F. Other Considerations

### 1. Special Instructions

Lighting is authorized for all taxiways and taxiways used as hover lanes that are required to be used at night or during periods of poor visibility, except access taxiways to compass calibration pads and weapon systems calibration pads. The exterior limits of all apron taxi lanes will be lighted appropriately. The light intensity will be such as to provide adequate taxiing guidance for all meteorological conditions under which the system is to be used. Brightness control and entrance/exit signs may be provided when specifically authorized by Department of the Army.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 3. References

TM 5-811-5: Army Aviation Lighting	13-DEC-91
UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08

### 4. See Also

See Chapter 4 for more on Airfield Complex.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A configuration of blue lights that illuminate the outer edges of a holding apron.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3). Center of Standardization  
None

#### Proponent:

- DCS, G-3

#### COS:

- None

#### b. Center of Standardization

None.

### 3. Complex

See Chapter 4 for a discussion of the Airfield Complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: LF  
Secondary: None  
FAC: LF

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

Report, plan, and program holding apron lighting in LF. Plan holding apron lighting in LF based on the planned aircraft served.

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria provide for holding apron lighting at sites requiring one or more 11110, Fixed Wing Runway, Paved; or 11120, Rotary Wing Runway, Paved. Lighting is authorized for all holding aprons used at night or during periods of poor visibility.

### 2. Programmatic Application

RPLANS does not calculate allowances for this category code.

## C. Planning

### 1. Planning Level

The planning level for holding apron lighting is other-than-unit. The installation is responsible for maintenance.

**Planning Level:**

- Other-than-unit

### 2. Requirements Calculations

Airfield facilities require an aviation engineering study. Obtain requirements from the approved aviation study.

### 3. Assigning Space

#### a. Guidance

This facility is assigned to the garrison/site.

#### b. Facility Utilization Metrics

Holding apron lighting is a required facility for an operational airfield, heliport, and helipad; it is 100 percent utilized for the operations in which it is required.

## D. Programmable Increments

### 1. Standard Facilities

Holding apron lighting is mission- and site-specific, and therefore does not fall under any Army design standards or standard designs.

### 2. Programming Units

Programming documents report holding apron lighting in LF, in order to make cost comparisons between projects. Design and construction become part of larger aviation projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Airfield land use.

### 2. Site Planning Considerations

Follow setbacks and dimensions in reference materials.

## F. Other Considerations

### 1. Special Instructions

The planner should work closely with aviation operations personnel, the aviation safety officer, and the air traffic and airspace officer when planning this facility. The light intensity will be such as to provide adequate taxiing guidance for all meteorological conditions under which the system is to be used. Brightness control and entrance/exit signs may be provided when specifically authorized by Department of the Army.

The Omaha District is the Mandatory Center of Expertise for aviation pavements.

### 2. Exceptions

None.

### 2. References

TM 5-811-5: Army Aviation Lighting	13-DEC-91
UFC 3-260-01 Unified Facilities Criteria (UFC) Airfield and Heliport Planning and Design	17-NOV-08

### 3. See Also

See Chapter 4 for more on the Airfield Complex.

### 1. DA Pam 415-28 Description / Definition

Area or security lighting provided by permanently mounted floodlights with power outlets. The lights are normally located near the aircraft maintenance and parking areas adjacent to hangars, operations buildings, or other facilities along the hangar line for the purpose of conducting maintenance, service, and loading/unloading operations.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 3-260-01 Airfield and Heliport Planning and Design (11/17/2008)

#### Proponent:

- DCS, G-3

#### Complex:

- Airfield

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A tower or other building with a powerful light that is erected at the entrance of a port or at some important point along the coast to serve as a navigational aid.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 4-150-06 paragraph 5-7.1: Structures for supporting the aids (towers for lights or day beacons and moorings for buoys) shall be provided by or under the cognizance of Naval Facilities Engineering Command (NAVFAC). The U.S. Coast Guard (USCG) has specific jurisdiction over all aids to navigation in the continental United States and in all outlying territories and possessions. Refer to Code of Federal Regulations, Title 33, for information relating to establishing aids to navigation (12-DEC-01, 19-OCT-10)

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building housing designated types of ship navigational aid equipment, and generally including space for generator power.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See UFC 4-150-06 paragraph 5-7.1: Structures for supporting the aids (towers for lights or day beacons and moorings for buoys) shall be provided by or under the cognizance of Naval Facilities Engineering Command (NAVFAC). The U.S. Coast Guard (USCG) has specific jurisdiction over all aids to navigation in the continental United States and in all outlying territories and possessions. Refer to Code of Federal Regulations, Title 33, for information relating to establishing aids to navigation (12-DEC-01, 19-OCT-10)

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

Any structure marked by lights and/or distinctive shapes placed ashore or in shallow water as an aid to ship navigation.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**4. See Also**

See 137xx and 138xx for related facility category codes.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the flight operations and administrative functions of the airfield headquarters. This category includes passenger support facilities and is similar to a civilian airline terminal.

**Note:** Classify the Air Force Weather Station as facility category 14115 to distinguish it from the airfield operations portion of the building.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3).

#### Center of Standardization

Mobile District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

An Airfield Operations Building is part of the Airfield Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: GSF

Secondary: None

FAC UM: NSF

Capacity: PN Office capacity of general functional areas

Calculate capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = PN

## 5. Functional Areas

Table 14110-1 lists functional areas by type and adequacy requirements for an Airfield Operations Building.

Table 14110-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Office See Appendix A for Criteria	General	A
Open Offices	General	A
Files	General	A
Printer Copier	General	A
Storage	General	A
Flight Planning	Mission	A
Flight Personnel Equipment and Support	Mission	A
Flight Surgeon Facilities <sup>1</sup>	Mission	A
Passenger Support Facilities	Mission	A
In-Flight Kitchen or Snack Bar	Mission	B
Briefing/Conference Room <sup>2</sup>	General	A
Public Restrooms	Support	A
<b>Presence Requirements for adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
1- Flight surgeon facilities only at facilities with 30 or more Army aviators assigned.		
2- Briefing/conference room may also serve as a personnel training or classroom.		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow an Airfield Operations Building for installations with a requirement for a runway. Basis is determined per building occupant by number of personnel assigned office space and personnel authorizations, and will be separately justified by operational requirement data. The criteria allow each airfield or heliport one Airfield Operations Building.

### 2. Programmatic Application

RPLANS assigns an allowance of 5,300 GSF for CATCD 14110 for the Airfield Operations Building to installations with an allowance for a runway. RPLANS states that this is suitable for supporting a division and up to 75 miscellaneous aircraft. RPLANS effective date is APR-2003.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The airfield for the aviation mission of the installation triggers the requirement.

#### Planning Level

- Other-than-unit

### 2. Requirements Calculations

Calculate requirements based on the number of people that require office space to perform their assigned duties. Use Appendix A to determine general functional area requirements. Personnel requiring locker space but not assigned office space will not be included as building occupants in computing net floor area. Include special requirements, such as Air Weather Service (AWS) and the flight surgeon, when provided as direct support at the airfield, without regard to the number of personnel assigned to the special unit.

If an Air Weather Station (AWS) is within the Airfield Operations Building, it will receive NLT 200 NSF. This is in addition to the NLT 1,500 NSF authorized the AWS in the Airfield Operations Building for long-range weather forecasting.

When 30 or more Army aviators are assigned, a flight surgeon is authorized to care for personnel on flight status and their dependents. Justify on an individual basis the requirements for flight surgeon facilities at variance with those listed in Table 14110-2.

Table 14110-2 Flight Surgeon Facilities	
Assigned Aircraft	Size (NUA)
NMT 25	620
26 – 50	800
51 – 199	1,160
Greater than 200	Separate Flight Surgeon Dispensary Facility

The smallest Flight Surgeon Facility of 620 NSF includes an office, examining room, eye lane, audiometric booth, toilet, records storage, and waiting room. The Flight Surgeon Facility of 1,160 NSF space will also include a minor surgery laboratory, pharmacy, ENT room, and storage space.

Calculate space for a waiting area for passengers using the criteria for reception/waiting areas in Appendix A. Installations with a senior mission commander of general officer grade, and installations that have frequent visits from senior commanders, congressional delegations or personnel authorized close protection may provide a VIP lounge to provide privacy for senior visitors awaiting transportation.

Because differences in missions and requirements for facility commanders, the component for an Airfield Operations Building may vary considerably, even at Army airfields of comparable size and/or activity. The number of personnel assigned office space and personnel authorizations will be documented, and space requirements calculated based on not more than 130 NSF per person. Special-purpose rooms such as conference, communications, transient waiting, plotting, and briefing rooms are not included in 130 NSF per building occupant, and will be separately justified by operational requirement data.

As a general guideline, the approximate range of airfield buildings exclusive of AWS and flight surgeon space is:

- Airfields with fewer than 25 aircraft: up 2,200 GSF.
- Airfields with 25 to 50 aircraft: up to 3,000 GSF.
- At airfields supporting a division and up to 75 miscellaneous aircraft: up to 5,300 GSF is authorized.
- An airfield manned by approximately 60 personnel that provides interim facilities for Air Force air operations during airlifts and hosts a medical evacuation team: between 11,000 GSF and 20,000 GSF.

### **3. Assigning Space**

#### **a. Guidance**

The airfield operations center normally includes all the functions of flight planning, flight personnel equipment and support rooms, passenger support facilities, and the operations and weather detachments. Also included, unless otherwise provided in other permanent facilities, are an in-flight kitchen and/or snack bar, and a conference and/or briefing room, which may also serve as a personnel training room or classroom. Consider existing permanent buildings when assigning space.

The airfield operations center may be a separate building or combined with the flight control tower and/or fire and rescue station. It may also be located in the administrative space of a hangar. When attributing the building's assets to category codes, delineate each section by its distinct category code.

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

The Army has not established space utilization metrics for this facility category code. See Chapter 5 and Appendix A.

### **D. Programmable Increments**

#### **1. Standard Facilities**

There are no standards or Standard Designs for this facility category.

#### **2. Programming Units**

Program to requirements.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

This facility category is compatible with the airfield land use.

#### **2. Site Planning Considerations**

The Airfield Operations Building may be in a separate building, combined with the flight control tower, or in an administrative space within the hangar. If located within a separate building, the building should have access to the flightline.

### **F. Other Considerations**

#### **1. Special Instructions**

See UFC 3-260-01 for requirements for notifying the Federal Aviation Administration for construction or alterations at airfields.

When this building includes the tower, AWS, navigation aids, or fire and rescue space, delineate the building by category code for each function code present, even when the space occupied by the function is less than 1,000 NSF.

Contact the Center of Standardization, Mobile District.

## **2. Exceptions**

None.

## **3. References**

UFC 3-260-01 Airfield and Heliport

17- NOV-08

## **4. See Also**

14112	Aviation Unit Operations Building
14115	Weather Station
13310	Flight Control Tower
13320	Navigation Building, Air
73010	Fire Station

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building, or space within a facility, used by aviation units for administration and training functions. It is similar to headquarters or administration and supply buildings; however, it is normally located at an airfield.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

Mobile District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

An Aviation Unit Operations Building is part of the Aviation Unit Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: GSF

Secondary: None

FAC UM: GSF

Planning: NSF

Capacity: PN Office capacity of general functional areas

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- CAP = PN



## 5. Functional Areas

Table 14112-1 lists functional areas by type and adequacy requirements in the Aviation Unit Operations Building.

Table 14112-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	A
Flight Planning Area	Mission	A
Aviation Life Support Equipment (ALSE) Storage Area	Mission	A
Conference Room	General	A
Lockers	Mission	A
Men's Restroom	Support	A
Women's Restroom	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is authorized pilots with an identified flying mission. The basis for calculation is the number of pilots plus common areas.

### 2. Programmatic Application

RPLANS identifies aviation administrative personnel and pilots in aviation units. RPLANS calculates the allowance by multiplying the number of aviation administrative personnel by 162 GSF per person, and multiplies the number of pilots (less those counted in aviation administration and maintenance test flight evaluators) by 60 GSF per pilot. The sum of these two is the CATCD allowances.

## C. Planning

### 1. Planning Level

The planning level is unit. An aviation brigade receives an overall allowance for Aviation Unit Operations Building. This allowance is the result of the summation of the allowance for each individual flying company. Each flying company should have space in CATCD 14112.

#### Planning Level

- Unit

## 2. Requirements Calculations

The Standard Design for assault, attack or cavalry battalions (AAC) and general support aviation battalion (GSAB) includes this space in the total 21110 (maintenance hangar) footprint. For units assigned to Standard Design hangar complexes, there is no separate requirement for CATCD 14112.

When a Standard Design hangar is not available, provide space consistent with Aircraft Admin Core in the appropriate Standard Design, which is summarized below.

Provide instructor pilots, safety officers, standardization officers, and TAC officers open office space in accordance with Appendix A.

**Flight Planning:** Provide not less than (NLT) 1,000 NSF (GSAB) and not more than (NMT) 1,600 NSF (AAC) for battalion-level shared space. Calculate tabletop planning workstations (two per company) of not less than 48 NUA per station, with power and NIPR drops. Calculate one 6-foot-by-8-foot administration workstation. Provide space for a 6-foot-by-6-foot map counter, and 30 linear feet of counter space for flight planning and coordination.

**Secure Planning Room:** Provide NLT 300 NSF. Calculate two 6-foot-by-6-foot administration workstations with secure voice and SIPRNET in a separate room.

**Flight Operations:** Provide NMT 800 NSF for a battalion-level shared space. Calculate at least one administration workstation per company (6 feet by 8 feet). Provide a customer service counter and a Standard Army Management Information System (STAMIS) drop.

**BN-Level Pilot Briefing Room:** Calculate space to accommodate briefing 120 (GSAB) to 150 (AAC) people, using stackable seating.

**Aviation Operations Break Room:** Provide NMT 200 NSF with seating for 8-12 people at tables.

**Crew Chief Workroom:** Provide NLT 1,250 (AAC) and NMT 2,000 NSF (GSAB). This space is best provided near the maintenance shops, and need not be collocated with the remaining space in this category if space is available in a legacy hangar. Calculate space for a minimum 30 linear feet (LF) at bench height, and a 24-inch deep counter with whiteboard above, and with

Logistics STAMIS and power to accommodate 10 laptops. Calculate a 4-foot-by-8-foot bench-height worktable with metal surface, and locate it in the center of the room. Calculate space for eight VIDMARS and bench stock.

**Aviation Life Support Equipment (ALSE) Lockers:** Calculate dual-lock or pass-through ALSE lockers (approximately 2.5 cubic feet) for 105 percent of the authorized pilots and flight crewmembers, for storing helmets and flight vests. This is in addition to, and not in lieu of, lockers in the readiness bay of the company operations area.

**ALSE Shop:** Calculate, at minimum, a 6-foot customer service counter. Calculate space for one administration workstation. Calculate space for training (approximately 12 feet by 16 feet). Calculate separate space for a refrigerator, a washing machine, a dryer, and storage shelves. Calculate a secure area with: 1) two 8-foot workbenches with rubber top for inspection and maintenance; 2) floor-to-ceiling shelving for storage of ALSE and related equipment; 3) two 4-foot-by-8-foot nonporous work tables free from rough or abrasive materials; and 4) four lockers.

**Maintenance Test Pilots:** These personnel will normally work in the hangar. Locate this in an adjunct building only if space is not available in the hangar. If this function cannot be included in the hangar, calculate space for one administration workstation for each platoon.

### 3. Assigning Space

#### a. Guidance

Aviation Unit Operation Buildings must have access to the flightline. Assign these facilities near other buildings in support of the aviation battalion. When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

**Flight Planning:** Provide wall-mounted sliding panels for display of GFCI planning maps. Provide whiteboards. Provide shelving for manuals. Assign this space adjacent to the briefing room and flight operations.

**Flight Operations:** Provide a customer service counter restricting access to the administration workstation's (LAN/voice) one Class A phone. Provide one Logistics STAMIS drop at the service counter. Provide conduit(s) for antennas to the roof from one of the administrative workstations. Provide shelving for publications storage. Provide whiteboards and digital presentation capability. Provide secure storage for night vision goggles (40 per company). Assign adjacent to briefing room and flight planning room. Flightline view is preferable (CCTV camera would be an option).

**BN-Level Pilot Briefing Room:** Provide two ceiling-mounted projectors supports, one recessed ceiling-mounted screen, large whiteboards, and PA system. Provide storage space for chairs and tables. Provide voice/data drops. Provide a moveable lectern.

**Aviation Ops Break Room:** Provide phone. Provide BN-level shared break room with a small kitchen with microwave(s), refrigerator, and double sink. Provide TV cable drop and wall-mount for TV.

**Crew Chief Workroom:** Provide company-level shop adjacent to aircraft maintenance bay floor and platoon sergeant's office. Provide the means to secure two individual toolboxes (kits) per three 3 linear feet of counter.

**ALSE Lockers:** Locate immediately accessible to ALSE Shop.

**ALSE Shop:** Provide a utility support area for a fixed or portable vacuum source and low-pressure, high-volume compressed air (moisture and oil free). Locate adjacent to ALSE lockers.

#### **b. Facility Utilization Metrics**

For standard administrative space, calculate building utilization in terms of occupied space per person (PN), compared with the total personnel capacity. Base utilization on the total usable personnel spaces, including special and storage spaces that are included as General Functional Areas in Appendix A.

The target utilization rate is between 85 and 100 percent of office space.

## D. Programmable Increments

### 1. Standard Facilities

Standard facility sizes depend on the type of aviation battalion. Table 14112-2 lists Aviation Unit Operations Facility sizes based on the respective battalion Standard Design.

Table 14112-2 Aviation Unit Operations Facility Sizes	
Brigade Type	Facility Size (NSF)
GSAB	8,740
AAC	9,544

### 2. Programming Units

This facility category is included in the Standard Design for Aircraft Maintenance Hangar, CATCD 21110. Program this facility as a standalone only when providing infill for existing hangars. Base the scope on requirements as developed above.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is compatible with the airfield land use.

### 2. Site Planning Considerations

Accomplish site planning for Aviation Unit Operations when site planning the Aviation Unit Complex. Locate standalone buildings adjacent to the ramp area, with access to the flightline.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Mobile District

### 2. Exceptions

None.

### 3. References

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	23-JUN-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	30-SEP-10
UFC 3-260-1 Airfield And Heliport Planning And Design	17-NOV-08

### 4. See Also

21110 Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building housing operations responsible for the regulation of access and/or egress to designated areas or facilities. Primary uses of these facilities are entrance control posts, guard towers and watchtowers, sentry stations, and access/egress to Army Materiel Command (AMC) production/research, development, test, and evaluation (RDT&E) facilities. Such facilities provide for observation and control of incoming and outgoing traffic, protection of security personnel from the elements, and provide an area in which to conduct personnel identification and visitor control. This CATCD is for buildings (enclosed); for open-sided structures use 14179, Overhead Protection.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

This facility category is managed by the Omaha Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Omaha

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF

Secondary: None

FAC UM: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Refer to Table 14113-1 for Functional Areas.

Table 14113-1 Functional Areas and Adequacy Requirements			
Functional Area		Type	Presence
Visiting Processing		Mission	A
	Vestibule	Mission	A
	Waiting	Mission	A
	Processing	General	A
	Break Room	General	A
	Office	Mission	A
	Provost Marshal/Military Police	Mission	A
ID Check Area Canopy		Mission	A
ID Check Guard Booth		Mission	A
Search Area Shelter		Mission	A
Truck Search Area Canopy		Mission	A
Passenger Vehicle Search Area Canopy		Mission	A
Command and Control		Mission	A
Latrine		Mission	A
Inside Storage		Mission	A
Outside Storage		Support	A
Electrical/Communications Room		Support	A
Pedestrian ID Check		Mission	A
Miscellaneous Functional Elements The following items may be included:			A
	Janitor	Support	A
	Recycle	Support	A
	Standalone Storage Building	Support	A
Overwatch Position		Support	A
	Overwatch Building	Support	A
	Overwatch Pad	Support	A
<b>Presence Requirements for Adequacy:</b>			
A - Required, Collocated			



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility for all Army installations; National Guard camps; Arlington Hall and Army Reserve camps; Army Reserve training centers and Army National Guard sites where movement of personnel or vehicles is from outside the cantonment area, and where a U.S. Army Active installation cantonment area can be accessed from the reserve center; all Army-controlled joint base operations and ACP projects funded by the Army on joint bases controlled by others; and Active Army installation access points between cantonment and noncantonment areas where adjacent noncantonment areas can be accessed by nonvetted personnel. This CATCD is for both CONUS and OCONUS ACPs.

The Army has not established planning criteria for this facility category and does not calculate allowances for it in WebRPLANS.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 1. Standard Facilities

See the Army standard for access control points (ACPs) dated 13 April 2012. The only functions that cannot be combined with other functions are the vehicle ID check and vehicle ID check guard booths.

### 2. Programming Units

DA ACP classifications are: (a) Primary, (b) Secondary, (c) Limited Use, and (d) Pedestrian. Primary and Secondary ACPs can accommodate privately owned vehicles (POVs), commercial vehicles (trucks), pedestrians, bicycles or any combination thereof. Primary and Secondary ACPs provide the means to defeat a vehicular and/or pedestrian threat via permanent measures defined in the Army Standard (AS) for access control points (ACPs) dated 13 April 2012. Limited Use ACPs provide means to defeat vehicular and/or pedestrian threats via temporary or permanent

measures. A Pedestrian ACP may be part of an ACP that accommodates vehicles, or it may stand alone.

## **D. Land Use and Site Planning Considerations**

### **1. Utilities**

Utility conflicts are not a justification for modification of the DOD active vehicle barrier system.

### **2. Drainage**

Drainage conflicts are not a justification for modification of “as tested” active vehicle barrier system(s).

### **3. Sight Distance**

Site distance will conform to the American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide. Sight distance is for crest/sag curves and view when lane obstructions are present. OCONUS locations will conform to host-nation criteria. If no equivalent host-nation criterion exists, the AASHTO Roadside Design Guide shall be utilized.

### **4. Roadside Safety/Clear Zones**

Many active vehicle barrier systems include components that lie adjacent to the roadway. These components will be evaluated for their impact on driver sight distance.

## **E. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Omaha District for the standard for Access Control Buildings.

### **2. Exceptions**

Waivers to the Army ACP Standard Design require a COS position statement and approval by HQ USACE.

### **3. References**

DOA ACSIM Memorandum Subject: Army Standard for Access Control Points	13-APR-12
Army Access Control Points (ACPs) Standard Design	MAY 2013

**4. See Also**

14179 Overhead Protection

87210 Fencing & Walls

87250 Gate

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses command, operational, and administrative functions assigned to the U.S. Army Criminal Investigation Command (CIDC). The CIDC conducts investigations related to felony crimes committed against the U.S. Army. The facility may be occupied by a local branch office, resident agency, field office, and/or district HQ. CIDC units at battalion level and below should occupy this facility. CIDC units at brigade, region, and higher levels should occupy 14182, Brigade Headquarters Building, or 61050, Administrative Building, General Purpose. The CIDC has operational ties to the provost marshal, staff judge advocate, and civilian law enforcement agencies.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- Norfolk

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF

Secondary: None

FAC UM: SF

Planning: NSF

Other: NUA: Total Net Usable Area of general functional areas

The primary unit of measure for this facility category is SF.

Calculate the NUA for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Other UM = NUA

## 5. Functional Areas

Table 14114-1 lists functional areas by type for a CIDC Field Operations Building. See the functional adequacy matrix following this facility category discussion.

Table 14114-1 Functional Areas and Type	
Functional Area	Type
Evidence Repository	Mission
Photo ID and Fingerprinting Room	Mission
Interview Rooms	Mission
Drug Suppression Team Room	Mission
Vehicle Processing	Mission
TOE Storage	Mission
Arms Room	Mission
Suspect Waiting	Mission
Duty Agent Room	Mission
Suspect Observation Room	Mission
Polygraph Suite	Mission
Criminal Intelligence Center	Mission
NBC Equipment Room	Mission
Private Offices	General
Open Offices	General
Visitor Waiting	General
Administration/Central File	General
Multipurpose Lounge/Break Room	General
Storage Room	General
Public Reception	General
Conference Rooms	General
Janitor Closet	Support
Public Restrooms	Support
Public Showers	Support
Electrical Room	Support
Mechanical Room	Support
Telecommunications Room	Support
AV Closet	Support
Vestibule	Support
Access Control	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize a CIDC Field Operations Building for field offices and for the CIDC Battalion HQ facility.

The qualifying attribute occurs when Component 1 CIDC personnel are present.

The basis for calculation is the number of personnel assigned to the field office or battalion HQ. The Norfolk District Center of Standardization maintains the authorized size by Standard Design for CIDC offices.

### 2. Programmatic Application

RPLANS identifies UICs for Component 1 TOEs and TDAs for CIDC field offices and battalions at base level for active component installations, and at site level for ARNG and USAR.

RPLANS identifies a count of the authorized strength of military and U.S. direct hires that are within the CIDC. It determines allowances by functional area using step function tables and sums the functional area allowances to obtain the total allowance.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level

- Unit

### 2. Requirements Calculations

The U.S. Army CIDC mission is to manage, recruit, organize, and train personnel to conduct investigations connected to felony crimes committed against the U.S. Army. Normally, USACIDC resident agency offices carry out this mission, which provides criminal investigative support to Army commanders and installations within a specified geographic area.

Include staff permanently assigned to work in the building from other activities, such as the drug suppression team (DST) or other military police (MP) support personnel, in the staff size.

In addition, the requirements depend on what function the CIDC is performing at the specified location. Typically, there are CIDC Battalion Offices and CIDC Resident Agency Offices. The Standard Design for such offices is classified as Field Offices, with the number of personnel being the overriding factor for the size of the facility. There are three definitive Field Operations building types: 5-9 resident agents, 10-15 resident agents, and 16-24 resident agents. Resident Agency Offices are usually located at each military community, and provide most of the investigative support of felony crimes in the area of jurisdiction. An additional Standard Design is for the CIDC battalion headquarters. This is unlike battalion HQ CATCODE 14183, because it incorporates not only company operations functions and an arms vault, but also the full suite of investigative functions for training purposes and for field office overflow.

There is currently no Army standard for the CIDC facilities. Table 14114-2 shows the NUA required for each of the functional areas in a CIDC facility. Small facilities support 5 to 9 agents. The medium facility supports 10 to 15 agents. A larger facility supports more than 16 agents. The column NSF/NLT identifies the minimum for existing facilities when determining the requirement, and the column for the field offices will be used for programming because it identifies the space requirements from the Army Standard Designs. For existing facilities, identify by interview which functional areas the CIDC requires.

Table 14114-2 CIDC Space Requirements by Functional Area			
Area	Type	Occupancy NSF/NLT	BN HQ NSF
Administration/OPS	General	1-2 Full time and 2-4 part time	N/A
Special Agent In Charge Office	General	180	
Special Agent	General	150	
Drug Suppression Team	Mission	150	
Law Enforcement Liaison	General		160 NSF
Team Rooms	Mission	150	
Evidence Custodian	Mission	150	

Table 14114-2 CIDC Space Requirements by Functional Area

Area	Type	Occupancy NSF/NLT	BN HQ NSF
Evidence Depository	Mission	395	271
Evidence Processing	Mission	145	148
Arms	Mission	100	100
Vehicle Processing	Mission	609	N/A
Training Room	General	140	
Storage	General	96	711; includes S-1, S-2/3, S-4 and S- 6
Secure Storage	General	150	152
Electrical Room	Support	140	140
Mechanical Room	Support	410	570
TOE Storage	Mission	260	290
Commander	General	N/A	185 BN; 140 Company
Tech Support	General	110	127
Executive Officer	General	N/A	151
Command Sergeant Major	General	N/A	150
First Sergeant	General	N/A	100
S-1 Officer, SR HR SGT	General	110	330, 2 private offices
S-1 Open Area; HR SPECs, HR SGT, Para Legal, Budget Tech	General	96	885
Message Center	General	77	77
Classroom	General	N/A	1,109
CID Ops Officer, NCO,	General	110	811, 7 private



Table 14114-2 CIDC Space Requirements by Functional Area

Area	Type	Occupancy NSF/NLT	BN HQ NSF
LOG Security, Forensics, Criminal Intel, Supervisor Criminal Intel, CBRN			offices
S-2/S-3	General	188	190
S-2/S-3 Open Area; Criminal Intel	General	96	1,206, 2 areas; 1 Criminal Intel, 1 Ops
S-4 SR MGR, Supply MGR, SR Maintenance Supervisor	General	110	345, 3 offices
S-4 Open Area	General	96	452
S-6 Officer, Section Chief	General	110	231, 2 offices
S-6 Open Area, LAN MGR, LAN and Signal Chief	General	96	442
Chaplain and Chaplain Assistant	General	110	210, 2 offices
COF Open Area; HR, Supply, Motor Armorer, Parts personnel	General	96	943
Visitor Waiting	General	150	217
Vestibule Visitor Entrance	Support	150	113
Multipurpose Lounge	General	400	
Women's Restroom	Support	50	180
Shower	Support	55	168; 84 each Men & Women
Janitor's Closet	Support	30	38
Men's Restroom	Support	135	180

Table 14114-2 CIDC Space Requirements by Functional Area

Area	Type	Occupancy NSF/NLT	BN HQ NSF
Polygraph Exam	Mission	100	115
Polygraph Office	Mission	100	257, 2 offices
Observation	Mission	80	80
Suspect Toilet	Support	55	N/A
Suspect Waiting	Mission	140	
CIC	Mission	125	
Photo ID	Mission	130	N/A
Duty Agent	Mission	115	77
Plans/Training/Operations	General	N/A	340
Conference Room	General	400	368
Small Interview Room	Mission	150	
Large Interview Room	Mission	180	
Communications Room	Support	65	85

The CIDC Field Operations Building as an operational facility is different from typical Army administrative offices in that there are five distinct zones of activity within the facility. These require a range of privacy and security levels as follows:

- Zone A – Public, Unrestricted
- Zone B – Command, Private
- Zone C – Administration, Semi-Restricted
- Zone D – Investigative Support, Restricted
- Zone E – Investigation, Private

Table 14114-3 shows the functional areas by zone for a CIDC facility.

Table 14114-3 CIDC Functional Areas by Zone		
Zone	Mission Functional Areas	General Functional Areas
Zone A		Public Reception, Visitor Waiting Area
Zone B		Private Offices
Zone C		Open Offices, Private Offices, Administration/Central File, Multi-Purpose Lounge/Break Room, Storage Room, Conference
Zone	Duty Agent Room, Arms Room, Suspect Waiting & Observation Room, Photo ID & Fingerprinting Room, Interview Rooms, Polygraph Suite, CIC, NBC Equipment Room, TOE Storage, Vehicle Processing	
Zone E	Drug Suppression Team Room, Evidence Repository	Private Offices

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Nuclear, biological, and chemical (NBC) equipment rooms may not be required in all CIDC facilities. However, if required, locate the NBC equipment room near the arms room. Furthermore, the NBC equipment room, the arms room, and TOE storage should be collocated near the vehicle processing room.

If there are five or fewer special agents assigned at an installation, assign the CIDC personnel space necessary to perform mission-related duties in general-purpose administrative space, CATCD 61050, close to the office of the provost marshal and staff judge advocate.

#### b. Facility Utilization Metrics

For buildings built to current Standard Designs, the field operations facilities are properly utilized if the authorized strength is within the designated range for the facility size as shown in the programmable units section below.

## D. Programmable Increments

### 1. Standard Facilities

There are three standard sizes of CIDC field office facilities categorized by the number of special agents authorized at each location, and one Standard Design for a battalion headquarters facility. See the Standard Design floor plans for this facility category immediately following the functional adequacy matrix.

#### Programming UM:

- GSF

Use the DA Standard Design Package for CIDC Facilities, prepared by the Norfolk District Engineer Office, when developing designs for CIDC facilities.

### 2. Programming Units

CIDC Resident Agency Facilities designed for 5 to 9 special agents have a standard size of 10,508 GSF; those for 10 to 15 agents receive 11,472 GSF; and those with 16 or more agents receive 15,228 GSF. A Battalion HQ receives 16,381 GSF.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility category is appropriate in the professional/institutional land use.

### 2. Site Planning Considerations

CIDC buildings require special siting considerations. Locate CIDC buildings with easy access to the office of the provost marshal and staff judge advocate. Locate field offices at, or in close proximity to, the installation activity center. Siting in this manner has proven more secure than locating the field office in a remote area.

For new CIDC Field Operations Buildings, allow a minimum of 15 percent of the gross building size for setback areas.

Parking is required for all organizational vehicles assigned to the unit. If an exact vehicle count is unavailable, estimate organizational parking at one for every two special agents. Plan POV parking for 50 percent of the staff members. A secure, fenced parking area is required for all military and undercover vehicles.

## F. Other Considerations

### 1. Special Instructions

For new facilities, contact CIDC Field Operations Building's Center of Standardization: Norfolk District.

### 2. Exceptions

OCONUS Exceptions: Base planning for new facilities OCONUS on Table 14114-4, or Table 14114-5, as applicable.

Table 14114-4 OCONUS Resident Agencies			
Staff Size	GSF	NSF	Remarks
1 to 5	0	0	Provide Space in Police Station
6 to 12	1,000	600	
13 to 20	2,200	1,320	
More than 20	4,800	2,880	

Table 14114-5 OCONUS District HQ			
Staff Size	GSF	NSF	Remarks
10 to 19	6,688	4,013	HQ Staff Size
20 to 43	10,864	6,518	
More than 43	12,101	6,858	

### 3. References

Standard Design for Criminal Investigation Facilities	01-JAN-13
TI 800-01 Design Criteria	20-JUL-98

### 4. See Also

61050 Administrative Building, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the Representative Weather Observation Station (RWOS), U.S. Air Force Weather Service (AWS) operations at Army installations, and nautical weather services. RWOS is responsible for observing and disseminating current weather conditions to users at an airfield or heliport. AWS service includes observation, recording, reporting, forecasting, and advice to the Army on meteorological conditions. Weather services are also provided for nautical and sea traffic activities from these facilities. Weather stations are also frequently provided at RDT&E ranges and other related activities.

*Note: This facility category is usually collocated with facility category 14110. Classify the Air Force Weather Service as facility category 14115 to distinguish it from the Airfield Operations portion of the building.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-2 (DCS, G-2).

#### Center of Standardization

Mobile District of Standardization

#### Proponent:

- DCS, G-2

#### COS:

- Mobile

### 3. Complex

A Weather Station is part of the Airfield Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- Airfield

### 4. Units of Measure

Primary: SF

Secondary: None

FAC UM: SF

Calculate the capacity of general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Table 14115-1 lists the functional areas by type and adequacy requirements for a Weather Station.

Table 14115-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Equipment Room	Mission	A
Open Offices	General	A
Private Office (See Appendix A for Criteria)	General	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the presence of a direct support AWS detachment at an airfield. The normal basis of calculation is 200 GSF per detachment.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for 14115.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The aviation mission of the installation, with the presence of an AWS staff, triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The weather station requires 200 NSF for equipment in addition to the 1,500 NSF authorized for the AWS in the airfield operations building. When using existing facilities, calculate personnel requirements based on authorized strength using Appendix A. Calculate the requirement for equipment space using measurements for equipment and providing a circulation factor.

Calculate space for files, printers/copiers, breaks, and storage when this facility category is separate from the Airfield Operations Building (CATCD 14110). When collocating this activity with the Airfield Operations Building, adjust the requirement to account for shared common areas.

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign this space to the AWS personnel.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for the weather station.

### **2. Programming Units**

There is no minimum standard size; program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The weather station is part of an airfield.

### **2. Site Planning Considerations**

The weather station may be located within the control tower, the airfield operations building, or in a separate building.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Airfield and Heliport Planning and Design	17-NOV-2008
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**4. See Also**

14110     Airfield Operations Building  
14112     Aviation Unit Operations Building  
13320     Navigation Building, Air  
13310     Flight Control Tower  
73010     Fire Station

### 1. DA Pam 415-28 Description / Definition

A building used to perform laboratory work applying medical knowledge, including DNA testing, to answer questions of civil and/or criminal law and identification of human remains. This category includes DNA testing laboratories as well as operations center and laboratory facilities in which to conduct human remains identification and testing.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

141xx for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building that provides space for the storage of assembled missiles that are operationally ready, and for the assembly of missile warheads to missile fuel cells and engine systems prior to being made ready for operational use. This CATCD is for enclosed buildings; for open-sided structures, use 14179, Overhead Protection.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building including the building, kennels, and exam rooms used to house, care for, and train military working animals. Other areas, not measured in SF, that are generally associated with this facility are animal runs, exercise areas, and training areas

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3).

#### Proponent:

- DCS, G-3

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

The overall facility is measured in GSF while portions are designated in AR (animal run) and SY for exterior spaces dedicated to care and handling of the dogs.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Table 14126-1 lists the two buildings (connected by an overhead roof) and their major functional areas, along with the space allowed for each.

Table 14126-1 – Functional Areas and Adequacy Requirements			
Function	Requirement	NSF	NSM
<b>PERSONNEL BUILDING</b>			
<b>Administration</b>			
Kennel Master's Office	A	132	12.3
Trainer's and Plans NCO's Work Area (2 PN)	A	240	22.3
Handlers' Work Area (3 PN)	A	210	19.5
Controlled-Substance Storage	A	TBD	TBD
<b>Animal Care</b>			
Veterinary Treatment Room	A	255	23.7
Tack Room	A	108	10.0
Food Storage Room	A	96	8.9
<b>Personnel Support</b>			
Multipurpose Room	A	196	18.2
Toilet – Lockers – Shower	A	134	12.5
Mechanical – Electrical – Communications	A	72	6.7
<b>KENNEL BUILDING</b>			
<b>Military Working Dog (MWD) Spaces</b>			
Dog House	A	16	1.5
Indoor Run	A	80	7.4
Outdoor Run (Under roof)	A	80	7.4
<b>Personnel Working Areas</b>			
Dog Food Prep Area	A	112	10.4
Storage Area	A	64	5.9
Mechanical	A	48	4.4
<b>Presence Requirements for Adequacy:</b>			
A - Must be present and collocated			

## B. Criteria

### 1. Basis of Allowance

Units that train or perform operations with military working dogs receive an allowance for kennels.

### 2. Programmatic Application

RPLANS and FPS do not calculate allowances for this category code.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Plan this facility based on the MTOE of the assigned UIC.

Planning UM:

- NSF

### 3. Assigning Space

#### a. Guidance

Assign space to the unit whose mission includes training and using MWDs.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. While the percentage of occupancy can be calculated, there is not a threshold for justifying additional increments of kennel space. For existing facilities, compare “net required area” with available adequate area to determine utilization.

## D. Programmable Increments

### 1. Standard Facilities

A standard permanent kennel includes capacity for 4 to 18 dogs. A large permanent kennel accommodates 19 or more dogs and must be preapproved by higher headquarters. In all cases, design the kennel portion of the facility in modules of 2 ARs so that it can expand on the end as additional ARs are authorized and required.

Programming UM:

- GSF

### 2. Programming Units of Measure

Programming documents report in GSF, in order to facilitate cost comparisons between projects. Also report Animal Buildings in terms of AR to indicate the capacity of the kennel portion of the building. See Standard Facilities for minimum ARs.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Do not locate kennels near runways, taxiways, major roadways, small-arms ranges, or any other area where the time-weighted overall average sound pressure level for a 24-hour period exceeds 75 adjusted decibels. Conversely, do not site this facility near family housing areas, schools, hospitals, or any other function that might be disturbed by barking dogs.

While maintaining higher priority on the above guidance, wherever possible, build kennel facilities near existing MP activities.

### **2. Site Planning Considerations**

The entire complex should be surrounded (except for parking and garbage removal) by a heavy-duty, 8-foot-high chain-link fence with three strands of straight wire (no barbed) at the top to prevent an MWD from climbing or jumping out. A 10-foot (minimum) vehicle gate that can be padlocked is to be installed to allow for food deliveries to the kennel, and other access requirements.

The training area is surrounded by a fence and contains an obedience course as outlined in AFI 31-202. The actual kennel is usually a separate facility from the support functions.

An enclosed, 400-square-foot exterior storage building is required to store maintenance equipment, portable kennels, and obstacles.

Staff parking should be a paved parking lot large enough for eight POVs, three GOVs, two visitor vehicles, and one handicap parking space. Pave access drives to accommodate parking, exterior storage, food deliveries, emergency vehicles, and the transportation of MWDs.

Provide paved walks to all areas. When designing the site plan, give careful consideration to creating a one-way MWD traffic system to prevent confrontations between the MWDs, or situations that allow MWDs to meet head-on.

To gain the maximum psychological advantage of MWDs, and to protect the innocent or unwary trespasser, install signs identifying the MWD presence at site entrances and on primary access roads to sites where MWDs are used.

Warning signs will be posted on the exterior fencing and buildings of the MWD kennel and exercise area: “DANGER–OFF LIMITS–MILITARY DOG AREA.”

The sidewalk and gate locations should separate visitors from interacting with the MWDs. The actual site will determine whether visitor and staff parking should be combined or separated.

Generally speaking, the obedience course, break area and exercise area should be screened from each other as well as from outside the complex. The break area allows the MWDs to relieve themselves before and after entering and leaving the kennel and the obedience course.

## **F. Other Considerations**

### **1. Special Instructions**

There are three types of kennel areas: indoor kennels, outdoor kennels, and indoor/outdoor kennels. The preferred standard is the combination indoor/outdoor kennel; however, there are factors that must be taken into consideration when selecting the kennel type. Cost is always a consideration, but climate also influences the selection. In cold-weather climates, the benefit-to-cost ratio will drive the selection to an indoor kennel, while the opposite is true for hot-weather climates.

### **2. Exceptions**

None.

### **3. References**

AR 190-12: Military Working Dog Program	04-JUN-07
FM 3–19–17 Military Working Dogs Appendix B Kennel Construction	06-JUL-05
DA Pam 190-12: Military Working Dog Program	30-SEP-93
AFI 31-202 Military Working Dog Program	14-JUN-06

### **4. See Also**

73016 Police/MP Station



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that is used to fabricate, maintain, store, and issue training devices including the Multiple Integrated Laser Engagement System (MILES) and VI aids. It also provides administrative space for the training support division management staff. Functions of the Photo Lab (13135), film library, and equipment exchange are commonly collocated with this facility.

This facility is known as a Training Support Center in the COS Standard Design.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Huntsville

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in GSF.

Primary: SF  
 Secondary: None  
 FAC UM: SF  
 Planning: SF  
 Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other : None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14129-1 lists the functional areas by type and adequacy requirements for a Training Aids Center.

Table 14129-1: Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Offices (See Appendix A for criteria)	General	A
Open Offices	General	A
Arms Vault	Mission	A
Training Space	Mission	A
Device Maintenance and Repair Area	Mission	A
Device Fabrication	Mission	A
Photo Lab	Mission	D
Customer Waiting Area	General	A
Warehouse/Storage Area	Mission	A
Break/Vending Area	General	A
Shipping/Receiving Loading Dock	Mission	A
Men's Restroom	Support	A
Women's Restroom	Support	A
Janitor's Closet	Support	A
Mechanical Room	Support	A
Electrical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations that support a training mission.

### 2. Programmatic Application

RPLANS assigns space based on an algorithm using regression analysis of the ASIP and HQIFS assets data for selected installations; this basis of calculation is no longer valid.

RPLANS does not assign unit allowances for training aids support centers.

RPLANS does not assign installation space for CONUS installations classified as Ammunition Storage, Port, Depot, Medical Center, Industrial, or Production Installations.

RPLANS does not assign installation space for CONUS installations classified as Commodity Oriented or Proving Grounds, or for OCONUS installations in Europe, Korea, and Japan where the military population is less than 1,000.

RPLANS assigns installation allowances for ARNG and USAR installations only for ARNG training sites or USAR standalone installations where the ASIP training population is 500 or more.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The MILES and / or training aids support mission for the installation is the trigger for the requirement.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

ACOM-approved distribution for Brigade MILES Sets is the baseline for real property sizing. Calculate space for each Brigade Set for storage, issue, turn-in, maintenance, repair, and prepare for issue and turn-in, and general support space. Factor in other training devices as a component of a Brigade Combat Team (BCT) MILES Set in determining space requirements.

Use the gross area calculations when planning requirements for programming/new construction. Determine general functional area requirements in NSF in accordance with Chapter 3 and Appendix A when planning for existing facilities. Use NSF in the tables below to determine the NUA required in existing buildings to accommodate each required functional area.

Note that some areas, such as the engagement skills trainer, have a fixed dimension for the net area that must be provided for the space to operate as intended.

Calculate space for government and contractor support personnel found in the TDA paragraphs and contract documents based on the number of authorized Brigade MILES Sets.

Calculate the actual NSF necessary to equal 15,000 GSF by 32 VF (vertical feet) of new construction, or 480,000 TCF (total cubic feet) per BCT MILES Set (this includes circulation and other training device allowances) for warehouse/storage space. Adjust the NSF requirement for storage when there is less than 32 vertical

feet available. In order to do this, use the following calculation method to determine available CF:

$$((TCF \text{ required} \div VF \text{ available}) \div 1.45) = NSF$$

The common training device used to establish requirements for this facility category is the authorized Brigade Sets of MILES equipment. Associated with a standard Brigade MILES Set is an average of 5,000 components used to size training support real property.

When planning for new construction of a training support center (TSC), there are three standard sizes, small (27,820 GSF), medium (74,025 GSF), and large (124,630 GSF).

#### a. Primary Facility Totals

Table 14129-2 lists Primary Facility Total Allowance based on functional area allowances.

Table 14129-2: Primary Facility Total Allowance	
Size of TSC	Average Gross Area (GSF)
Small	27,820
Medium	74,025
Large	124,630

#### b. Administrative Offices

Plan the following departments: building operations, budget, scheduling, technical support, contracting officer representative, program and training administration. Calculate requirements in accordance with Appendix A and based on the number of staff requiring general functional areas.

Table 14129-3 lists the allowance for each facility size, exclusive of special and storage space, based on the number of administrative personnel.

Table 14129-3: Administrative Office Space Allowances			
Size of TSC	Staff	EST NSF Allowance	Gross Area (GSF)
Small	1 to 12	130 to 1,560	162 to 1,944
Medium	13 to 22	1,690 to 2,860	2,106 to 3,564
Large	23 to 30	2,990 to 3,900	3,726 to 4,860

### c. Customer Waiting Area

Plan new-construction customer waiting areas based on four personnel for each BCT MILES Set authorized. Calculate the space allowance at 10 NSF per customer.

Table 14129-4 lists the allowance for each building, based on BCT Sets authorized.

Table 14129-4: Customer Waiting Area Space Allowance			
# BCT Sets	Customers	EST NSF Allowance	Gross Area (GSF)
1	4	40	60
2	8	80	120
3	12	120	180
4	16	160	240

### d. Training Space, Classroom

These rooms are distinct from organizational classroom areas (17119) in that they are general-purpose rooms intended for use by organizations that serve a large population for classroom and/or device simulation instruction. The primary method used in sizing a classroom is calculating space for the engagement skills trainer (EST) simulation device. This requires two 20-foot-by-40-foot lanes per BCT. The subtotal of 40 feet by 40 feet plus an additional 45 percent for circulation equals  $(1,600 \text{ NSF} \times 1.45) = 2,320 \text{ GSF}$  **for each classroom.**

Table 14129-5 lists the allowance for facilities based on the BCT Sets authorized. The dimensions of the lanes are necessary to operate the EST, so net area required in existing facilities may exceed 1,600 to ensure the minimum 20-foot-by-40-foot lane dimensions. For example, a 32-foot-by-50-foot room, while it is 1,600 NSF, is not capable of supporting two lanes.

Table 14129-5: Training Space Allowance		
# BCT Sets	EST NSF Allowance	Gross Area (GSF)
1	1,600	2,320
2	3,200	4,640
3	4,800	6,960
4	6,400	9,280

**e. Device Maintenance and Repair Area**

This area provides space for device setup, storage, maintenance, and repair. Plan new construction for workbenches, storage, tool storage, and repair parts storage. New construction assumes contract maintenance provides two technicians for each BDE MILES Set. Confirm the actual number of contract personnel to factor the actual requirement. Plan a factor of 345 NSF per repair person (350 NUA) to calculate this space allowance.

Table 14129-6 lists current allowances based on BCT Sets and personnel.

Table 14129-6: Device Maintenance and Repair Area Allowance			
# BCT Sets	# of Repair PN	EST NSF Allowance	Gross Area (GSF)
1	2	690	1,000
2	4	1380	2,000
3	6	2070	3,000
4	8	2760	4,000

**f. Warehouse/Storage Area**

Plan new construction for General Purpose Warehouse requirements based on physical measurements of standard BCT MILES Sets. Averages of 5,000 containerized components, which are stored on racks four tiers high, determine the standard. This measurement reflects new-construction floor space required for a four-tier rack and materials handling equipment. Included in this space are areas for other training devices.

Table 14129-7 lists for current GSF based on BCT MILES Sets.

Table 14129-7: Warehouse/Storage Area Allowance			
# BCT Sets	MILES Set Allowance	EST NSF Allowance	Gross Area (GSF)
1	15,000	10,400	15,000
2	15,000	20,800	30,000
3	15,000	31,200	45,000
4	15,000	41,600	60,000

**g. Shipping/Receiving Loading Dock**

Separate the loading dock from the customer entrance and collocate it with the supply/storage area. Plan new construction of each bay at 20 feet by 20 feet for staging MILES containers and other training devices; each MILES Set requires and is authorized three such bays. Bays are used for the issue and turn-in function of the MILES Sets.

Table 14129-8 lists required NSF and GSF per BCT MILES Set.

Table 14129-8: Shipping / Receiving Loading Dock Allowance			
# BCT Sets	# of Bays	EST NSF Allowance	Gross Area (GSF)
1	3	830	1,200
2	6	1,655	2,400
3	9	2,485	3,600
4	12	3,310	4,800

#### **h. Device Fabrication (woodworking / plastics)**

Plan new construction for the device fabrication area. Part of TSC's mission is fabricating training aids for the Army. Fabrication falls under two different areas, Armywide fabrication (A), and local fabrication only (L). Fabrication is typically performed using woodworking tools and bench fabrication. Tools used are saws, drills, sanders, and routers, in addition to an array of hand tools. Plastic fabrication uses methods such as injection molding, roto-molding, and other similar tools and setups. Armywide fabrication missions require space for plastics fabrication.

Table 14129-9 lists both the local (L) and Armywide (A) allowances for Device Fabrication (FABR).

Table 14129-9: Device Fabrication Allowance			
Armywide Mission / Local Mission	# of FABR PN	EST NSF Allowance	Gross Area (GSF)
A	6 – 10	2,070 – 3,450	3,000 – 5,000
L	1 – 5	345 – 1,725	500 – 2,500

#### **i. Secure Operations Storage**

Plan new construction for this area on a standard size large weapons storage vault at 600 GSF per BCT MILES Set. Allow 480 NSF per set for existing facilities. The secure storage area provides storage for sensitive devices, sensitive communications components, and automation components.

#### **j. Retail Device Storage**

Retail device storage space is derived as a percentage of the general warehouse/storage requirement. Plan new construction at 10 percent of the physical measurement of related and support components from a standard MILES Set and all other training aid devices for the retail device storage.

Table 14129-10 lists current space allowances for retail device storage.

Table 14129-10: Retail Device Storage Allowance			
# BCT Sets	Warehouse Allowance	EST NSF Allowance	10 percent of Warehouse GSF
1	15,000	1,035	1,500
2	30,000	2,070	3,000
3	45,000	3,105	4,500
4	60,000	4,140	6,000

#### k. Student/Staff Break Area

Plan new construction for a break room/lounge at 8.7 GSF/PN. Calculate not more than 6 NSF per person in existing buildings. Each break room/lounge may contain the following: a refrigerator, a sink, a microwave, vending machines, a phone, and a television. In addition, it should be furnished with lounge-type furniture with tables and seating for personnel.

Table 14129-11 lists break area allowances for each size of TSC building.

Table 14129-11: Student/Staff Break Area Allowance			
Size of TSC	Staff	EST NSF Allowance	Gross Area (GSF)
Small	1 – 12	6 - 72	8.7 – 104.4
Medium	13 – 22	78 - 132	113.1 – 191.4
Large	23 – 30	138 - 180	200.1 - 261

#### l. Hazardous Material Storage Area

Hazardous materials used by the TSC include, but are not limited to, propane, polyurethane, and oxygen. Storage requires compliance with existing government safety regulations. This storage area will not be included in the square footage of the TSC building, but annotate requirements for space on the DD Form 1391. A separate building will be required for this storage area. Acquire this building through the Government Services Administration (GSA) retail catalog using OMA funds.

### 3. Assigning Space

#### a. Guidance

Assign TSC general-purpose facilities to the installation Directorate of Plans, Training, and Mobilization (DPTM).



When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

### **D. Programmable Increments**

#### **1. Standard Facilities**

While there is no Standard Design, the design guide provides criteria.

#### Programming UM:

- GSF

#### **2. Programming Units**

The design guide designates the smallest building at 27,820 GSF for the primary building.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

The training aids service center (TASC) has many and varied customers. If all functions of the TASC are collocated, the TASC needs to be readily accessible to training areas and ranges. Troop or Range and Training are appropriate land uses for the TASC. Because large military vehicles visit this building regularly, avoid placing it in or near the community center.

When possible, locate TSCs in close proximity to other training support facilities, such as range control, classrooms, and simulation centers.

#### **2. Site Planning Considerations**

The components of land requirements are primary building, site egress and ingress, utility access, installation design standards, POV parking, tactical vehicle parking, and antiterrorism standoff distances. Factor future expansion needs of a minimum 100 percent expansion of each functional component.

Plan POV parking at 35 SY per space for 60 percent of the building's intended occupants. Provide six additional vehicle parking spaces per brigade set of MILES.

## F. Other Considerations

### 1. Special Instructions

Photographic laboratories must be equipped for control of water and air pollutants that are part of the film processing, handling, and destruction operations. Fabrication areas may require control of air pollutants; power equipment may require noise control.

A television studio or production facility may be required.

Table 14129-12 lists facility sizes available.

Table 14129-12 Production Facility Sizes				
PN Capacity	GSF	NSF	GSM	NMS
14 – 20	5,100	3,825	473.8	355.4
21 - 27	7,900	5,925	733.9	550.5
28 - 40	11,550	8,662	1,073.0	804.7

Contact the TSC to review local training aids storage space requirements, because the allowances shown above do not always provide sufficient storage space. Space in general-purpose warehouse facilities (44220) may be required; storage for MILES equipment is a typical major requirement.

### 2. Exceptions

None.

### 3. References

Design Guide – Training Support Center  
(TSC) Army Criteria Tracking  
System Standard Information,  
Category Code 14129

NOV-07

### 4. See Also

13175      Televideo Center

### 1. DA Pam 415-28 Description / Definition

A building that provides billeting or operational areas for civil support teams, missile site crews, or security forces not permanently stationed at the site (e.g., rotational duty, Patriot missile, border forces, and so on). Also, buildings for units on standby for rapid deployment at military installations including, but not limited to, explosives ordnance disposal (EOD) ready crews, medical augmentation support team ready crews, emergency response crews, ambulance personnel, and so on. Also includes facilities such as operations, administration, training/classroom, and supply space designated for personnel who are required to be on duty around the clock, such as storage/operational sites for weapons of mass destruction. Also includes the arrival and departure airfield control group (ADACG) facility that processes units preparing for movement into or out of an airfield. ADACG contains some administrative space, holding areas for troops, cargo handling and storage areas, and other space to support the outload for a troop movement.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used to assemble material pending its loading for shipment, and for checking, inspecting, and preparing incoming material (both procurements and returns) prior to its delivery to storage areas. This includes transport of ammunition and airdrop equipment. This category should be used for standalone facilities, or to delineate functional areas within warehouses.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

This facility category is a functional area within enclosed storage buildings at the installation and depot levels. It should be used for standalone buildings only when such reporting is consistent with the principles in Chapter 3, subsection III.D.

### 4. See Also

Chapter 3, Facility Inventory and Functional Areas  
AR 740-1 Storage and Supply Activity Operations (26-AUG-08)  
TM 38-400 Joint Service Manual (JSM) For Storage And  
Materials Handling (APR-94)  
General Purpose Warehouse Standard Design Update Posted  
Online (28-OCT-08)  
See 44220 Storage Building, General Purpose, Installation.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An enclosed building used to ensure that supplies, equipment, and vehicles in storage are maintained in a serviceable and ready-for-use condition. Operations at this shop include exercising the drive trains of vehicles and the recoil mechanisms of artillery pieces, applying preservatives, intermediate packing, and marking of materials. This CATCD should be used for standalone facilities or to delineate functional areas within warehouses. For outdoor areas (structures) serving the same function, use parking CATCDs.

### 2. Proponent

DCS, G-4

Proponent:

- DCS, G-4

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Primary = SF

Secondary = None

FAC = SF

Area = NUA: Total Net Usable Area of general functional areas

CAP = PN: Office Capacity of general functional areas

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- CAP = PN

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

### 5. Functional Areas

Table 14140-1 lists the functional areas by type and adequacy requirements for the Care and Preservation Shop. See the functional adequacy matrix, Table 14140.

Table 14140-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Service Bays	Mission	A
Storage Area	Mission	A
Open Offices	General	A
Work Benches	Mission	A
Men's Restroom	Support	A
Women's Restroom	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The criteria allow space in this facility category for units or organizations with care and preservation missions. The quantity of space is based on the number of technicians that require service bays to perform their assigned duties. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties.

### 2. Programmatic Application

FPS does not calculate an allowance for this facility category.

RPLANS sets allowances equal to assets in the associated facility category group (FCG).

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Typically, include this as a functional area of any of the following:

- 44110, Storage Building, General Purpose, Depot Level
- 44130, Controlled Humidity Warehouse, Depot Level
- 44220, Storage Facility, General Purpose, Installation
- 44230, Controlled Humidity Warehouse, Installation Level

Use this category code for inventory purposes for standalone buildings, or when one or more of the tests in Chapter 3, subsection III. D., apply.

### **3. Assigning Space**

#### **a. Guidance**

There are no standard sizes for a Care and Preservation Shop. However, when assigning space, take into consideration the mission and organizational-related equipment located on the installation.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Storage support facilities provide for activities in support of warehousing operations. There are no standard facilities for this facility category. When required, program this as a functional area in any of the following:

- 44110, Storage Building, General Purpose, Depot Level
- 44130, Controlled Humidity Warehouse, Depot Level
- 44220, Storage Facility, General Purpose, Installation
- 44230, Controlled Humidity Warehouse, Installation Level

### **2. Programming Units**

Do not program this facility category without approval from IMCOM.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The Care and Preservation Shop requires industrial land use.

### **2. Site Planning Considerations**

Locate Care and Preservation Shop facilities near roads set aside for commercial traffic, ideally separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security/protection considerations are vital. Adhere to criteria established by the Department of Defense Explosives Safety Board (DDESB) when planning ammunition storage facilities. Provide safety zones around bulk POL storage areas.

Provide Standard General Purpose Warehouses with improved access for commercial and military truck and trailer equipment with trailers up to 48 feet, materials-handling apparatus, and mobile fire apparatus. Paving all apron and approach areas to the shipping and receiving areas is essential.

Except for will-call, separate parking areas from the truck docks and other activity areas. Isolate parking from receiving and shipping functions/dock areas.

## **F. Other Considerations**

### **1. Special Instructions**

Cross-reference Storage Facility, General Purpose, Installation, facility category code 44220.

### **2. Exceptions**

None.

### **3. References**

General Purpose Warehouse Standard Design

Undated  
Posted Online  
28-OCT-08

### **4. See Also**

44220	Storage Building, General Purpose, Installation
14133	Shipping and Receiving Building
14150	Box and Crate Shop
14160	Blocking and Banding Facility



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the application of exterior shipping containers on materials being out-processed. The boxes and crates used in this application are also produced in this facility. This CATCD should be used for standalone facilities, or to delineate functional areas within warehouses.

### 2. Proponent

DCS, G-4

Proponent:

- DCS, G-4

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Area = GSF: Total Gross Square Feet of the building

Area = NSF: Total Net Square Feet of mission and general functional areas

Area = NUA: Total Net Usable Area of general functional areas

CAP = PN: Office Capacity of general functional areas

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Area UM = NUA
- CAP = PN

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 14150 lists the functional areas by type and adequacy requirements for the Box and Crate Shop.

Table 14150-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Storage Area	General	A
Work Benches	Mission	A
Open Offices	General	A
Men's Restroom	Support	A
Women's Restroom	Support	A
Loading Dock	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The criteria allow space in this facility category for units or organizations with care and preservation missions, and for units or organizations with box and crate missions. The quantity of space is based on the number of box and crate technicians requiring workbenches to perform their assigned duties. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties.

### 2. Programmatic Application

FPS does not calculate an allowance for this facility category.

RPLANS sets allowances equal to assets in the associated facility category group (FCG).

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Typically, include this as a functional area with any of the following:

44110, Storage Building, General Purpose, Depot Level  
44130, Controlled Humidity Warehouse, Depot Level  
44220, Storage Facility, General Purpose, Installation  
44230, Controlled Humidity Warehouse, Installation Level

Use this category code for inventory purposes for standalone buildings, or when one or more of the tests in Chapter 3, subsection III. D., apply.

### 3. Assigning Space

#### a. Guidance

There are no standard sizes for a Box and Crate Shop. However, when assigning space, take into consideration the volume of outgoing shipments from the supported building.

**b. Facility Utilization Metrics**

Cross-reference Storage Facility, General Purpose, Installation, facility category code 44220.

**D. Programmable Increments****1. Standard Facilities**

Storage support facilities provide for activities in support of warehousing operations. There are no standard facilities for this facility category. When required, program this as a functional area with any of the following:

- 44110, Storage Building, General Purpose, Depot Level
- 44130, Controlled Humidity Warehouse, Depot Level
- 44220, Storage Facility, General Purpose, Installation
- 44230, Controlled Humidity Warehouse, Installation Level

**2. Programming Units**

Do not program this facility category without approval from IMCOM.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Use industrial land use for this facility category.

**2. Site Planning Considerations**

Use existing storage facilities near roads set aside for commercial traffic, ideally separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security/protection considerations are vital.

Provide Box and Crate Shops with improved access for commercial and military truck and trailer equipment with trailers up to 48 feet, materials-handling apparatus, and mobile fire apparatus. Paving all apron and approach areas to the shipping and receiving areas is essential.

Except for will-call, separate parking areas from the truck docks and other activity areas. Isolate parking from receiving and shipping functions/dock areas.

## F. Other Considerations

### 1. Special Instructions

Cross-reference Storage Facility, General Purpose, Installation, facility category code 44220.

### 2. Exceptions

None.

### 3. References

General Purpose Warehouse Standard Design

Undated  
Posted Online  
28-OCT-08

### 4. See Also

44220	Storage Building, General Purpose, Installation
14133	Shipping and Receiving Building
14140	Care and Preservation Shop
14160	Blocking and Banding Facility

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to prepare cargo for shipment and to unpack incoming cargo. This category should be used for standalone facilities or to delineate functional areas within warehouses.

### 2. Proponent

DCS, G-4

Proponent:

- DCS, G-4

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Area = GSF: Total Gross Square Feet of the building

Area = NSF: Total Net Square Feet of mission and general functional areas

Area = NUA: Total Net Usable Area of general functional areas

CAP = PN: Office Capacity of general functional areas

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Area UM = NUA
- CAP = PN

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 14160-1 lists the functional areas by type and adequacy requirements for the block and banding facility.

Table 14160-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Storage Area	Mission	A
Work Benches	Mission	A
Open Offices	General	A
Men's Restrooms	Support	A
Women's Restrooms	Support	A
Loading Dock	Mission	A
<b>Presence Requirements for Utilization:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The criteria allow space in this facility category for units or organizations with blocking and banding missions. The quantity of space is based on the number of blocking and banding technicians requiring workbenches to perform their assigned duties. The criteria allow administrative space based on the number of people requiring office space to perform their assigned duties.

### 2. Programmatic Application

FPS does not calculate an allowance for this facility category.

RPLANS sets allowances equal to assets for this facility category group (FCG).

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Typically, include this as a functional area with any of the following:

44110, Storage Building, General Purpose, Depot Level  
44130, Controlled Humidity Warehouse, Depot Level  
44220, Storage Facility, General Purpose, Installation  
44230, Controlled Humidity Warehouse, Installation Level

Use this category code for inventory purposes for standalone buildings, or when one or more of the tests in Chapter 3, subsection III. D., apply.

### 3. Assigning Space

#### a. Guidance

There are no standard sizes for a Blocking and Banding Facility. However, when assigning space, take into consideration the installation's cargo requirement.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

Storage support facilities provide for activities in support of warehousing operations. There are no standard facilities for this facility category. When required, program this as a functional area within 44220, Storage Facility, General Purpose, Installation.

**2. Programming Units**

Do not program this facility category without approval from IMCOM.

**E. Land Use and Site Considerations****1. Land Use Considerations**

Use industrial land use for this facility category.

**2. Site Planning Considerations**

Use existing storage facilities near roads set aside for commercial traffic, ideally separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security protection considerations are vital.

Provide Blocking and Banding Facilities with access for commercial and military truck and trailer equipment with trailers up to 48 feet, materials-handling apparatus, and mobile fire apparatus. Paving all apron and approach areas to the shipping and receiving areas is essential.

Except for will-call, separate parking areas from the truck docks and other activity areas. Isolate parking from receiving and shipping functions/dock areas.

**F. Other Considerations****1. Special Instructions**

Cross-reference facility category code 44220, Storage Facility, General Purpose, Installation.

## 2. Exceptions

None.

## 3. References

AR 740-1 Storage and Supply Activity Operations	9-SEP-02
TM 38-400 Joint Service Manual (JSM) For Storage And Materials Handling	APR-94
General Purpose Warehouse Standard Design	Undated Posted Online 28-OCT-08

## 4. See Also

44220	Storage Building, General Purpose, Installation
14133	Shipping and Receiving Building
14140	Care and Preservation Shop
14150	Box and Crate Shop



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building from which a commander and his or her representatives direct operations and control forces during emergencies and mobilization. The building is organized to gather, process, analyze, display, and disseminate planning and operational data, and perform other related tasks. This category covers actual operational space used for this function. It is normally applied to a specialized component of a larger facility. Because of the special construction and security measures required, the EOC should be accounted for separately from all other parts of the facility.

***Note:** Because of the special construction and security measures required, account for EOC area separately from all other parts of the building.*

### 2. Proponent and Centers of Standardization

#### Proponent

DCS, G-3

#### Centers of Standardization

Savannah District Center of Standardization

### 3. Complex

An operations center is often a part of a complex.

Aviation Unit Complex  
Command and Control Facility (C2F) Complex  
Brigade Complex (MTOE) C2 Element

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
CAP = PN: Office Capacity of general functional areas  
CAP = EA: Number of jump seats in the OC floor

#### Proponent:

- DCS, G-3

#### COS:

- Savannah

#### Complex:

- Aviation Unit Complex
- Command and Control Facility (C2F)
- Brigade (MTOE) C2 Element

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = PN
- CAP = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14161-1 lists the functional areas by type and adequacy requirements of the Emergency Operations Center.

Table 14161-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Offices (See Appendix A for criteria)	General	A
Open Offices	General	A
Commander's Jump Station	Mission	A
Operations Area Shift Console	Mission	A
Conference/Meeting/Team Rooms	General	A
Senior Leader Planning Room	Mission	F
Mission Planning Rooms	Mission	A
File/Classified Documents Storage Area	General	A
Printer/Copier Area	General	A
SIPR Room	Support	A
Storage Area	General	A
Break Room	General	A
Janitor's Closet	Support	A
Men's Restroom	Support	A
Women's Restroom	Support	A
Mechanical Room	Support	A
Electrical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
F - Occupant Dependent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization for this facility type is a mission to exercise direct control over forces or activities of an immediate and critical environment, either in response to events or on a continuous basis. The basis for calculation is the number of personnel requiring space in the EOC as their primary place of duty, and the number of personnel requiring a jump seat when operations are in progress.

The criteria allow organizations covered by the C2F standard or other TOE or TDA organizations an EOC if their mission includes a requirement to monitor or control emergency actions, or to monitor critical operations on a continuing basis.

The criteria may allow an EOC for garrisons and equivalent organizations that support deployment, Army schools, Army training centers, or other similar activities.

Criteria allow modular brigades covered by the Brigade/Battalion Standard an emergency operations center in accordance with the standard EOC. Criteria allow brigades or other headquarters with an assigned signal company (network support company) in TOE series 11307GS00 an EOC. Criteria allow theater-level brigades and commands, including sustainment commands, medical commands, signal commands, and civil affairs commands space configured for EOC purposes.

The Operational Readiness Training Complex (ORTC) Brigade Headquarters Building has an area designated as an EOC; however, it does not require the full set of capabilities outlined in this section.

## 2. Programmatic Application

RPLANS sets allowances for this facility category equal to assets.

## C. Planning

### 1. Planning Level

The planning level is unit.

#### Planning Level:

- Unit

### 2. Requirements Calculations

Use Appendix A to size the general functional areas.

Calculate a senior leader planning room for headquarters authorized a general officer commander. This functional area may be placed in the mezzanine, if one is provided.

Calculate a private office or open office workstation for every staff position for which the EOC is their place of duty.

Calculate space for a jump console for each activity that has a presence in the EOC when the EOC is active. Calculate enough space for two computers at a single workstation. Calculate space for workstations to have an unobstructed view of raised projection screens.

Calculate duty station consoles for shift personnel at 4 feet by 5 feet, at a ratio of one for every two people authorized by mission or function for work within the operations center.

Calculate space for small meeting rooms on the periphery of the EOC.

In a C2F, calculate space for a mezzanine on the second floor at the rear of the room. Calculate space such that access to the mezzanine does not interfere with the normal workflow of the EOC. Calculate space so that the occupants of the mezzanine have unobstructed views of visual displays.

The total requirement is the sum of the general functional areas and mission functional areas.

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

When using legacy buildings, at a minimum, provide MTOE brigades space equal to the EOC in an extra-small brigade headquarters.

#### **b. Facility Utilization Metrics**

An EOC often has minimal full-time staffing, especially at echelons below division. Calculate utilization for general functional areas in terms of occupied space per person (PN) compared with the total personnel capacity for personnel permanently assigned to the EOC. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

Even when utilization rates are less than optimal, reallocating space in the EOC is not normally a viable option because of the purpose and nature of its operations.

## D. Programmable Increments

### 1. Standard Facilities

Operations centers are often a functional area of other buildings. As such, program new operations centers with the standard design of the building.

Programming UM:

- GSF

When programming must be done for a standalone building, use the guidelines in Appendix A to determine requirements. Provide planning rooms with NIPR/SIPR capabilities.

### 2. Programming Units

There is no minimum standard for standalone facilities. Program to mission when adding or converting space to this facility category.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

An EOC will normally be a supporting element within a larger facility category. Site and land planning will be in accordance with the parameters for the supported building. When constructed as a standalone building, avoid high-traffic/high-visibility areas to enhance operations security (OPSEC).

### 2. Site Planning Considerations

Site planning considerations are the same as for supported building.

## F. Other Considerations

### 1. Special Instructions

Operations centers are information systems-intensive facilities. When planning or programming as a standalone building, ensure early involvement by the Information Systems Engineering Command (ISEC) through the supporting engineer district.

Provide automatic blackout shading control systems for windows present in the EOC.

Within a C2F, locate the EOC within proximity of the G3 and isolated from nonoperational traffic, to the greatest extent possible.

Within a Brigade HQ building, locate the EOC, also called the Brigade Operations Center (BOC), on the first floor in proximity to the S3 section, NOC, and SCIF. Locate the BOC with access to a loading area to facilitate deployment.

Provide the EOC with capability of 24/7 operations. The EOC requires redundant power and HVAC capabilities.

## 2. Exceptions

None.

## 3. References

The Army Standard for Echelons and Above Brigade Command and Control Facilities	12-MAR-08
Echelons Above Brigade Command and Control Facility (C2F) and Other Army Headquarters Standard Design	21-MAR-13
The Army Standard for Brigade and Battalion Headquarters	23-JUL-13
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	9 February 2012 Change 1, 1 October 2013

## 4. See Also

14190	Echelons Above Brigade (EAB), Command and Control Facility
14182	Brigade Headquarters Building
14187	Transient Training Brigade Headquarters Building,

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An electromagnetic countersurveillance building where sensitive compartmented information (SCI) is stored and reviewed. SCI is defined as all information and materials bearing special community controls indicating restricted handling within present and future community intelligence collection programs and their end products for which community systems of compartmentalization have been, or will be, formally established. Because of the special construction and security measures required, SCIF area will be accounted for separately from all other parts of a facility.

***Note:** Because of the special construction and security measures required, account for SCIF area separately from all other parts of the building.*

### 2. Proponent

#### Proponent

DCS, G-2

#### Centers of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-2

#### COS:

- Savannah

### 3. Complex

SCIFs often **may** be a part of a complex. The following complexes **may** require a SCIF:

Brigade Complex (MTOE) C2 Element  
Command and Control Facility (C2F) Complex

#### Complex:

- Brigade (MTOE)
- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Planning: NSF  
CAP: PN

Calculate NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- CAP = PN

## 5. Functional Areas

Table 14161-1 lists the functional areas by type and adequacy requirements of a SCIF.

Table 14161-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	A
Private Offices (See Appendix A for Criteria)	General	F
Conference/Meeting/Team Rooms	General	F
Special Access Program Area	Mission	F
Special Technical Operations Area	Mission	F
JWICS Enabled Conference Room	Mission	F
Mission Planning Rooms	Mission	F
SSO Office	Mission	F
Telecommunications Room	Support	A
Server Room	Support	A
A/V Control Room	Support	F
SIPR Closet	Support	A
File/Classified Documents Storage Area	General	F
Printer/Copier Area	General	F
Team Room	General	F
Senior Leader Planning Room	General	F
Storage Area	General	F
<b>Presence Requirements for Adequacy:</b>		
A – Required, Collocated		
F - Occupant Dependent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow SCIF space for units with Top Secret – Sensitive Compartmented Information (TS-SCI)-cleared personnel who work in that environment on a regular basis. Echelons brigade and above frequently have a requirement for SCIF space. To have a need for a SCIF, an MTOE unit or organization must be authorized personnel in positions requiring access to TS-SCI material in a working environment.

TDA organizations other than those addressed in the C2F standards may require SCIFs, including RDT&E and test and evaluation activities that are responsible for management, development, acquisition and testing of military intelligence and information systems. To have a need for a SCIF, a TDA organization must be authorized personnel in positions requiring access to TS-SCI material in a working environment on a regular basis.



The basis for calculation is the number of personnel requiring full- and part-time space in a SCIF. MTOE units brigade and above often have personnel from subordinate military intelligence units that should be included in the overall requirement.

As of March 2014, brigades with a SCIF requirement include brigade combat teams, military intelligence brigades, and Special Forces groups. Future force modernization initiatives may expand this group to incorporate more types of brigades.

## 2. Programmatic Application

RPLANS sets allowances for this facility category equal to assets.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Use the Standard Designs, along with the procedures in Chapter 7 and Appendix A, to determine the net area required when converting existing space to a SCIF.

For TOE units brigade through corps, use the Standard Design program area as a guide. Provide not less than 2200 NSF per brigade, 7,000 NSF per division HQ, 9450 NSF per Corps HQ, and 6,650 NSF per numbered army. Since numbered armies may vary significantly based on mission, and may have augmentation personnel from subordinate elements, determine space requirements using the procedures in Appendix A for general functional areas and space program development, and the values in Table 14162-2.

In addition to requirements for Brigade Headquarters and C2F facilities, military intelligence battalions, Special Forces battalions not collocated with a group, and TDA organizations that perform intelligence or information systems missions, research or training may require SCIFs. Determine space requirements using the procedures in Appendix A for general functional areas and space program development, and the values in Table 14162-2.

Table 14162 – 2: SCIF Components for Requirements Calculations

TYPE	NAME	CAP	NSF	CIRC SF	TOTAL NSF	BASIS
ADMIN	Private 01	1	400	100	500	IAW Appendix A
ADMIN	Private 02	1	300	75	375	IAW Appendix A
ADMIN	Private 03	1	200	50	250	IAW Appendix A
ADMIN	Private 04	1	150	38	188	IAW Appendix A
ADMIN	Private 05	1	110	28	138	IAW Appendix A
ADMIN	Open Regular	1	48	48	96	IAW Appendix A
ADMIN	Open Large	1	64	38	102	ACOM only, IAW Appendix A
MEETING	35 PN CONF/VTC	35	805	201	1006	One per SCIF with 70 or more PN
MEETING	24 PN CONF/VTC	24	572	143	715	One per SCIF with 48 - 69 PN
MEETING	12 PN CONF/VTC	12	255	64	319	One per SCIF with 24 - 47 PN
SCIF	SCIF Planning Room	20	500	125	625	NTE one per SCIF
SCIF	SCIF Planning Room	10	330	85	415	NTE one per SCIF
SCIF	SCIF jump seat	1	16	8	24	1 per 25 PN w/SCI allowed other primary workstation
SCIF	STO facility	8	1000	250	1250	NTE one per SCIF.
SCIF	Automated info sys		480	120	600	One per SCIF
SCIF	SCIF security office		385	96	481	One per SCIF
SPECIAL	Server room		600	150	750	One per SCIF
SPECIAL	Break		108	27	135	Outside SCIF with other SZ3
SPECIAL	Files		88	22	110	NLT 2 and NMT 4 per SCIF
SPECIAL	Printer/ Copier		96	24	120	1 per 25 PN but NLT 1 and NMT 4 per SCIF
SPECIAL	GP Storage		96	24	120	1 per 100 PN but NLT 1 and NMT 4 per SCIF
SPECIAL	Team room	8	120	30	150	1:50 PN Authorized SCIF personnel

Additional space may be required if the using organization manages special access programs (SAP) of special technical operations (STO).

### 3. Assigning Space

#### a. Guidance

The term SCIF, as defined here, applies to specific physical, structural, electronic, and other design features identified in Director of National Intelligence – Intelligence Community Standard (ICS) 705. Activities that require a SCIF must be provided facilities that comply with this standard to be fully mission-capable. SCIFs are expensive to build, and require special procedures to operate.

The term SCIF is often used generically to refer to an area cleared for open storage of classified information. Verify that activities requesting a SCIF have a bona fide requirement for a SCIF in the technical sense prior to planning, programming, or assigning SCIF space.

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Provide the SCIF of reinforced concrete walls and designed in such a way that unauthorized access through a point other than the main entrance is noticeable. Provide a raised floor. Provide opaque windows, or another method of concealment, to prevent persons on the outside of the building from seeing classified information. Provide ground-floor windows in such a manner as to prevent forced entry, and provide coverage by the intrusion detection system (IDS).

SCIFs require an IDS because of the highly classified nature of the work within. An IDS consists of intrusion detection equipment, security and response force personnel, and security operations procedures. Locate the special security office (SSO) adjacent to the main entrance to monitor the IDS.

Provide primary entrance to the SCIF through one main door. Equip the main entrance with an automatic door closer, GSA-approved combination lock, and an access-control device. Construct any other door to the SCIF of material equivalent in strength and density to the main entrance door. Secure emergency exit doors with deadlocking panic hardware on the inside and no exterior hardware.

If required, locate a tactical SCI vehicle area (TSVA) or a tactical SCI operations area (TSOA) immediately adjacent to and with direct access to the SCIF. A requirement exists if the unit has SCI-

capable tactical equipment.

The TSVA and TSOA are outdoor, fenced areas. Provide a chain-link fence with a single outrigger of three-strand barbed wire at the top to prevent climbing (7 feet high for TSVA, and 6 feet high for TSOA). Provide a manually operated/manually secured 25-foot-wide gate at the vehicle entrance. Configure the area to accommodate inspection of two tactical vehicles with trailers before entering TSVAs and TSOAs. Provide a 10-foot-wide zone clear of trees and shrubs around TSVAs and TSOAs. Fill this area with gravel, and treat it to prevent vegetation growth. Provide the TSVAs and TSOAs with 24/7 CCTV monitoring shielded to prevent interception of TV signals, GSA-approved locks and access control, and coverage by the IDS.

Do **not** locate aboveground transformers, generators, or mechanical equipment within the TSVA.

#### **b. Facility Utilization Metrics**

Calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the number of personnel who work full time in the SCIF, and the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

SAP and STO areas, if required, are 100 percent utilized by definition, even if there are no personnel who work full-time in those areas.

The target utilization rate is between 85 and 100 percent for office space.

## **D. Programmable Increments**

### **1. Standard Facilities**

The level of command determines the standard size for a SCIF. For brigades, run an FPS analysis on the brigade's HHC to determine which size the brigade would receive, and from that, the size of SCIF.

The numbered army/Army Service component command (ASCC) SCIF will vary depending on the actual population, missions, and requirements. Validate the SCIF requirement during the planning charrette.

## **2. Programming Units**

There is no standard for these facilities. Program to mission when adding or converting space to this facility category code.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Land use for a SCIF is the same as a C2F or a BDE HQ. Accomplish site and land planning when programming those facilities.

Provide SCIF space for other MTOE units that require it in the troop land use. Provide SCIF space for TDA organizations in the land use consistent with their primary mission.

### **2. Site Planning Considerations**

When constructed as a standalone building, avoid high-traffic/high-visibility areas to enhance OPSEC.

Units requiring TSVA must have appropriate satellite angles to operate in their intended mode. Verify position and angles with G2 or G6 prior to selecting a final site for facilities with a TSVA requirement.

## **F. Other Considerations**

### **1. Special Instructions**

A complex, time-consuming, and strictly controlled process must be followed to ensure that a SCIF complies with multiagency requirements. Consult the Army Command, ASCC, or DRU G2 point of contact as soon as the requirement for a SCIF is identified and before proceeding with any site planning or design. When planning a conversion of an existing facility to a SCIF, and prior to proceeding with design, request a survey through the appropriate G2 element to ensure that the building can meet the required technical criteria.

SCIFs are information systems-intensive facilities. When planned or programmed as a standalone building, ensure early involvement by the Information Systems Engineering Command (ISEC) through the supporting engineer district.

Consult Center of Standardization: Savannah District for information on C2F for corps and divisions, and for brigade

headquarters. Consult Center of Standardization Mobile District for C2F for ASCCs, DRUs, and ACOMs. SCIF design must be approved by the cognizant security authority (CSA) and accredited by the senior officials of the intelligence community (SOIC).

Emerging trends in technology result in continuing changes to the type and amount of space required within SCIFs. Coordinate with end user to ensure proper sizing.

Provide an uninterruptible power supply (UPS) with at least five minutes of power available in the SCIF. Provide a required standby power system with generators and automatic transfer switches.

Protect the SCIF against surreptitious entry, forced entry, and eavesdropping from outside the SCIF, implantation of technical surveillance devices, visual observation, and standoff technical attacks. Install acoustic insulation within the SCIF at doors, walls, floors, and ceiling assemblies of sound transmission class (STC) 45. Insulate conference rooms, planning rooms, and team rooms within the SCIF to prevent eavesdropping on classified conversations in the main SCIF area. Provide electromagnetic shielding to prevent interception of electromagnetic signals from outside the SCIF.

## **2. Exceptions**

Battalions are not normally assigned SCIFs. Some battalion-level units, including special operations forces and military intelligence units, may require SCIFs.

Military intelligence brigades with collocated military intelligence battalions generate a high requirement for SCIF space. Consider whether it is more effective to provide a consolidated SCIF as a standalone facility for these brigades, rather than trying to incorporate the entire requirement into the brigade headquarters.

### 3. References

The Army Standard for Echelons and Above Brigade Command and Control Facilities	12-MAR-08
Echelons Above Brigade Command and Control Facility (C2F) and Other Army Headquarters Standard Design	21-MAR-13
The Army Standard for Brigade and Battalion Headquarters	23-JUL-13
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	9-FEB-2012 Change 1, 1 October 2013
Director of National Intelligence – Intelligence Community Standard (ICS) 705	26-MAY-10

### 4. See Also

14182     Brigade Headquarters Building  
14190     Echelons Above Brigade (EAB), Command and  
Control Facility

### 1. DA Pam 415-28 Description / Definition

An enclosed building for washing military and commercial vehicles. Building capabilities typically include the collection of wash water, high- and low-pressure cleaning, water cannons, wash water containment and drains, a sedimentation basin, and sludge removal. Collocated with this facility should be 83180, Gravity Oil and Grease Separator, and 83181, Water and Grit Separator. Those facilities not fully enclosed should be reported as Wash Platform, Organizational (14955) or Wash Platform, Installation (14963). Also report this building with unit of measure vehicles (VE), which is the number of vehicles that can use the building simultaneously. Data should be available from the installation DOL. If not, conduct a physical survey. A single bay is one VE, and a double bay counts as two VE.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

UFC 4-214-03 (16-JAN-04)



### 1. DA Pam 415-28 Description / Definition

A structure located at fueling, POL, and wash areas to house the management and control functions of fueling or wash facilities, and to protect pumping equipment from the elements. These facilities are also used to protect equipment along POL pipelines.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

### 4. See Also

See 141xx for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

An enclosed building provided at fueling, POL, and wash areas to house the testing, management, and control functions of fueling or wash facilities, and to protect pumping equipment from the elements. This category is also used for buildings that protect equipment along POL pipelines.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building that provides a space for the dispatcher of a motor pool to check the operational paperwork on vehicles prior to their departure. The facility is normally placed at the motor pool entrance/exit and may be combined with the Access Control Building (14113).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 14113, Access Control Building.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A structure for refilling of self-contained breathing apparatus cylinders (e.g., oxygen cylinders).

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

**4. See Also**

See 141xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for refilling of self-contained breathing apparatus cylinders, such as oxygen cylinders.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

An enclosed building provided at installation production plants to house the management and control functions of these plants.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure provided at installation production plants to house the management and control functions of these plants.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 141xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the washing of protective gear and operators' clothing used in industrial operations.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building consisting of an enclosed space with a concrete shield that provides protection for personnel against accidents, fires, or explosions during operational activities. Safety buildings may consist of a single-use building or a use within a multiuse building. This facility is also called an operational shield. Facilities that have a roof and one or more walls, but are not completely enclosed, will be reported as 14181, Safety Shelter.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building equipped for the decontamination of personnel in the event of a chemical/industrial accident or a laboratory mishap. This facility is typically associated with production or RDT&E facilities. These facilities are also found at locations that conduct advanced nuclear, biological, and chemical (NBC) training.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building that provides an area for workers to shower and change clothes.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

This facility may be required by labor agreements in CONUS, or by host-nation laws OCONUS.

**Planning Level:**

- Unit

**4. See Also**

None.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A canopy or other self-supported structure that provides cover and protection from the elements for operational facilities. Examples are the canopy over fuel pumps at a transportation motor pool or Army and Air Force Exchange Service (AAFES) fueling facility, covered walkways, and covers over weapons cleaning areas, and/or other maintenance and storage activities.

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities.

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- ACSIM Facilities

#### COS:

- Savannah

### 3. Complex

Overhead Protection is included in the company operations facility (COF) footprint in the C2F and Brigade Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- C2F (MTOE)
- Brigade (MTOE)

### 4. Units of Measure

Primary: SF  
Secondary: EA  
FAC UM: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

### 5. Functional Areas

This is a structure. By definition, only buildings measured in SF have functional areas.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a requirement for a COF. The basis of calculation is the number of Soldiers per company in the COF building.

This category CATCD may be used in other contexts, but currently only the COF Standard Design has quantifiable criteria.

## 2. Programmatic Application

Effective with Version 31, RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

#### Planning Level

- Unit

### 2. Requirements Calculations

See Table 14179-1 and CATCD 14185 for requirements.

Table 14179-1 Space Requirements Table	
Company Population	GSF per Company
Up to 100 PN	1,680
101 to 150 PN	2,330
151 to 200 PN	2,990
201 to 250 PN	3,650
251 to 300 PN	4,300

Multiply the required space per company by the number of companies associated with a COF building to determine the total space allowed.

This structure is intended to provide protection from the elements for training, equipment maintenance, and predeployment preparations. In cold climates, units may elect to have enclosed space in lieu of the covered space.

Facilities in this category may be associated with Access Control Buildings (CATCD 14113), or they may be used in lieu of a Missile Launcher and Storage Building (CATCD 14121). For these or other applications, the mission determines the size.

### **3. Assigning Space**

When provided in conjunction with a Standard Design COF, this is a single large structure, not separate smaller structures. For facilities provided with a COF, assign facilities by battalion.

#### **a. Guidance**

None.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

This CATCD is part of the standard COF complex and is included in the COF Standard Design.

### **2. Programming Units**

Include this in the program for a Standard Design COF.

Program to requirements for other applications.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See CATCD 14185.

### **2. Site Planning Considerations**

See CATCD 14185, Company Headquarters Building.

## **C.F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District for COF applications.

### **2. Exceptions**

None.

**3. References**

Revised Army Standard for Company Operations Facility (COF)	30-AUG-12
Army Standard for Command and Control Facilities, Echelons Above Brigade	12-MAR-08
UFC 4-140-03 Command and Control	21-MAR-13
Facilities (C2F) and Other Army Headquarters	

**4. See Also**

14185    Company Headquarters Building

**1. DA Pam 415-28 Description / Definition**

A building that provides a protective enclosure for the operator of a vehicle/railcar weighing station.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A structure with at least one open side that provides protection for personnel against accidents, fires, or explosions during operational activities. This CATCD should also be used for safety structures consisting only of concrete shields. Fully enclosed buildings or portions of multiuse buildings should be reported as 14176, Safety Building.

**Proponent:**

- DCS, G-1

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

### 4. See Also

See 141xx for related facility category codes.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the command, personnel, intelligence, operations, supply, communications, and other specialized functions of a regimental, group, or brigade headquarters, including brigade and/or consolidated aid stations.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Centers of Standardization

MTOE and TDA brigades other than schools are under the Savannah District Center of Standardization. AIT and BT/OSUT brigades are governed by the Fort Worth District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- MTOE – Savannah
- AIT & BT/OSUT – Fort Worth

### 3. Complex

Brigade HQs will normally be a part of the following complexes:

- Brigade Complex (MTOE) C2 Element
- Basic Training/One Station Unit Training (BT/OSUT) Complex
- Advanced Individual Training (AIT) Complex
- Aviation Unit Complex

#### Complex:

- Brigade (MTOE) C2 Element
- BT / OSUT
- AIT
- Aviation Unit

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Planning: NSF  
Capacity: PN  
Other: NUA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- CAP = PN
- Other = NUA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14182-1 lists the functional areas by type of a Brigade Headquarters Building. See the functional adequacy matrix following this facility category discussion.

Table 14182-1 Brigade Headquarters Building	
Functional Area	Type
Open Offices	General
Private Offices (See Appendix A for criteria)	General
Conference Rooms	General
Team Rooms	General
Break Room	General
Storage	General
Public Restrooms	Support
Janitor's Closet	Support
File Storage	General
Mechanical Room	Support
Electrical Room	Support
SIPR Room	Support
Network Operations Center (NOC) facility category code 13131 (MTOE Only)	Mission
Brigade Operations Center (BOC) facility category code 14161 (MTOE Only)	Mission
Sensitive Compartmented Information Facility (SCIF) facility category code 14162 (MTOE Only)	Mission
Secure Communications Room	Mission
Secure Document Storage	Mission
Staff Duty Station	Mission
Public Showers	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for a brigade, regiment, or group headquarters for TOE brigades and TDA brigades including AIT and BT/OSUT training brigades

The qualifying attributes are an O6 or O7 commander and a command sergeant major.

The basis for calculation is the number of authorized personnel. The Savannah Center of Standardization maintains the authorized size by Standard Design for MTOE brigades. The Fort Worth District provides one size of AIT brigades and one size for BT/OSUT brigades

## 2. Programmatic Application

RPLANS identifies TOEs and TDAs with an O6 or O7 as the commander with an E9 command sergeant major as needing a Brigade Headquarters Building.

RPLANS identifies a count included in the brigade staff personnel for MTOE brigades and TDAs other than schools, and provides an allowance for the Standard Design HQ consistent with Table 14182-3. For BT/OSUT or AIT brigades, RPLANS provides an allowance consistent with Table 14182-3, based on brigade type.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

#### a. General

Both TOE and TDA organizations require space in this type of building. There are different functional areas for TOE and TDA brigades. This facility category will normally be associated with one of three complexes: a brigade complex for TOE brigades, a BT/OSUT complex for Army training centers, or an Advanced Individual Training (AIT) brigade complex. It may also be associated with an Aviation Unit Complex of a combat aviation brigade (CAB)

There are a limited number of TDA organizations, other than training brigades, allowed space in a brigade headquarters. These TDA brigade headquarters will not normally be associated with a complex. Determine through unit interview whether the organization in question requires a BOC, an NOC, or a SCIF.

#### b. MTOE Brigades

The Army Standard assumes that every brigade requires a BOC, NOC, SCIF, and TSVA. Verify these requirements when assigning space. Calculate a BOC of 1,600 NSF and an NOC of 2,250 NSF. Calculate the size the SCIF to accommodate appropriate space for the number of personnel working within the SCIF. Refer to facility category code 14162 for information relating to the SCIF and TSVA. Further information on the BOC is available in facility category code 14161. Further information on the SCIF is available in facility category code 14162.

Request verification of SCIF requirements for brigades other than Brigade Combat Teams, Military Intelligence Brigades, and Special Forces Groups.

By interview, determine whether the brigade has Augmentation TDA personnel, or personnel from subordinate or associated units integrated into the staff. This might include safety, equal opportunity, career counselors, family readiness, USAF air support operations, special operations, fire support, military intelligence, and signal personnel. The size of the NOC assumes that selected personnel from the organic signal company work in the HQ. Verify this with each unit.

Calculate a staff duty station of NMT 145 NSF near the public entrance to the brigade headquarters, to control access to the rest of the building.

Calculate private offices for the positions as follows:

200 NSF: Commander

150 NSF: Command sergeant major, deputy commander, executive officer, reenlistment officer, chaplain, S1-S6, command judge advocate, and the surgeon

110 NSF: All others

Calculate open office space at the rate of 48 NSF plus circulation per staff person not provided a private office, in accordance with Chapter 3 and Appendix A.

Calculate the following spaces:

- Conference rooms:
  - Command conference NTE 25 PN
  - S2 NTE 12 PN
  - S3 NTE 12 PN
  - S1/S4 NTE 12 PN
  - BOC NTE 16 PN
  - SCIF NTE 16 PN
- Mail room/message center: NTE 140 SF
- Signal Intelligence (SIGINT): NTE 340 NSF
- Communications Intelligence (COMMINT): NTE 400 NSF.
- Team Rooms: Not less than 4 total in SZ 1, and 2 plus 1 in NOC

**c. AIT and BT/OSUT Brigades**

Calculate a minimum of 100 NSF for secured classified document storage.

Calculate the nine private offices as follows.

- 200 NSF: commander
- 150 NSF: executive officer, sergeant major, and chaplain
- 110 NSF EA: S1, S2, S3, S4, and chaplain assistant

Calculate a staff duty station with an area of 110 NSF.

Calculate a message center of 145 NSF.

Calculate a conference room of 370 NSF.

A BOC, NOC, and SCIF are generally not needed for AIT and BT/OSUT brigade headquarters.

**3. Assigning Space****a. Guidance**

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign space according to brigade type.

**i. MTOE Brigades**

Verify that the brigade has a bona fide requirement for a SCIF. As of the date of this publication, only brigade combat teams, military intelligence brigades (including battlefield surveillance brigades, which are projected to convert to expeditionary intelligence brigades) and special forces groups have personnel, equipment, and missions that justify a SCIF.

Separate the building into distinct security areas for MTOE brigades. Security zone 1 areas have limited controlled access for physical and personnel security. zone 2 areas have controlled access areas for operational and information security. Zone 3 areas have restricted access with electronic access control.

Table 14182-2 provides functional areas by security zone.

Table 14182-2 Security Zones			
Area	Zone 1	Zone 2	Zone 3
Command Group	x		
BOC			x
NOC			x
SCIF			x
S1	x		
S2		x	
S3		x	
S4	x		
S5		x	
S6		x	
S8	x		
Chaplain	x		

Provide not less than four conference rooms in security zones 1 and 2, including the BDE HQ conference rooms for the command section and S2/S3.

Provide secure communications rooms Secret Internet Protocol Router Network (SIPRNET) and for Joint Worldwide Intelligence Communications System (JWICS) if required.

Provide space for the storage of classified documents in accordance with AR 380-5. Classified document storage does not require a dedicated vault. The functional requirement for classified storage can be satisfied by approved containers, as prescribed in reference AR.

Provide secure video teleconferencing to the command conference room, BOC, and SCIF.

Provide private offices for a number of different personnel. In general, the commander, executive officer, command sergeant major, chaplain, chaplain's assistant NCO, surgeon, re-enlistment officer, and the S1, S2, S3, S4, and S6 officers all receive private offices. Additionally, provide the S2 an additional office in the SCIF, and the S6 an additional office in the NOC.

Provide open office work spaces for those personnel requiring a desk who do not receive a private office.

Provide emergency power to the communications rooms, server rooms, BOC, NOC, SCIF, and TSVA in the form of a generator with automatic transfer switch.

Provide at least one shower for women and two showers for men per BDE HQ.

***ii. AIT and BT/OSUT Brigades***

AIT and BT/OSUT Brigades do not require the same space as MTOE Brigades.

Provide space for secured classified document storage.

Provide the nine private offices for the commander, executive officer, sergeant major, chaplain, S1, S2, S3, S4, and chaplain's assistant.

Provide a staff duty station adjacent to the lobby.

Provide a message center.

Provide a conference room capable of seating 14 at the table, with an additional eight (8) chairs along the walls.

A BOC, NOC, and SCIF are not needed for AIT and BT/OSUT brigade headquarters.

**b. Facility Utilization Metrics**

For buildings built to current Standard Designs, the brigade headquarters is properly utilized if the authorized staff strength is within the designated range for the facility size as shown in Table 14182-3.

When using other facilities to meet a brigade HQ requirement, calculate building utilization for administration and operations in terms of required spaces divided by available space. Base utilization on the total useable personnel spaces (including special and storage spaces) included as general functional areas in Appendix A.

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.



## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans for TOE brigades and TDA brigades other than BT/OSUT or AIT are available on the COS website at: <http://mrsi.usace.army.mil/cos/savannah/SitePages/BnBde.aspx>.

Standard Design floor plans for AIT brigades are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/ait.aspx>.

### 2. Programming Units

Table 14182-3 lists the standard brigade sizes and assignments. The smallest size the Army will program depends on the type of brigade.

Table 14182-3 Standard Brigade Headquarters Sizes			
Size	Personnel	GSF W/BOC, NOC, SCIF	Comments
X- Large	225 to 320	55,300	
Large	201 to 224	40,100	
Medium	174 to 200	37,700	
Small	107 to 173	34,400	
X-Small	107 or fewer	20,400	Non-Modular and Legacy Brigades
BT/OSUT	-	8,810	Does not contain BOC, NOC, or SCIF
AIT	-	9,450	Does not contain BOC, NOC, or SCIF

Program NOC, SCIF, and/or BOC not less than that provided in security zone 3 of the extra-small brigade Standard Design when doing renovation or add-on projects, if the full scope is not attainable.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Brigade HQ should normally be in a troop land use as part of a complex for MTOE units and BT/OSUT or AIT brigades. Professional/Institutional land use may be appropriate for TDA brigades other than school brigades.

For the Active Component BCT complex, the minimum total land required is 145 acres.

## **2. Site Planning Considerations**

Most brigades will be part of a complex. Review the information for the appropriate complex as provided in Chapter 4. Ideally, locate the brigade with its associated battalion HQs in one large consolidated building. Locate the brigade HQ, battalion HQs, COFs, TEMFs, and organizational parking for the entire brigade within proximity of each other.

Plan the site with a public entrance facing the garrison and with access to POV parking, a middle entrance allowing movement of logistics support in and out of the area without interaction with POV traffic, and a back entrance with access to training and deployment facilities. Design the site to flow from quiet, low-intensity housing, to the C2 area, to the intense working areas of the COFs and TEMFs. Separate from public areas the COFs, the logistics and maintenance areas, and access to the training and deployment areas with a security line. The entire site for a combined BCT complex is approximately 140 acres.

MTOE Brigades require an area for antennas that support the operations center and SCIF.

Obtain additional information by consulting CATCDs 14185, 21410, 85210, and various facility categories associated with ranges.

Plan POV parking for 90 percent of the total brigade population.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District for the standard Brigade HQ, and Center of Standardization: Fort Worth for AIT and BT/OSUT complexes.

### **2. Exceptions**

Military intelligence (MI) brigades with collocated subordinate battalions may require SCIF space for MI enablers from the subordinate units in addition to those personnel on the brigade staff that require a SCIF. When this is the case, the SCIF requirement will be significantly larger than that allocated in the Brigade HQ.

Consider a campus approach with a SCIF adjacent to the brigade HQ.

### 3. References

The Army Standard for Brigade and Battalion Headquarters	23-JUL-13
UFC 4-140-01 Brigade Operations Complex Brigade and Battalion Headquarters Standard Design Revision 5.1	25-JAN-13
Army Standard for Basic Training and One Station Unit Training (BT/OSUT)	12-JAN-08
Revised Army Standard for Advanced Individual Training (AIT) Complexes	2-APR-13
AR 380-5 Department of the Army Information Security Program	29-SEP-00

### 4. See Also

14183	Battalion Headquarters Building
17119	Organizational Classroom
14185	Company Headquarters Building
21410	Vehicle Maintenance Shop
21470	Oil Storage Building, Non-DOL/DPW
44224	Organizational Storage Building
85210	Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Open Office	A		48 NSF per workspace	48 NSF	
General	Private Offices	A		Extra Large-25 EA Large-19 EA Medium-19 EA Small-17 EA Extra Small-14 EA	No lower limit	NOC has two (2) in all but extra small buildings
General	Conference Rooms	A		Extra Large-10 EA Large-8 EA Medium-6 EA Small-5 EA Extra Small-3 EA	4 EA	SCIF and Command Suite should both have a conference room and are included in this number
General	Message Center	A		Extra Large-110 NSF Large-140 NSF Medium-120 NSF Small-110 NSF Extra Small-150 NSF	110 NSF	
General	Team Rooms	A		Extra Large-5 EA Large-6 EA Medium-2 EA Small-4 EA	2 EA	Can also function as a conference room
General	Break Room	A		One per floor	No lower limit	Team or Conference room may serve as a break room
General	Storage	A		Provide storage for each department	No lower limit	Storage may be combined
Support	Public Restrooms	A		Male and Female per floor	No lower limit	
General	File Storage	A			No lower limit	Provide to departments as needed
Support	Janitors Closet	A		1 per floor	No lower limit	
Support	Mechanical Room	A		1 per floor	No lower limit	
Mission	NOC	A		Extra Large-2,770 NSF Large-2,520 NSF Medium-2,520 NSF Small-2,520 NSF Extra Small-406 NSF	80% of NSF Requirement	If Required. Not all brigades have personnel to staff this space.

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	BOC	A		Extra Large-1,710 NSF Large-1,560 NSF Medium-1,560 NSF Small-1,560 NSF Extra Small-647 NSF	80% of NSF Requirement		
Mission	SCIF	A		Extra Large-3,280 NSF Large-3,030 NSF Medium-3,030 NSF Small-3,030 NSF Extra Small-3,102 NSF	80% of NSF Requirement		If Required. Not all brigades have personnel to staff this space.
Mission	Secure Communications Room	A			No lower limit		
General	Secure Document Storage	A		Extra Large-95 NSF Large-320 NSF Medium-120 NSF Small-100 NSF Extra Small-106 NSF	No lower limit		In accordance with AR 380-5
Mission	Staff Duty Station	A		Extra Large-100 NSF Large-120 NSF Medium-90 NSF Small-90 NSF Extra Small-94 NSF	14 NSF		At building entrance/reception area
Support	Public Showers	A		If there are no showers, program two (2) m en's and two(2) women's showers, or four (4) unisex showers	No lower limit		
Support	POV Parking	A		90% of Brigade Strength	75% of Brigade Strength		POV Parking divided between Brigade HQ and Battalions
Support	ADA Accessibility	A			No lower limit		Lines must be underground, outlets provided in accordance with I3A technical guide, Telephone system within SCIF must meet requirements in DCID 6/9
Support	Telecommunications Equipment Room	A		1 per floor	No lower limit		

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Support	Emergency Power	A		For use by Communications Rooms, Server Rooms, BOC, NOC, SCIF, and TSOA	No lower limit		
Mission	Tactical SCIF Vehicle Area (TSVA)	A		Meet criteria for facility category code 14162, door leading to SCIF	No lower limit		
Attribute	Antenna Systems	A			No lower limit		Line-of-sight to geostationary equatorial satellites
Attribute	Secure Video Teleconferencing	A			No lower limit		In Command Conference, BOC, and SCIF
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Private Offices	A		9 Offices	No lower limit	
General	Open Office Area	A		96 NSF / PN	No lower limit	
General	Classified Document Storage	A		100 NSF	No lower limit	
Mission	Secure Communications Room	A		70 NSF	No lower limit	SIPRNET
Support	Telecommunications Room	A		75 NSF	No lower limit	
Mission	Staff Duty Station	A		110 NSF	No lower limit	Locate immediately adjacent to main entrance, provides access control to the rest of the building
General	Message Center	A		145 NSF	No lower limit	Locate adjacent to the administration area
General	Conference Room	A		375 NSF	No lower limit	14-person table, seating for a total of 22
General	Storage	A		100 NSF	No lower limit	
Support	Vending	D		45 NSF	No lower limit	Access to lobby
Support	Public Showers	A		1 Men's and 1 Women's per floor	No lower limit	If there are no showers, program two (2) men's and two (2) women's showers, or four (4) unisex showers
Support	Private Restroom	A		35 NSF	No lower limit	Unisex restroom located in the command suite
Support	Janitor's Closet	A		1 per floor	20 NSF	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the command, personnel, intelligence, operations, supply, communications, and other specialized functions of a battalion/squadron headquarters, including battalion aid stations. The communications shop should be reported separately as CATCD 21415, Compact Item Repair Shop, Non-DOL/DPW. Battalion classrooms will be accounted for separately under CATCD 17119, Organizational Classroom.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Centers of Standardization

MTOE and TDA battalions other than schools are under the Savannah District Center of Standardization. AIT and BT/OSUT battalions are governed by the Fort Worth District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- MTOE – Savannah
- AIT & BT/OSUT – Fort Worth

### 3. Complex

Battalion headquarters will normally be a part of the following complexes:

- Brigade Complex (MTOE) C2 Element
- Aviation Unit Complex
- Basic Training / One Station Unit Training (BT/OSUT) Complex
- Advanced Individual Training (AIT) Complex
- C2F Complex (Corps, Division and Numbered Army)

#### Complex:

- Brigade (MTOE) C2 Element
- Aviation Unit
- BT/OSUT
- AIT
- C2F (MTOE)

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

Primary: SF

Secondary: None

FAC UM: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 14183-1 lists the functional areas by type of the Battalion Headquarters Building. See the functional adequacy matrix following this facility category discussion.

Table 14183-1 Functional Areas by Type	
Functional Area	Type
Open Offices	General
Private Offices (See Appendix A for criteria)	General
Conference Rooms	General
Break Room	General
Storage	General
Public Restrooms	Support
Showers	Support
Janitor's Closet	Support
File Storage	General
Mechanical Room	Support
Electrical Room	Support
SIPR Room	Support
Secure Document Storage	Mission
Duty Station	Mission
Mail Room/Message Center (Not in BT/OSUT)	General
Classrooms	General

Organizational classrooms are integral to the functions of a battalion HQ. The description for CATCD 17119 covers functional adequacy for organizational classrooms.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow battalion headquarters facilities for TOE, TDA, BT/OSUT, and AIT battalions. The BT/OSUT and AIT battalion headquarters have different space criteria than the TOE and TDA Battalion Headquarters Building (see the section on Planning, below).

The qualifying attribute is a commander in the grade of O5 and a command sergeant major in the grade of E9.

The basis for calculation is the number of authorized staff personnel. The Savannah Center of Standardization maintains the authorized size by standard design for MTOE battalions. The Fort Worth District provides one size of AIT battalions and one size of BT/OSUT battalions with the associated complexes. The criteria allow different sizes of a Battalion Headquarters Building,

depending on the type of battalion and the number of staff authorized to the battalion (see Table 14183-3).

## 2. Programmatic Application

RPLANS identifies SRCs and TDAs requiring a battalion headquarters by the presence of an O5 commander and E9 command sergeant major in a TDA or SRC. RPLANS uses business rules to determine which personnel in the manning document require space within the headquarters building. RPLANS assigns allowances to UICs with an SRC or TDA that correspond to the standard designs consistent with Table 14183-3.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

For MTOE or standardized battalions, calculate private offices (NMT 13) for the positions indicated, with at least as much net area as indicated, and as near as possible to the size indicated.

Planning UM:

- NSF

200 NSF: Battalion commander

150 NSF: Executive officer, command sergeant major, chaplain, and S3 or equivalent when present

110 NSF: Chaplain's assistant, S1, S2, S4, S6, human resources sergeant, S3 operations sergeant, and comparable positions when present

Calculate open office space at the rate of 48 NSF plus circulation per staff person not provided a private office.

Calculate the following spaces for battalion headquarters.

#### a. Conference Rooms

TOE/TDA, 22-person capacity

Combined BDE/BN, 22-person capacity

AIT 490 NSF, 28-person capacity

BT/OSUT NLT 750 NSF, 28-person capacity

**b. Mail Room / Message Center**

TOE/TDA NTE 160 NSF  
Combined BDE/BN NTE 230 NSF  
AIT not included  
BT/OSUT NLT 140 NSF

**c. Supply**

TOE/TDA NTE 220 NSF  
Combined BDE/BN NTE 125 NSF/BN  
AIT NTE 140 NSF  
BT/OSUT not included

**d. Storage**

TOE/TDA NTE 225 NSF  
Combined BDE/BN NTE 880 NSF  
AIT NLT 120 NSF  
BT/OSUT NLT 1,250 NSF: S-4 800; S-2/S-3 80; Classroom 2 at 160 each; Ministry 50

**e. Secure Document Storage**

TOE/TDA NTE 200 NSF  
Combined BDE/BN NTE 270 NSF/BN  
AIT not included  
BT/OSUT not included

**f. SIPRNET**

TOE/TDA NTE 60 NSF  
Combined BDE/BN NTE 60 NSF/BN  
AIT NTE Not Authorized  
BT/OSUT 60 NSF.

**g. Staff Duty Station**

TOE/TDA NTE 120 NSF  
Combined BDE/BN NTE 140 NSF/BDE Building  
AIT NTE 110 NSF  
BT/OSUT 110 NSF

**h. SCIF, NOC or BOC**

These special use areas are not normally a part of a battalion HQ. Special Forces (SF) battalions that are not collocated with their SF group and military intelligence battalions may have justification for these types of space. Calculate SCIF, NOC, or BOC facilities only if required. If these facilities are required, calculate 150 NSF per person requiring space. Multiply this area by 1.22 for the net-to-gross conversion.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

For TOE battalions, separate the building into distinct security areas. Zone 1 areas have limited controlled access for physical and personnel security. Zone 2 areas have controlled access areas for operational and information security. Zone 3 areas have restricted access with electronic access control for those battalions requiring SCIF, NOC, or BOC facilities.

Table 14183- 2 lists the functional areas by security zone.

Table 14183-2 Functional Areas by Zone			
Area	Zone 1	Zone 2	Zone 3
Command Group	x		
S1	x		
S2		x	
S3		x	
S4	x		
S5		x	
S6		x	
Chaplain	x		
Surgeon/ Medical	x		
Legal	x		
Public Affairs	x		
Safety	x		
Support Operations		x	
Fire & Effects		x	
Air Defense		x	
Engineer		x	
CBRNE		x	

Provide private and open office space for all staff members requiring a workstation to fulfill their mission.

Provide video teleconferencing capability within the command conference room.

Provide a minimum of one women's and two men's showers.

Provide SCIF, NOC, or BOC facilities if required. They are, however, not typically associated with battalion headquarters. Possible battalion exceptions include special operations, psychological operations (PSYOPS) and military intelligence (MI),

especially if they are located at an installation other than the brigade to which they are assigned. If these facilities are required, provide 150 NSF per person requiring space.

MI battalions may require SCIF space apart from the battalion HQ to provide work space for analysts assigned to subordinate units.

#### **b. Facility Utilization Metrics**

Calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces) included as general functional areas in Appendix A.

See Chapter 5 regarding utilization and Appendix A regarding general functional areas.

## **D. Programmable Increments**

### **1. Standard Facilities**

For battalions that are part of a brigade doctrinally designed and organized to deploy as a brigade set, the preferred new-construction option, when feasible, is a single combined brigade/battalion headquarters and six battalion headquarters. Table 14183-3 provides standard battalion headquarters sizes based on staff personnel strength or mission. When multiple battalion classrooms are consolidated in a single building, i.e. consolidated brigade/battalion headquarters, they shall be reduced in number by 50 percent because the consolidated headquarters option enables alternating use of classrooms.

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/savannah/SitePages/BnBde.aspx> for TOE battalions.

Standard Design floor plans are available on the COS website at: [http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt\\_osut.aspx](http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt_osut.aspx) for BT/OSUT battalions.

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/ait.aspx> for AIT battalions.

#### Programming UM:

- GSF

Table 14183-3 lists the standard Battalion HQ building size.

Table 14183-3 Battalion HQ Standard Building Size		
Standard Size	GSF (Without Classroom)	GSF (Classroom Only)
Small (20-35 PN)	12,200	3,800
Medium (36-50 PN)	14,100	4,100
Large (51-70 PN)	15,100	4,800
Extra Large (71-85 PN)	17,000	4,800
BT/OSUT	14,312	Two (2) EA 3,600 NSF min
AIT	5,545	5,355
Other TDA Battalions	12,200	

## 2. Programming Units

The smallest programmable unit is the appropriate standard design for an authorized user.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Locate battalion headquarters in troop land use.

A battalion area complete with COF, TEMF, organizational storage, organizational parking, and nonorganizational parking requires from 15 to 25 acres, depending on the type of battalion and the number of vehicles. For a complete Active Component BCT complex, total land required is 145 acres.

### 2. Site Planning Considerations

Most battalions will be part of a complex. Review the information for the appropriate complex as provided in Chapter 4.

For battalions that are part of a brigade doctrinally designed and organized to deploy as a brigade set, the preferred new-construction option, when feasible, is a single combined brigade/battalion headquarters and six battalion headquarters. In any case, locate the battalion HQ in proximity to its associated COF, TEMF, and organizational parking.

Functional, operational, and spatial relationships critical to meeting battalion training requirements are embedded in the operational layout of facilities. By definition, the term complex refers to multiple facility categories designed in a group to meet training mission objectives while minimizing (to the extent feasible) the

complex footprint. Contact the COS to consider alternatives to minimize or preclude functional and operational impacts on training requirements when there is a need for spatial or land use consideration for siting and implementing this Army standard.

The ideal site has a public entrance facing the garrison, with access to POV parking, a middle entrance allowing movement of logistics support in and out of the area without interaction with POV traffic, and a back entrance with access to training and deployment facilities. The ideal site flows from quiet, low-intensity housing, to the C2 area, to the intense working areas of the COFs and TEMFs. Design a security line to separate from public areas the COFs, the logistics and maintenance areas, and access to the training and deployment areas. For standalone battalions located near their COF, place the battalion outside the security line. Find additional information by consulting CATCDs 14185, 21410, 85210, and various facility categories associated with ranges.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District for the standard Battalion HQ Center of Standardization, and Fort Worth for AIT complexes and BT/OSUT.

Special operations, military intelligence, explosive ordnance, and some signal battalions may require a SCIF, an NOC, and/or an operations center, especially if they are not collocated with their parent brigade or group.

### 2. Exceptions

None.

### 3. References

The Army Standard for Brigade and Battalion Headquarters	23-JUL-12
UFC 4-140-01 Brigade Operations Complex Brigade and Battalion Headquarters Standard Design , Rev 5.1	25-JAN-13
Army Standard for Basic Training and One Station Unit Training (BT/OSUT)	12-JAN-08
Revised Army Standard for Advanced Individual Training (AIT) Complexes	2 –APR-13
UFC 4-140-03 Command and Control Facilities Standard Design	20-JUL-12

**4. See Also**

14182	Brigade Headquarters Building
17119	Organizational Classroom
14185	Company Headquarters Building
21110	Aircraft Maintenance Hangar
21410	Vehicle Maintenance Shop
21470	Oil Storage Building, Non-DOL/DPW
44224	Organizational Storage Building
85210	Organizational Vehicle Parking, Paved



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Open Office	A		48 NSF per person	48 NSF		Standard does not include circulation space; add circulation
General	Private Offices	A		8 Offices	No lower limit		
General	Conference Rooms	A		490 NSF	No lower limit		22-person
General	Storage	A		175 NSF	No lower limit		
Support	Public Showers	A			2M/1F		
Support	Janitor's Closet	A			20 NSF		
Support	Mechanical Room/Electrical Room	A			No lower limit		
General	Secure Document Storage	A			No lower limit		
General	Duty Station	A		110 NSF	No lower limit		
Support	Supply Room	A		140 NSF	No lower limit		
Mission	Classrooms	C			2,100 MSF		CATCD 17119
General	Mail Room/Message Center	A		175 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Open Office	A		48 NSF per person	48 NSF	
General	Private Offices	A		11 Offices	No lower limit	
General	Staff Duty	A		110 NSF	No lower limit	
General	Conference Rooms	A		750 NSF	No lower limit	28 person; 16 at table, 12 chairs along wall
General	Message Center	A		140 SF	No lower limit	
General	Storage	A		1,250 NSF	No lower limit	S-4, S-3, Classroom and Unit Ministry
Support	Restrooms	A			No lower limit	Male & Female; Command Suite
Support	Janitor's Closet	A			40 NSF	
Support	Mechanical Room / Electrical Room	A			No lower limit	
General	Secure Communications Room	A			No lower limit	
Mission	Classrooms	C			7,200 NSF	CC 17119; 2 classrooms of 3,600 NSF each
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Open Office	A		48 NSF per workspace	48 NSF		Plus circulation
General	Private Offices	A		13 EA	110 NSF		
General	Conference Rooms	A		2 EA	No lower limit		Command Suite should have a conference room
General	Message Center	A		Extra Large 150 NSF Large 150 NSF Medium 150 NSF Small 120 NSF	120 NSF		
General	Break Room	A		Extra Large 150 NSF Large 150 NSF Medium 150 NSF Small 150 NSF	150 NSF		Team or Conference room may serve as a break room
General	Storage	A		Provide storage for each department	No lower limit		Storage may be combined
Support	Public Restrooms	A		Male and Female per floor	No lower limit		
Support	Public Showers	A			No lower limit		If there are now showers, program two men's and two women's showers, or four unisex showers
Mission	Classrooms	A		Extra Large 4,800 NSF Large 4,800 NSF Medium 4,100 NSF Small 3,800 NSF	Same as "Standard"		CATCD 17119, classrooms divided by easily removable or foldable walls
General	File Storage	A		Extra Large 274 NSF Large 225 NSF Medium 150 NSF Small 135 NSF	135 NSF		Provide to departments as needed
Support	Janitor's closet	A		1 per floor	No lower limit		
Support	Mechanical Room	A		1 per floor	No lower limit		
Support	Electrical Room	A		1 per floor	No lower limit		
Support	SIPR Room	A			No lower limit		

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Secure Document Storage	A		Extra Large 160 NSF Large 150 NSF Medium 200 NSF Small 100 NSF	110 NSF		In accordance with AR380-5
Support	POV Parking	A			No lower limit		
Support	ADA Accessibility	A			No lower limit		
Support	Telecommunications Equipment Room	A		1 per floor	No lower limit		
Support	Secure Video Teleconferencing	A			No lower limit		In Command Conference
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the command, personnel, intelligence, operations, supply, communications, and other specialized functions of a battalion/squadron headquarters to be used by Active and Reserve Component units from other installations conducting training at a host site such as a major training area.

Proponent: DCS, G-3

COS: Louisville

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

**This facility category is managed by the Louisville Center of Standardization.**

### 3. Complex

The Transient Training (TT) Battalion Headquarters Building is part of an Operational Readiness Training Complex (ORTC).

Complex

- ORTC

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

Report and program these facilities in SF.

Primary:	SF
Secondary:	None
FAC UM:	SF
Planning:	SF
Other:	None

#### Units of Measure

Primary UM = SF  
Secondary UM = None  
FAC UM = SF  
Planning UM = SF  
Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 14184-1 lists mandatory functional areas by type for a TT Battalion HQ. See the functional adequacy matrix following this facility category discussion.

Table 14184-1 TT BN HQ Mandatory Criteria	
Functional Area	Criteria
Open Administration Area	Provide an open office administration area for minimum 20 persons, each provided a minimum of 48 NSF of working area.
Conference Room	Provide conference room with minimum 16 persons seating at a conference table with video conferencing capability.
Private Offices	Provide minimum 110 NSF private offices for CO, XO, CSM, staff section leaders (S1, S2, S3, S4, S6) and chaplain.
Storage	Provide separate storage rooms for medical supplies and general storage at a minimum 80 NSF each.
Mail Distribution	Provide a minimum 110 NSF mail distribution room.
Janitor Closet	Provide a minimum 30 NSF janitor closet with mop sink.
Public Restrooms	Provide minimum number of toilets, sinks, and electric water coolers in accordance with the International Plumbing Code.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one headquarters per transient battalion increment at installations that support annual or rotational training, or mobilization.

### 2. Programmatic Application

RPLANS calculates TT BN HQ allowances based on below-the-line Reserve Component training loads from the ASIP for each installation. RPLANS assigns one BN HQ for each RC training load increment of 500. RPLANS attributes the allowance to the site.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible strength is the number of Reserve Component or training battalions requiring

#### Planning Level

- Other-Than-Unit

facilities at one time. The TT BN HQ is normally assigned to a training battalion when in use, and to the garrison at other times.

## 2. Requirements Calculations

Determine the number of battalions required in coordination with the Director of Plans, Training, and Mobilization (DPTM) based on historic trends and assigned missions. Calculate the following per battalion.

Calculate nine private offices. The commander receives a 200 NSF office. All other private offices are 120 NSF. Calculate open office space for up to 20 personnel. Calculate requirements on 110 NSF per person, which includes a circulation factor. Calculate space for a 14-person, video teleconferencing (VTC)-capable conference room.

Calculate 120 NSF for the standard mail distribution room.

Calculate 80 NSF for medical storage, and 90 NSF for battalion storage.

Table 141824-2 provides a list of planning factors for each module in a TT Battalion Headquarters Building.

Table 14184-2 Standard Areas with NSF	
Standard Area	NSF
Private Offices	1,160
Open Offices	2,400
Conference Room	320
Mail Distribution Room	120
Medical Storage	80
Battalion Storage	90

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

The TT BN HQ building is primarily composed of private offices, open office work areas, and classrooms. Report the classroom in facility category code 17119, Organizational Classroom. Provide private offices for the commander, CSM, XO, S1, S2, S3, S4, S6, and chaplain. Provide a 14-person, VTC-capable conference room in close proximity to the private offices. Provide adequate space for office storage.

Provide an optional mail distribution room. Provide space for the dedicated use of communications equipment, along with an additional space for SIPRNET equipment.

Even though break areas are not necessary, when present, locate them close to restrooms and drinking fountains. Provide vending within the break area for use by all building occupants.

A mail distribution room does not necessarily have to be in the same building or on the same floor as the TT BN HQ. Provide it in close proximity if not in the HQ, for reasons of efficiency.

#### b. Facility Utilization Metrics

Calculate utilization by dividing the number of weeks each building is in use by 52, the number of weeks in a year. The DPTM or range control can provide information on the level of use.

## D. Programmable Increments

### 1. Standard Facilities

See the standard design floor plans for the battalion headquarter for transient training immediately following the functional adequacy matrix.

### 2. Programming Units

The standard TT BN HQ size in an ORTC Complex shall not exceed 105 percent of 7,075 SF.

Programming UM = SF

#### Battalion Headquarters Design Considerations

a. Construct a BN HQ when a battalion-level set is built-out.



b. The minimum functional requirements for renovation are:

- i. Nine enclosed offices
- ii. One open office space for 20 workstations
- iii. One video conference room to seat 16 PN
- iv. One mail distribution room

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Select land use consistent with ORTC. The ORTC ideal site requires approximately 30 acres.

### **2. Site Planning Considerations**

This facility category is included in an ORTC Complex. See Chapter 4 for information on complexes.

Provide POV parking for 10 percent of the ORTC Battalion Complex intended occupants, unless the standard design states otherwise.

## **F. Other Considerations**

### **1. Special Instructions**

Contact the Center of Standardization, Louisville District.

### **2. Exceptions**

None.

### **3. References**

Operational Readiness Training Complex (ORTC), Standard Design, Revision 4.6	24_AUG-12
Revised Army Standard for Operational Readiness Training Complex	12-FEB-12

**4. See Also**

14186	Transient Training Company Headquarters Building
14187	Transient Training Brigade Headquarters Building
17119	Organizational Classroom
21406	Transient Training Vehicle Maintenance Shop
44224	Organizational Storage Building
72114	Transient Training Enlisted Barracks
72115	Mobilization Enlisted Barracks
72212	Transient Training Dining Facility
72412	Transient Training Officers Quarters
85210	Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
General	Private Office	A	120 NSF	No lower limit	Commander alone receives 200 NSF
General	Open Office	A	110 NSF	110 NSF	Includes circulation space NTE 20 PN
General	Conference Room	A	320 NSF	No lower limit	14 person, VTC capable
General	Mail Room	A	120 NSF	No lower limit	
Mission	Office Storage	A	90 NSF	No lower limit	
Support	Public Restroom	A		No lower limit	
General	Break Room	A	100 NSF	No lower limit	
Support	Mechanical	A		No lower limit	
Support	SIPR Closet	A		No lower limit	
Support	Janitor's Closet	A		20 NSF	
Mission	Classroom Storage	A	140 NSF	No lower limit	
Mission	Organizational Classroom	A	3,600 NSF	15 NSF per student	Three classrooms separated by movable partitions, classify as CATCD 17119
Mission	Medical Storage	D	80 NSF	No lower limit	
<b>Presence Requirements for Adequacy:</b>					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building provided for companies, batteries, and troops as space to perform daily administrative and supply activities. It is also known as a company operations facility (COF). Separate unit headquarters at echelons below company (platoon, detachment, contact team, and so on) as 61050, Administrative Building, General Purpose.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Centers of Standardization

MTOE and TDA companies are under the Savannah District Center of Standardization. AIT and BT/OSUT companies are governed by the Fort Worth District Center of Standardization. Aviation flying companies in combat aviation brigades, their supporting aviation maintenance companies, and unmanned aircraft system (UAS) companies are governed by the Mobile District Center of Standardization.

### 3. Complex

COFs may be standalone buildings, or they may be part of one of the following complexes:

- Brigade Complex (MTOE) COF Element
- Basic Training/One Station Unit Training (BT/OSUT) Complex
- Advanced Individual Training (AIT) Complex
- C2F Complex for Division, Corps or Army Service Component Command (ASCC)
- Aviation Unit Complex

See Chapter 4 for a discussion of the complexes.

#### Proponent:

- DCS, G-3

#### COS:

- MTOE and TDA – Savannah
- AIT, BT/OSUT – Fort Worth
- Aviation Mobile

#### Complex:

- Brigade (MTOE) COF Element
- BT/OSUT
- AIT
- C2F
- Aviation Unit

#### 4. Units of Measure

Primary: SF  
 Secondary: None  
 FAC UM: SF  
 Capacity: PN: Office capacity of general functional areas  
 Capacity: EA: Number of company HQs in the building  
 Capacity: SP: Number of lockers in readiness modules

##### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = EA
- CAP = PN
- CAP = SP

Calculate the NUA capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Use EA where each is the number of companies that the building can accommodate. The value of EA cannot be greater than the number of adequate arms rooms in the building.

Use SP for the readiness module where SP is the number of Table of Allowances 50 (TA-50) lockers the module can accommodate, and provide layout space consistent with the Standard Design. The value for SP is zero for buildings that do not have a readiness module.

#### 5. Functional Areas

Under the Savannah District Standard Design, a COF consists of an administration module and a readiness module. See the functional adequacy matrix following this facility category discussion for a detailed list of functional areas and evaluation metrics. There are separate matrices for MTOE, BT/OSUT, and AIT companies.

Table 14185-1 lists the functional areas by type in the administration module.

Table 14185-1 Administration Module	
Functional Area	Type
Private Offices (See Appendix A for criteria)	General
Open Offices	General
Reception	General
Conference Room	General
Training Room	General
Platoon Offices	General
Storage	General
SIPRNET Room	Support
Private Bathrooms	Support
Public Shower Rooms	Support
Troop Aid Station (If required by mission)	Mission

The private offices, open office, reception area, the training room, and office storage make up the command suite in the administration module. The conference rooms are also in the administration module. Platoon offices may be in the administration module and the mezzanine of the readiness module, depending on configuration and number of platoons.

A brigade or battalion troop aid station may be included in the administration module where the medical company of the brigade support battalion (BSB) resides. When this option is exercised, it results in two platoon suites being displaced from the administration module to the expansion space in the readiness module. No additional aid stations are to be provided in COFs at individual company levels.

The readiness module holds a supply bay and a readiness bay, and may include platoon offices in the mezzanine.

Table 14185-2 lists the functional areas of the supply bay by type.

Table 14185-2 Supply Bay	
Functional Area	Type
Unit Storage	Mission
Secure Nonsensitive Storage	Mission
CBRNE/NBC Storage	Mission
Communications Storage	Mission
Arms Vault	Mission

Table 14185-3 lists the functional areas of the readiness bay by type.

Table 14185-3 Readiness Bay	
Functional Area	Type
TA-50 Lockers	Mission
Equipment Layout Space	Mission
Exterior Covered Hardstand	Mission

The platoon offices are shared office spaces. In new construction, they may be located in the mezzanine of the readiness module rather than in the administration module, depending on the configuration of the COF.

The exterior covered hardstand should be reported in the inventory as CATCD 14179, Overhead Protection.

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## B. Criteria

### 1. Basis of Authorization and Calculation

The criteria allow space in this category code to:

- MTOE companies
- BT/OSUT companies
- AIT companies
- Other TDA companies as needed

The qualifying attributes are a commander and a first sergeant.

The criteria authorize one headquarters per MTOE company or equivalent unit with the organic capability to conduct supply operations and weapons storage. This usually consists of a supply NCO and an armorer. The presence of an E8 first sergeant in the MTOE or TDA usually indicates the need for a company headquarters.

Criteria do not authorize all units with a first sergeant a company headquarters, however. Some MTOE detachments and teams that do not have first sergeants function as companies and require readiness module space. Detachments, including headquarters and headquarters detachments, that have a supply sergeant and an armorer may be equipped and organized to operate independently. Section 1 of their MTOE or supporting base TOE may provide additional information to assist in making a determination as to whether they require a COF.

Criteria do not authorize some detachments an administration module and supply bay, although criteria allow authorized Soldiers space in a readiness module. Associate these detachments with the company or battalion providing oversight, and include the personnel in the count for TA-50 storage and equipment maintenance.

Criteria do not authorize TDA companies readiness modules. When criteria allow the readiness module for TDA companies, only the supply bay is authorized.

Criteria do not allow BT/OSUT and AIT companies a readiness module, but do allow a supply bay with arms room.

## 2. Programmatic Application

RPLANS assigns space allowances for a COF for OTOEs or TDAs with a first sergeant. RPLANS calculates battalion-level allowances for SRCs with the number “5” in the fifth position of the SRC. It also calculates company allowances for all SRCs with a first sergeant.

RPLANS calculates allowances for all companies in standard battalion OTOEs as a battalion set.

## C. Planning

### 1. Planning Level

The planning level is unit. There are two planning UMs for COFs, EA and SF. Determine the number of units authorized a headquarters, and then determine the NSF of general and mission functional areas each company requires.

Planning Level:

- Unit

### 2. Requirements Calculations

Table 14185-4 lists common square footage requirements for companies of varying sizes. Use the values from Table 14185-4 to determine the quantitative adequacy of existing spaces and plans for new facilities.

Table 14185-4 COF Standard Sizes - NSF				
Area	100 PN	150 PN	200 PN	Each Additional 50 PN
<b>ADMINISTRATION MODULE</b>				
Private Offices (See Appendix A for criteria)	1,200	1,200	1,200	
CO	150	150	150	
1SG	150	150	150	
XO	150	150	150	
Training Room	150	150	150	
Platoon Offices 4ea	150	150	150	
Command/Platoon Storage	40	40	40	
Conference Room	310	310	310	
<b>READINESS MODULE</b>				
<b>Supply Bay</b>				
Secure Storage for Nonsensitive Items	166	306	504	169



Table 14185-4 COF Standard Sizes - NSF				
Area	100 PN	150 PN	200 PN	Each Additional 50 PN
Vault	400	500	600	100
NBC Storage	94	152	198	52
Communications Storage	94	152	198	52
Unit Storage	367	595	764	199
Readiness Bay				
TA-50 Lockers/Equipment Layout Area	3,672	5,292	6,912	1,620
Overflow/Expansion Space	1,290	1,833	2,383	547
Exterior Covered Hardstand				
Equipment Maintenance/ Layout Space	1,680	2,330	2,990	660

Table 14185-5 lists common square footage requirements for BT/OSUT and AIT companies.

Table 14185-5 Functional Areas for Nonstandard Companies - NSF		
Area	BT/OSUT	AIT
Private Offices (See Appendix A for criteria)	1,480	1,440
Storage	800	280
Arms Vault	400	200
NBC Storage	200	
TA-50 Lockers	640	
Secure Storage	245	100

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Assign space for MTOE companies in battalion sets, when possible. When standard facilities are not available, placement priority for companies is proximity to the motor pool first, and then to parent battalion headquarters.

Assign BT/OSUT as close to trainee barracks and dining facilities as possible when the COF is not part of a standard BT/OSUT complex.

Assign AIT companies as close to AIT UPH and dining facilities as possible when the COF is not part of an AIT complex. Some training brigades will have both AIT companies and companies for officer, warrant officer, NCO or other advanced skills training. Assign companies associated with advanced skills training cadres and/or students as close as possible to the associated training facility or complexes.

*i. MTOE and TDA, Other Than BT/OSUT or AIT*

The administration module is the same for both TOE and TDA units. Modify planning factors addressed below if MTOEs or TDAs document additional personnel needing space.

Provide private offices for the commander, first sergeant, executive officer, and training NTE 150 NUA each.

Provide a conference room capable of seating 10 persons at the table, and 6 persons around the room. This may vary.

Provide at least one private bathroom per two companies, collocated with the command suites. Provide public showers to serve both the administrative personnel assigned to the company and off-post personnel, and accommodate 25 percent of the building population in a 60-minute period.

Provide a telecommunications room to include the future use of SIPRNET. Both explosive ordnance disposal and military intelligence COFs will contain SIPRNET capability.

Provide space in each administration module for printer and fax machines, waste and paper recycling, and a supply closet for storage

Provide four shared offices for platoon leaders and platoon sergeants at 150 NUA each.

Do not provide unit supply for TDA companies unless there is a documented requirement to store weapons and a capability to conduct supply operations. Do not provide TA-50 areas for TDA companies without a documented requirement.

The supply bay provides storage for company supplies and equipment. Provide open office space within the supply bay for the supply sergeant, the supply clerk, and the armorer.

Provide an arms room for storage of arms, ammunition, and explosives. Provide a room for secure, nonsensitive document storage for items other than arms, ammunition, and explosives.

Provide NBC and communications storage based on approximately 1 NSF per person authorized.

The readiness module provides accommodation for individual combat equipment in TA-50 lockers for TOE units. Each locker is sized 42 inches wide by 24 inches deep by 78 inches high. Provide sufficient lockers for 100 percent of company personnel. Size the readiness bay so that up to 50 percent of the personnel can lay out TA-50 gear at any one time, based on providing 40 NSF for each layout space. The bay floor should be capable of supporting forklift loads of 5,000 pounds force, and maximum load capacity of 2,000 pounds force.

Provide an exterior covered hardstand for each company adjacent to the readiness module, to accommodate outside equipment maintenance, weapons cleaning, deployment preparation, vehicle loading, and close formation. Provide one 40 NSF layout area per person for 25 percent of the assigned company personnel. Provide water, lighting, and electrical connections. Provide one mud wash sink for every 50 Soldiers in the readiness bay.

#### *ii. BT/OSUT Companies*

Provide private office space for the company commander, executive officer, training sergeant, and first sergeant. The company commander receives 150 NSF; the first sergeant, the executive officer, and the training office each receive 110 SF. Drill instructor offices will be 250 NSF each (1,000 NSF). The building should also have 1,045 SF of supply room.

Although not a TOE unit, provide a 400 SF arms vault, 200 SF for mask storage and 640 SF for TA-50 locker storage, or the NUA equivalent in existing facilities.

There is no requirement within the company operations area of the BT/OSUT building for space to lay out gear.

**iii. AIT Companies**

Provide private offices for the company commander, 150 NSF, and the executive officer, 110 NSF. A training office of 220 NSF includes the first sergeant and operations sergeant. A minimum of 960 NSF for platoon sergeant offices will be provided. Provide an arms vault of 200 SF. Also, provide 280 SF for company supply, along with 100 SF for secure storage.

**b. Facility Utilization Metrics**

Calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (to include special and storage spaces) included as general functional areas in Appendix A. See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

Utilization for the readiness bay:

$(\text{Required SP} / \text{assigned SP}) \times 100 = \text{percent utilized}$  (If Assigned spaces = "0" and utilization = NA)

**D. Programmable Increments****1. Standard Facilities**

Use the COF Standard Design when programming facilities. Program MTOE COFs as part of a battalion set.

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/savannah/SitePages/BnBde.aspx> for TOE companies.

Standard Design floor plans are available on the COS website at: [http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt\\_osut.aspx](http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt_osut.aspx) for BT/OSUT companies.

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/ait.aspx> for AIT companies.

**2. Programming Units**

Avoid programming a one- or two-company COF, except when needed to complete an existing brigade or battalion complex.

Table 14185-6 lists the programming increments for a readiness bay, if it is required by the mission, to replace a building with a Facility Functional Capability Code of F3.

Table 14185-6 Readiness Bay	
Area	Type
TA-50 Lockers / Equipment Layout Space	40 NSF/PN
Arms Room	300 NSF
Shower Room	1 M, 1 F / 2 CO

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Locate in troop unit areas. See Chapter 4 for a discussion of complexes.

For the Active Component BCT complex (and Reserve Component, when applicable), the total land required is up to 145 acres, depending on the type of BCT. Calculate the portion attributable to a company by battalion.

Armored Brigade Combat Team (ABCT) Combined Arms Battalion (CAB) example:

Administration Module  $16,600/2 = 8,300$  GSF

Readiness Module (single story) 60,300 GSF

Covered Hardstand = 14,600 GSF

The building and associated hardstands with no antiterrorism (AT) setbacks equals 91,560 GSF.

Parking for 50 percent of company strength (777 for all of the companies in the battalion) is 388.5; hence:

$$[(388 \times 35 \text{ SY/Vehicle}) = 13,580 \text{ SY}] \times 9 \text{ SF/SY} = 122,220 \text{ SF}$$

Total surface area =

$$[(91,560 \text{ SF} + 122,220 \text{ SF}) = 213,780 \text{ SF}] / 43,560 \text{ SF} = 4.9 \text{ AC}$$

The above formula does not include setbacks for AT, PT area, or landscape.

## 2. Site Planning Considerations

See Chapter 4 for more information on complexes.

For TOE companies, locate company headquarters in proximity to the TEMF and battalion headquarters. In the Brigade – Battalion Standard, company headquarters are collocated with:

- Brigade HQ, facility category code 14182
- Battalion HQs, facility category code 14183
- TEMF, facility category code 21410
- Organizational Vehicle Parking, Paved, facility category code 85210.

Where possible, a number of companies should be located within the same building. The Standard Design provides for up to eight companies being collocated in a single building.

For BT/OSUT and AIT companies, lay out the facilities as part of a training complex that provides billeting, dining facilities, general instruction, applied instruction, and associated local training areas and ranges within close proximity.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District for MTOE.

Consult Center of Standardization: Fort Worth for AIT and BT/OSUT.

Consult Center of Standardization: Mobile District Center of Standardization for Aviation

### 2. Exceptions

The Army authorizes EOD companies a double readiness module increment to provide space for specialized EOD equipment, including robots and associated training.

The aviation hangar complex includes space for unit administration for aviation and aviation support companies of an aviation battalion. The company headquarters for aviation companies are included within the aviation hangar complex. See chapter 4, Complexes, for aviation company headquarters.

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### 3. References

Revised Army Standard for Company Operations Facility (COF)	30-AUG-12
Revised Army Standard for Advanced Individual Training (AIT) Complexes	2-APR-13
Army Standard for Basic Training and One Station Unit Training (BT/OSUT)	12-JAN-08
Army Standard for Command and Control Facilities, Echelons Above Brigade	12-MAR-08
UFC 4-140-03 Command and Control Facilities (C2F) and Other Army Headquarters	21-MAR-13
UFC 4-140-01 Brigade Operations Complex Brigade and Battalion Headquarters Standard Design, Rev 3.2	25-JAN-13

### 4. See Also

14179 Overhead Protection  
14182 Brigade Headquarters Building  
14183 Battalion Headquarters Building  
21110 Aircraft Maintenance Hangar  
21410 Vehicle Maintenance Shop  
44224 Organizational Storage Building  
85210 Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
General	Private Offices	A		480 NSF	480 NSF		Provide private offices for: CO, XO, Ops Sergeant, 1st Sergeant
Mission	Storage/Company Supply	A		280 NSF	280 NSF		
Mission	Arms Vault	A		200 NSF	200 NSF		
Mission	Secure Storage	A		100 NSF	100 NSF		Within Company Supply
Support	Public Shower	A			No lower limit		For company administrative personnel, within restrooms
Mission	Multi-purpose space	A		1,700 NSF	1,700 NSF		Provide private offices for: CO, XO, Ops Sergeant, 1st Sergeant
Mission	Weapons Cleaning Room/Scrub Room	A		240 NSF	240 NSF		
Mission	Covered Training/Assembly Area	B		1,750 NSF	1,750 NSF		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							





APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Private Offices	A		150 NSF	No lower limit		
General	Conference Room	A		310 NSF	No lower limit		
General	Training Room	A		150 NSF	No lower limit		
General	Platoon Offices	A		150 NSF	No lower limit		
General	Storage	A		40 NSF	No lower limit		
Support	SIPRNET Room	A			No lower limit		
Support	Restrooms	A			No lower limit		
Support	Public Showers	A		Accommodate 25% of company PN within 1-hour period	No lower limit		Provide lockers at 3:1 ratio to showers
Mission	Unit Storage	A		367 NSF – 100 PN 595 NSF – 150 PN 764 NSF – 200 PN 199 NSF each additional 50 PN	No lower limit		TOE units only
Mission	Secure Nonsensitive Storage	A		166 NSF – 100 PN 306 NSF – 150 PN 504 NSF – 200 PN 169 NSF each additional 50 PN	No lower limit		TOE units only
Mission	CBRNE Storage	A		94 NSF – 100 PN 152 NSF – 150 PN 198 NSF – 200 PN 52 NSF each additional 50 PN	No lower limit		TOE units only
Mission	Communications Storage	A		94 NSF – 100 PN 152 NSF – 150 PN 198 NSF – 200 PN 52 NSF each additional 50 PN	No lower limit		TOE units only
Mission	Arms Vault	A		400 NSF – 100 PN 500 NSF – 150 PN 600 NSF – 200 PN	300 NSF		TOE units only, IAW AR190-11

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	TA-50 Lockers	A		3,672 NSF – 100 PN 5,292 NSF – 150 PN 6912 NSF – 200 PN 1,620 NSF each additional 50 PN	40 SF/PN		Program shortage in readiness module to bring unit to 40 NSF/PN. TOE units only, lockers for 100% of company personnel
Mission	Interior Operations and Maintenance Area						Included in TA-50 Lockers
Mission	Exterior Covered Hardstand: Equipment Layout/Weapons Cleaning Space	A		1,680 NSF – 100 PN 2,330 NSF – 150 PN 2,990 NSF – 200 PN 660 NSF each additional 50 PN	40 NSF for 25% of company personnel		TOE units only
Mission	Troop Aid Station	E			No lower limit		Normally 1 per brigade combat team or other modular brigade assigned for the brigade support battalion
Support	Mechanical Room	A			No lower limit		
Support	Electrical Room	A			No lower limit		
Support	Janitor's closet	A			20 NSF		1 per floor in administration module; 1 per company in readiness module
Support	Telecommunications Equipment Room	A		1 per floor	No lower limit		1AW 13A Guide and ANSI/EIA/TIA-569-B
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building provided for companies, batteries, and troops as space to perform daily administrative and supply activities, and to be used by Active and Reserve Component units from other installations conducting training at a host site such as a major training area. This category of facilities is also known as a company operations facility (COF). Separate unit headquarters at echelons below company (platoon, detachment, contact team) are reported as 61050, Administrative Building, General Purpose.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Louisville

### 3. Complex

The Transient Training (TT) Company Headquarters Building is part of an Operational Readiness Training Complex (ORTC).

Refer to Chapter 4 for more information on this complex.

#### Complex:

- ORTC

### 4. Units of Measure

Report and program these facilities in SF.

Primary:	SF
Secondary:	None
FAC UM:	SF
Planning:	SF
Other:	None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14186-1 lists functional areas by type for a TT Company Headquarters Building. See the functional adequacy matrix following this facility category discussion.

Table 14186-1 Mandatory Functional Areas	
Functional Area	Mandatory
Administrative Area	Provide each company area with an open office administration area for at least 4 persons at minimum 48 NSF for each work space, and a conference room to seat minimum 10 at a table.
Private Offices	Provide each company area with separate minimum 110 NSF offices for commander, executive officer, and first sergeant.
Janitor's Closet	Provide minimum 30 NSF janitor's closet with mop sink per company.
Restrooms	Provide minimum number of toilets, sinks, and electric water coolers in each company area, in accordance with the International Plumbing Code.
Weapons Vault	Provide each company area with a weapons vault constructed in accordance with AR 190-11, including IDS. Modular vault system is acceptable IAW UL 608 Class "M" vault. Include day gate.
Company Storage	Provide each company area with one company storage, NBC storage, communications storage, and supply officer space, overall minimum 450 NSF.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize **this facility category** at one headquarters per transient company increment at installations that support annual training or rotational training.

### 2. Programmatic Application

RPLANS calculates space allowances to Transient Training Company Headquarters based on below-the-line Reserve Component training loads from the ASIP for each installation. RPLANS assigns one company headquarters for each RC training

load increment of 100. RPLANS attributes the allowance to the real property site.

The Standard Design area is 19,579 GSF.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible strength is the number of Reserve Component or training companies requiring facilities at one time. The TT COF is normally assigned to training units by battalion when in use, and to the garrison at other times.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Calculate up to 720 NSF of open office for each company increment. Calculate for each workstation approximately 83 NSF, which includes a circulation factor. Calculate an optional 300 NSF for a 10-person conference room, which will reduce total open office space to 300 NSF.

Provide private offices for the company commander (150 NSF), executive officer (115 NSF), and first sergeant (120) NSF.

Table 14186-2 provides a list of planning factors for each company module in a TT Company Headquarters Building.

Table 14186-2 Standard Shop Area	
Area	Size (NSF)
Private Offices	385
Open Offices	720 without Conference Room
Conference Room	300 deduct from Open Office
Arms Vault	400
NBC, Communications, Supply Storage	100 each
Company Storage	300

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Annual training (AT) for National Guard and Reserve units, and major training centers such as Fort Polk or Fort Irwin, require ORTC Complexes, and therefore a TT COF. Assign facilities by company.

The TT Company Operations Facility (COF) is broken into a number of modules, each module housing one company.

Provide an arms vault, NBC storage, communications storage, supply, and company storage. The arms vault may be modular, but must be in accordance with the requirements of UL 608 Class M vaults with a forced-entry delay time of 15 minutes. The company storage areas may be within the company headquarters module, enclosed by wire mesh, or in a separate building located close to the TT Company Headquarters Building. If company storage is located in a separate building, several companies may have their storage consolidated within one building; however, provide each company a separate storage area within this building.

#### **b. Facility Utilization Metrics**

Calculate utilization by dividing the number of weeks each building is in use by 52. The DPTM or range control can provide information on the level of use.

## **D. Programmable Increments**

### **1. Standard Facilities**

See the Standard Design floor plans for the transient training company headquarters building for Operational Readiness Training Complex at <http://mrsi.usace.army.mil/cos/louisville/SitePages/ortc.aspx>.

### **2. Programming Units**

The smallest module the Army will program is a four-company module.

The standard TT COF in an ORTC Complex is 19,579 GSF for a six-company module, with an additional hardstand area of 12,852 GSF.

Program a TT COF in either four or six company modules. Normally, program the TT COF as part of an ORTC Complex.

#### **Programming UM:**

- SF

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Select land use consistent with the ORTC. The ORTC ideal site requires approximately 30 acres per battalion set.

### **2. Site Planning Considerations**

This facility category is included in an ORTC Complex. See Chapter 4 for information on complexes.

The TT COF is a portion of the TT battalion complex. Locate the COF in close proximity to other battalion-related facilities, such as barracks, TEMFs, vehicle hardstands, battalion headquarters, and the dining facility. Locate each battalion complex in close proximity to other battalion complexes in the brigade, the TT BDE HQ, and formation fields. Design each ORTC Complex around six battalions.

Situate the covered hardstand area immediately adjacent to the back entrance of the company module. The hardstand provides space to lay out Table of Allowances 50 (TA-50) gear for up to 25 percent of the authorized battalion personnel. A six-module COF will have 225 layout spaces, while a four-module COF will have 150 spaces.

Provide POV parking for 10 percent of the ORTC Battalion Complex intended occupants, unless the Standard Design states otherwise.

## **F. Other Considerations**

### **1. Special Instructions**

Contact the Center of Standardization, Louisville District.

### **2. Exceptions**

None.

### **3. References**

Operational Readiness Training Complex (ORTC) Standard Design, Revision 4.6	24-AUG-12
Revised Army Standard for Operational Readiness Training Complex	12-FEB-12



**4. See Also**

14184	Battalion Headquarters BLDG: Transient Training
14187	Transient Training Brigade Headquarters BLDG:
17119	Organizational Classroom
21406	Transient Training Vehicle Maintenance Shop
44224	Organizational Storage Building
72114	Transient Training Enlisted Barracks
72115	Mobilization Enlisted Barracks
72212	Transient Training Dining Facility
72412	Transient Training Officers Quarters
85210	Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
General	Private Offices	A	3 per company module	No lower limit	CDR 150 NSF, ISG 120 NSF, XO 110 NSF
Mission	Arms Vault	A	400 NSF	300 NSF	Designed in accordance with AR 190-11
Mission	Company Storage	B	300 NSF	No lower limit	
Mission	NBC Storage	A	100 NSF	No lower limit	
General	Conference Room	D	300 NSF	0 NSF	Deduct from Open Office
Support	Commo Storage	A	100 NSF	No lower limit	
Support	Private Restrooms	A		No lower limit	
Mission	Supply Storage	A	100 NSF	No lower limit	
General	Open Office	A	630 NSF	330 NSF	
Support	Covered Hardstand	A	37 Spaces	25 % of company strength	
<b>Presence Requirements for Adequacy:</b>					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses the command, personnel, intelligence, operations, supply, communications, and other specialized functions of a regimental, group, or brigade headquarters to be used by Active and Reserve Component units from other installations conducting training at a host site such as a major training area.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-3

#### Center of Standardization

This facility category is managed by the Louisville District Center of Standardization.

#### Proponent:

- DCS, G-3

#### COS:

- Louisville

### 3. Complex

The Transient Training (TT) Brigade Headquarters Building will normally be a part of an Operational Readiness Training Complex (ORTC). Refer to Chapter 4 for more information on this complex.

#### Complex:

- ORTC

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC UM: SF  
Planning: SF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary = None
- FAC UM = SF
- Planning UM = SF
- Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14187-1 lists functional areas by type for a TT Brigade Headquarters Building. See the functional adequacy matrix following this facility category discussion.

Table 14187-1 Functional Areas by Type	
Functional Area	Type
Private Offices (See Appendix A for criteria)	General
Open Offices	General
SIPRNET Closet	Support
Mail Distribution Room	General
Conference Room	General
EOC	Mission
Office Supply	General
Break Room	General
Public Restrooms	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one headquarters per transient brigade increment at installations that support annual training or rotational training.

### 2. Programmatic Application

RPLANS calculates Transient Training Battalion Headquarters allowances based on below-the-line Reserve Component training loads from the ASIP for each installation. RPLANS allows one brigade headquarters for each RC training load increment of 1,500. RPLANS attributes the assignment to the garrison.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible strength is the number of Reserve Component or training brigades requiring facilities at one time. The BDE HQ is normally assigned to the transient brigade when in use, and to the garrison at other times.

### 2. Requirements Calculations

Determine the number of battalions required by consulting with DPTM. Calculate the following per brigade.

The commander receives a 300 NSF office. Calculate 10 additional private offices at 120 NSF. Each occupant in open office work areas receives 110 NSF per person, which includes a circulation factor. Provide open office space for 42 individuals, which is for the use of the various sections' personnel.

Calculate a 16-person, VTC-capable conference room in close proximity to the commander's office, with a 16-person EOC.

The standard mail distribution room, if included in the building, should measure 120 NSF. Table 14187-2 provides a list of planning factors for each company module in a TT Battalion Headquarters Building.

Table 14187-2 Standard Shop Area	
Area	Size (NSF)
Private Offices	1,500
Open Offices	4,670
Conference Room	450
Mail Room	120
EOC	500
Office Supply	500

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area. Assign facilities by brigade.

By its nature, this facility category is for temporary use, and may reflect austere standards and primarily open space.

The TT Brigade Headquarters building is composed primarily of private offices, open office work areas, and an emergency operations center (EOC). Provide private offices for the commander, executive officer, sergeant major, S1, S2, S3, S4, S6, brigade surgeon, chaplain, and assistant chaplain. Provide adequate space for office storage. Provide an EOC as well. Provide a small conference room within the building. Provide adequate shared space for the EOC and the conference room.

Provide a mail distribution room, which does not necessarily have to be in the same building or the same floor as the TT Brigade Headquarters. However, provide the mail distribution room in

close proximity to TT Brigade Headquarters, to improve efficiency.

Provide space for the dedicated use of communications equipment, along with an additional space for SIPRNET equipment.

Provide boot-wash facilities at each exterior entrance to the TT Brigade HQ building.

Even though an EOC needs to be present within the TT Brigade Headquarters Building, it does not require all the criteria in facility category code 14161. Ideally, locate the conference room in close proximity to the EOC because they may share a storage area.

Because the TT Brigade Headquarters is part of an ORTC, it may share a building with some or all of the facility categories within the complex. When attributing the building's assets to facility categories, keep in mind that each section is a distinct category; report it as such.

Locate the break area close to restrooms and drinking fountains. Provide vending in the break area for use by all building occupants.

#### **b. Facility Utilization Metrics**

Calculate utilization by dividing the number of weeks each building is in use by 52. The DPTM or range control can provide information on the level of use.

## **D. Programmable Increments**

### **1. Standard Facilities**

The standard TT Brigade Headquarters size in an ORTC is 10,238 GSF. See the Standard Design floor plans for the Transient Training Brigade Headquarters Building for Operational Readiness Training Complex at <http://mrsi.usace.army.mil/cos/louisville/SitePages/ortc.aspx..>

#### **Programming UM:**

- GSF

### **2. Programming Units**

Program per the Standard Design.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate support facilities (ORTC) for transient units on the periphery of the range and training land use category to provide access to both training resources and community facilities, if possible. The ORTC ideal site requires approximately 30 acres per battalion set. Allow 186 acres for an entire six-battalion complex.

Locate troop operations areas with access to ranges and training areas, and without requiring traffic to traverse roads or routes through community, residential, or Professional/Institutional areas.

### **2. Site Planning Considerations**

This facility category is included in an ORTC. See Chapter 4 for information on complexes. Locate the TT Brigade HQ close to the battalion complexes associated with the ORTC. The Standard Design ORTC provides for six battalions.

Provide for POV parking for 10 percent of the ORTC Battalion Complex intended occupants, unless the Standard Design states otherwise.

## **F. Other Considerations**

### **1. Special Instructions**

Contact the Center of Standardization, Louisville District.

### **2. Exceptions**

None.

### **3. References**

Operational Readiness Training Complex (ORTC), Standard Design, Revision 4.6	24_AUG-12
Revised Army Standard for Operational Readiness Training Complex	12-FEB-12

**4. See Also**

14184	Battalion Headquarters BLDG: Transient Training
14186	Transient Training Company Headquarters Building
21406	Transient Training Vehicle Maintenance Shop
72114	Transient Training Enlisted Barracks
72115	Mobilization Enlisted Barracks
72212	Transient Training Dining Facility
72412	Transient Training Officers Quarters



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
General	Private Offices	A	120 NSF	No lower limit	Commander only receives 300 NSF
General	Open Office	A	4,670 NSF 42 spaces	110 NSF per occupant	
Support	SIPRNET Closet	A		No lower limit	
General	Mail Room	B	120 NSF	120 NSF	16 Occupants, VTC capable
General	Conference Room	A	450 NSF	450 NSF	16 Occupants, VTC capable, does not have to meet criteria for CATCD 14161 Reported with CATCD 14187
Mission	EOC	A	500 NSF	500 NSF	
Mission	Office Supply	A	160 NSF	160 NSF	
General	Break Room	D	100 NSF	100 NSF	
Support	Public Restrooms	A		No lower limit	
Support	Mechanical Room	A		No lower limit	
Support	Electrical Room	A		No lower limit	
Presence Requirements for Adequacy:					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. Description / Definition

A building provided for battalions, companies, batteries, and troops as space to perform daily administrative and supply activities supporting the Warrior in Transition units. It is also known as a company operations building. Separate unit headquarters at echelons below company (platoon, detachment, contact team, etc.) are reported as 61050, Administrative Building, General Purpose.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Fort Worth Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Fort Worth

### 3. Complex

Warrior in Transition Unit (WTU) Headquarters is a portion of the Warrior in Transition (WT) Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- WT

### 4. Units of Measure

Report and program these facilities in SF.

Primary:	SF
Secondary:	None
FAC	SF
Planning:	SF
Other:	None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other UM = None

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 14188-1 lists the functional areas by type of the WTU company headquarters. See the functional adequacy matrix following this facility category discussion.

Table 14188-1 WTU Company Headquarters	
Functional Area	Type
Distribution Center	General
Kitchenette	General
Open Offices	General
Private Office	General
Lobby	General
Telecommunications Room	Support
Secure Documents Storage	General
Copier/Fax Room	General
Reception Station	General
Reception Area	General
Public Shower	Support
Conference Room	General
Records Room	Mission
Supply Room	Mission
Janitor's Closet	Support

Table 14188-2 lists the functional areas by type of the WTU battalion headquarters. See the functional adequacy matrix following this facility category description.

Table 14188-2 WTU Battalion Headquarters	
Functional Area	Type
Secure Communications Room	Mission
Break Room	General
General Storage	General
Open Office	General
Private Office	General
Lobby	General
Telecommunications Room	Support
Secure Documents Storage	General
Copier/Fax Room	General
Reception Station	General
Reception Area	General
Public Shower	Support
Conference Room	General
Records Room	Mission
Supply Room	Mission
Janitor's Closet	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at locations with Army hospitals. A WTU Headquarters is an essential part of a WT Complex. Criteria allow one company headquarters per 100 Soldiers. Criteria require a battalion headquarters if there are two or more company headquarters.

### 2. Programmatic Application

RPLANS sets allowances equal to assets in the associated Facility Category Group.

## C. Planning

### 1. Planning Level

Planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

#### a. Company Operations Facility

Calculate requirements based on the number of companies. A WTU Headquarters requires one company operations facility per 100 Soldiers assigned to the WTU. If the WTU has only one company, that company will receive an extra-small or small company headquarters. If the WTU has two companies, each company receives a medium company headquarters. If the WTU has three companies, each company receives a large company headquarters.

Table 14188-3 lists planning factors for a WTU company headquarters.

Table 14188-3 WTU Company Headquarters	
Area	Planning Factor (NUA)
Distribution Center	110
Kitchenette	100
Copier/Fax Room	100
Conference Room	250
Records Room	100
Supply Room	100
Janitor's Closet	20

Calculate open office work areas with a net usable area of 48 NSF each, which does not include circulation space. The total number of open office work areas depends on the size of the company headquarters.

Extra-Small – 8 per company HQ

Small – 12 per company HQ

Medium – 12 per company HQ

Large – 12 per company HQ

The number of private offices is also dependent on the size of company headquarters.

Extra-Small – 11 per company HQ

Small – 15 per company HQ

Medium – 19 per company HQ

Large – 25 per company HQ

Calculate each office at 120 NSF, except for the squad leader office, which is 140 NSF. In general, calculate office space for the commander, first sergeant, executive officer, supervisor case manager, case manager, nurse case manager, platoon sergeants, and squad leaders. Calculate office space for the platoon sergeants and squad leaders to share offices.

#### **b. Battalion Headquarters**

Calculate the battalion headquarters only when two or more company headquarters are associated with the WTU.

Table 14188-4 lists planning factors for a WTU battalion headquarters.

<b>Table 14188-4 WTU Battalion Headquarters</b>	
<b>Area</b>	<b>Planning Factor (NUA)</b>
Break Room	195
General Storage	150
Copier/Fax Room	100
Conference Room	500
Records Room	100
Supply Room	100
Janitor's Closet	20

Calculate open office work areas with a net usable area of 48 NSF, which does not include circulation space. Calculate eight work areas.

Calculate private office space for the commander, command sergeant major, chaplain, executive officer, social workers, operations sergeant, occupational therapist, S1, S3, and S4. For the commander and command sergeant major, calculate a 200 NSF office for each. For the chaplain, calculate a 140 NSF office. For all other offices, calculate a NUA of 120 NSF.

c. Combined Headquarters

A combined company/battalion headquarters option is also available.

3. Assigning Space

a. Guidance

When assigning space in an existing building, assign NUA within the building corresponding to the required NSF for each functional area. Assign company headquarters by company.

If the WTU has only one company, that company will receive an extra-small or small company headquarters. If the WTU has two companies, each company receives a medium company headquarters. If the WTU has three companies, each company receives a large company headquarters. If four large COFs are required, the mandatory limit is 44,000 GSF.

b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to divide the WTU HQ NSF required by adequate WTU HQ NSF available.

D. Programmable Increments

1. Standard Facilities

A WTU battalion headquarters has a standard size of 8,100 GSF.

Each company receives a headquarters of a varying standard size, as displayed in table 14188-5. See the Standard Design floor plan immediately following the functional adequacy matrix.

Programming UM:

- GSF

Table 14188-5 WTU COF Standard Facility Size	
Size	GSF
Extra-Small	6,900
Small	8,300
Medium	10,300
Large	11,000

Configure the company headquarters combined building, depending on the size of the company headquarters each individual company receives, as shown in Table 14188-6.

See the Standard Design floor plan of BN and CO standard combinations at  
<http://mrsi.usace.army.mil/cos/fortworth/SitePages/wt.aspx>.

Table 14188-6 WTU COF Buildings	
Size	Building Type
Extra-Small	Standalone
Small	Standalone
Medium	Standalone, an 18,550 GSF 1-story duplex, or a 20,600 GSF 2-story stacked
Large	Standalone, 22,000 GSF 1-story duplex, or a 33,000 GSF 2-story half-stacked

## 2. Programming Units

The minimum unit to program is extra small, 6,900 GSF.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The WT Complex is essentially a portion of a medical facility and classified as community land use.

### 2. Site Planning Considerations

The WT Complex is a mini campus comprised of barracks, WTU Headquarters, dining, and Solider and Family Assistance Center (SFAC). Buildings in the complex need to be located to minimize travel, and must also be adjacent to a hospital/medical facilities.

Provide POV parking for 90 percent of all assigned WTU headquarters personnel, plus 10 additional parking spaces for visitor parking.

## F. Other Considerations

### 1. Special Instructions

Coordinate this category code with the COS.

### 2. Exceptions

Consult the COS Forth Worth.

**3. References**

Army Standard for Warriors in Transition Barracks	30-JUN-08
Warriors in Transition Standard Design	JUL-09

**4. See Also**

72112	UPH, Warrior in Transition
74033	Army Community Services Center



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
General	Distribution Center	A	100 NSF	100 NSF	
General	Kitchenette	A	100 NSF	100 NSF	
General	Open Offices	A	48 NSF per work area	48 NSF	Extra-Small 8 work areas, 12 otherwise
General	Private Offices	A	120 NSF	120 NSF	Squad Leader Offices 140 NSF
General	Lobby	A	One per building		Locate at Entrance
Support	Telecommunications Room	A	One per building	No lower limit	In accordance with I3A Guide and ANSI/EIA/TIA-569-B
General	Secure Documents Storage	A	One per building		In accordance with AR 380-5
General	Copier/Fax Room	A	100 NSF	100 NSF	
General	Reception Station	A	One per building	One per building	Locate in Lobby, visual control access to the main building entrance and reception area
General	Reception Area	A	10 seats	10 seats	Locate within or adjacent to Lobby
Support	Public Shower	A	One per floor	No lower limit	Minimum of 1 women's and 1 men's shower
General	Conference Room	A	250 NSF	250 NSF	VTC enabled
Mission	Records Room	A	100 NSF	100 NSF	
Mission	Supply Room	A	100 NSF	100 NSF	
Support	Handicapped Accessibility	A		No lower limit	In accordance with 42 USC 4151-4157
Support	POV Parking	A	90% of assigned personnel	No lower limit	Headquarters complex has additional 10 spaces for visitor parking
Support	Janitor's Closet	A	One per Floor	No lower limit	
<b>Presence Requirements for Adequacy:</b>					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
F - Occupant Dependent					

## A. Reporting

### 1. Description / Definition

Table of Organization and Equipment (TOE) Command and Control Facility for Echelons Above Brigade (EAB) organizations meet all command and control functions and tasks across the full spectrum of military missions and operations, as well as throughout unit deployments in support of reach operations. The EAB C2F provides the physical space and the global information grid (GIG) connectivity needed to meet the Army's mission. The EAB C2F incorporates an operations center (OC), a Sensitive Compartmented Information Facility (SCIF), and a network operations center (NOC) in a single, contiguous internal security zone (SZ 3). The SCIF shall be accounted for separately from other parts of the facility under FCC 14162 (SCIF).

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- MTOE – Savannah

### 3. Complex

A command and control facility (C2F) is the major functional component of a C2F Complex (MTOE).

See Chapter 4 for a discussion of the complexes.

#### Complex:

- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Planning: NUA  
Capacity: PN

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

Primary UM = SF  
Secondary UM = NUA  
FAC UM = SF  
Planning UM = NUA  
CAP = PN

## 5. Functional Areas

A C2F usually includes general functional areas for command and staff, as well as OC, NOC, or SCIF areas, based on mission requirements.

Table 14190-1, lists the functional areas by type of the C2F. See the functional adequacy matrix after this discussion. These common functional areas may occur in the OC, NOC, or SCIF.

Table 14190-1 C2F Common Functional Areas	
Functional Area	Type
Private Offices	General
Open Offices	General
Conference Rooms	General
Team Rooms	General
Multi-Purpose Planning (Team) Rooms	General
Distributive/PC Based Learning Room	General
Break Room	General
General Purpose Storage	General
Printer/Copier Areas	General
File Storage	General
Telecommunications Room	Support
Lobby	Support
Briefing Room	General
Public Showers	Support
<b>Note:</b> See Appendix A for criteria on private office space	

Table 14190-2 lists mission functional areas associated with the OC. Use facility category code 14161 (EOC) to identify this space within the C2F, along with general functional areas that are contiguous with and in direct support of the OC within SZ 3.

Table 14190-2 C2F OC Functional Areas	
Functional Area	Type
Commanding General (CG) Jump Station	Mission
Shift Console	Mission
Senior Leader Planning Room	Mission
Mission Planning Room	Mission
Situational Awareness Room	Mission

Table 14190-3 lists functional areas by type associated with the NOC. Use facility category code 13131 (Information Processing Center) to identify this space within the C2F, along with general functional areas that are contiguous with and in direct support of the NOC within SZ 3.

Table 14190-3 C2F NOC Functional Areas	
Functional Area	Type
Server Room	Mission
Equipment Rooms	Mission
Shift Console	Mission
<b>Note:</b> See Appendix A for criteria on private office space	

Table 14190-4 lists mission functional areas by type associated with the SCIF. Use facility category code 14162 (SCIF) to identify this space within a C2F, along with general functional areas that are contiguous with and in direct support of the SCIF within SZ 3.

Table 14190-4 C2F SCIF Functional Areas	
Functional Area	Type
SCIF Secure Planning Room	Mission
SCIF temporary work space	Mission
Automated information systems	Mission
Server room	Mission
SCIF security office	Mission
STO facility (C2F only)	Mission
Shift Console	Mission
Note: See Appendix A for criteria on private office space	

Table 14190-4, lists functional areas by type associated with the command suite.

Table 14190-5 C2F Command Suite Functional Areas	
Functional Area	Type
Private Offices	General
Conference Room	General
Kitchenette	General
Private Showers	Support
Reception	General
Note: See Appendix A for criteria on private office space	

All flooring within the C2F must be raised, except for restrooms and mechanical spaces.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow C2 facilities to divisions and commands at EAB. Specifically, division headquarters, corps headquarters, numbered armies, Army Service Component Commands (ASCCs), direct reporting units (DRUs), and Army Commands (ACOMs) are authorized C2Fs. The criteria allow space depending upon the manning documents (MTOE or TDA) of the organization requiring a C2F.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

It is generally a good practice to develop a space program at the NSF level using the procedures in Appendix A of the IMCOM SPCM, and as also described in Attachment B to the Standard Design. This assures an objective, auditable requirement. A space program facilitates assigning space, and is necessary for programming new construction. Space programs for use when assigning existing space do not need to address GSF, since this is necessary only when programming MILCON.

Base calculations for building requirements primarily on the manning documents (OTOE, TDA, TDA Augmentation, and MTOE) of the organization, and upon the type of organization requiring a C2F. Include calculations for HQDA-approved mission statements and contractor support space, where applicable. Also, include other service personnel included within the C2F.

Organizations requiring a C2F often have multiple authorization documents. Integrate the authorization documents for requirements calculations. MTOE headquarters authorized a C2F often have military intelligence enablers and signal enablers who require work space in the SCIF and NOC respectively.

Calculate space within a C2F by functional orientation or operational orientation into work areas. Determine the size of a work area by requirements for each part of the organization requiring space. Typically, a C2F is made up of directorates. Each directorate is broken down into divisions and branches. A division will typically require a work area, although the directorate and various branches may also require distinct work areas, especially when dealing with large organizations. A directorate with fewer than 45 staff positions is treated as a single work area, regardless of the number of divisions falling under it. It is thus necessary to organize an organization's manning documents into directorates, divisions, and branches before calculating any requirements.

For the purposes of calculating requirements, a directorate is a coordinating, personal, or special staff element whose senior leader reports directly to the commander, chief of staff, or equivalent. A division is a staff element whose senior leader reports to a directorate-equivalent staff officer. A branch is a staff element whose senior leader reports to a division chief. The senior leader in each case can be either military or civilian. For joint agencies, the leader may be an officer from another service.

These definitions take precedence over designations in TDA or TOE documents. A position labeled "division chief" on an authorization document reporting to the chief of staff is a "directorate-equivalent." A position labeled "branch chief" on the TDA reporting to that directorate-equivalent is a "division-equivalent" staff officer. It is the position relative to the commander, not the title, that determines the level.

Table 14190-6 lists planning factors for functional areas common to all C2Fs, independent of the type of the organization.

Table 14190-6 C2F Planning Factors

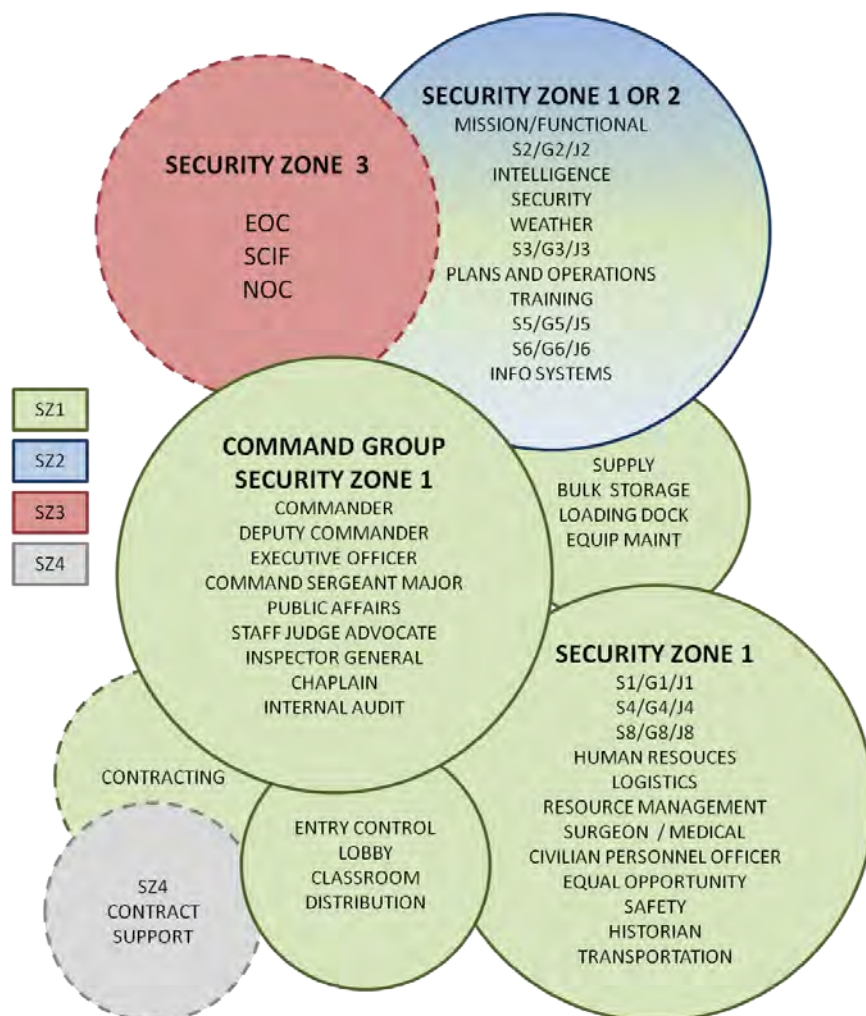
Area	Planning Factor	Circulation Rate Percent	Basis of Allowance
General Purpose, Multi-functional Rooms (Team Rooms)	120 NSF	25	1 per 50 open office spaces in a work area
Distributed / Computer-Based Training Room	572 NSF	25	
Small Conference Rooms	255 NSF	25	NMT 1 per work area
Medium Conference Room	572 NSF	25	NMT 1 per division or equivalent
Large Conference Room	805 NSF	25	NMT 1 per directorate or equivalent
File Storage Areas	88 NSF	25	1 per 30 open office spaces in a work area
GP Storage Room	96 NSF		1 per every 100 open office spaces in a work area
Printer/Copier Station	96 NSF	25	1 per every 25 staff positions in a work area. Each open office work area receives at least 1
Prayer Room	120 NSF		1 per C2F not located on a military installation, or with waiver
Food Concession	1,500 NSF	25	1 per TDA organization not located on a military installation, or with waiver
Break Area	108 NSF	25	SZ 1, 2, 4: ratio of 1 per 100 staff positions, SZ 3: 1 per SZ work area
OC CG Jump Station	36 NSF	50	One (1) per OC
OC Shift Console	16 NSF	50	One (1) per OC shift worker, NTE 1:3 PN ratio
OC Senior Leader Planning Room	600 NSF	25	1 per OC
OC Mission Planning Room	500 NSF	25	NTE T3 per OC
GP Briefing Room	2,250 NSF	25	1 per C2F
Executive Conference Room	805 NSF	25	1 per command suite
Command Conference Room	1,600 NSF	25	1 per command suite, ACOM only
NOC Shift Console	16 NSF	50	1 per shift position
Secure Planning Room	500 NSF	25	NTE 2 per SCIF
SCIF Shift Console	16 NSF	50	1 per shift position
Ceremonial Screening Room	2,000 NSF	25	1 per command suite
Kitchen	96 NSF	25	1 per command suite
Reception	250 NSF	25	1 per command suite



Calculate required space for all work areas within the C2F in one of four required SZs. Table 14190-7 lists information for the four security zones.

Table 14190-7 Security Zones	
Security Zone	Definition
SZ 1	Limited Access – personal security focus allowing access for support staff and limited public access
SZ 2	Controlled Access – operational and information security focus with electronic or mechanical access controls
SZ 3	Restricted Access – Authorized Operational Staff only with a centralized access control point with electronic or mechanical access control
SZ 4	Augmentation staff not cleared for access in SZ 2 or SZ 3. Controlled access space provided for non-US staff habitually supporting the Command

Figure 14190-1 illustrates conceptual relationships between security zones and provides examples of staff elements that might typically be associated with each of the zones.



Items with dotted lines are "if required"

Figure 14190-1: GPHQ Staff Relationships

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Assign each work area totally within its applicable security zone. The OC, special technical operations (STO), senior leader planning room, logistics and movement operations center, NOC, and SCIF must all be located within SZ 3, if present.

Provide private offices by work area for the commander, deputy commanders, command sergeant major, assistant/deputy chiefs of staff and their senior officer assistants, senior enlisted advisor, human resources assistant, division chiefs with supervisory authority, the inspector general, and equal opportunity offices. In echelons above corps (EAC) buildings, provide private offices only to branch or section chiefs supervising more than 10 personnel. Assign mandatory private offices to individuals when required by regulation, or in cases involving frequent sensitive discussions.

Assign private offices in accordance with Appendix A. All private offices have a 25 percent circulation factor.

Provide open office space for all staff positions not authorized. Open office space allocation for all C2Fs except ACOMs is based on 60-foot-by-8-foot general-purpose (GP) workstations with a 100 percent circulation factor (96 NUA per person). Open office space allocation for ACOMs only is based on 8-foot-by-8-foot GP workstations with a 60 percent circulation factor (102 NUA per person).

Provide conference room sizes and distribution based on work area in accordance with the standard design for MTOE C2F or the space program for other organizations. Provide each work area not more than one conference room. When possible, provide conference rooms in locations that facilitate shared use among work areas.

Provide team rooms in work areas, each room accommodating NMT eight people. If a work area does not have enough personnel to warrant a conference room, the team room may serve that function. Provide every work area at least one team room.

A work area with fewer than 20 positions does not receive GP storage.

Provide each work area NLT one printer/copier station.

Provide a minimum of one telecommunications room/computer room per floor to house telecommunications equipment supporting the unclassified, secret, and TS levels, or one per 10,000 SF. Provide a separate, dedicated TS-SCI-level telecommunications room/computer room within the SCIF for JWICS and special-mission networks.

Provide a mandatory auto-start generator for emergency power to the building.

Provide the C2F a required lobby at the primary entrance of the building to serve as a controlled access point. Provide NMT two GP workstations in the lobby for building access control. The two workstations must have voice and LAN connectivity, visual monitoring equipment, and key control storage. When using existing buildings constructed prior to the C2F standard, this space may be based on the amount necessary to efficiently process incoming personnel through security checkpoints.

If possible, provide showers for every 250 people, with a minimum of three each for men and women, but not more than 10 each. Provide lockers at a rate of three per shower. Provide a single shower in each of the restrooms in SZ 3. Legacy buildings will not be considered inadequate solely because showers are not available to this standard.

Provide at least one public restroom on each floor. Do not require personnel to leave their security zone to use the restroom.

#### *i. SZ 4 Work Areas*

Locate SZ 4 on the first floor to the maximum extent possible. Use SZ 4 for those commands with Army procurement authority requiring regular contractor negotiations or deliberations to maintain a competitive environment.

If the organization requires frequent contract-sensitive discussions in SZ 4, provide NMT two rooms with acoustic and physical separation in SZ 3.

In OCONUS locations, SZ 4 is also authorized for foreign nationals and allies who are associated with the HQ but cannot have access to other security zones because of classified or sensitive information.

#### *ii. Special Use Operations Area*

The Special Use Operations Area includes the, SCIF, NOC, and OC work areas. Do not seat more than 70 percent of all assigned staffing positions within the Special Use Operations Area in the OC for activities that maintain a 24-hour operation.

Assign work areas in the Special Use Operations Area, including private offices and open office workspaces, in the same manner as for the rest of the building. Work areas within the Special Use

Operations Area require security classification for open storage up to top secret.

Provide essential satellite or cable television (CATV) connectivity in all Special Use Operations Areas (except the TSVA), all planning rooms, conference rooms, the command suite, staff principal offices, public affairs office, and command management office.

The SCIF is the primary work space of the G2 staff. Assign the SCIF NMT two mission planning rooms sized to accommodate NMT 20 individuals. Each mission planning room must have NIPR/SIPR/JWICS connectivity. Provide SCIF conference rooms with required VTC-capability to TS-SCI. Provide a required 14-foot-by-14-foot telecommunications room with SIPRNET equipment up to TS-SCI for the SCIF. The SCIF is normally the only SZ 3 work area with external access, which is to the TSVA, a fenced external compound providing parking for NMT six HMMWVs. Provide division through numbered army C2Fs a TSVA. The TSVA has a security classification level of TS-SCI. Refer to the description in CATCD 14162 for more information on the TSVA. The TSVA is the only external access point in SZ 3.

Provide echelons above corps (EAC) an STO. The STO is a separate space within the SCIF. Provide the STO with 500 NSF of area with a 25 percent circulation factor. The STO has a level of TS-SCI.

Provide design considerations for natural disasters that may occur in the region for the SCIF to remain operational 24/7.

Refer to the description for CATCD 14162 for more information on SCIFs.

The NOC is a primary work area for the G6 staff. Provide a dedicated computer room for the Special Use Operations Area. Provide the SCIF a separate computer room for JWICS and special-mission networks. Provide division and corps NOCs designed with a security classification of top secret. Provide the NOC raised flooring with under-floor cable trays. Anchor equipment racks to the concrete subfloor. Provide design considerations for natural disasters that may occur in the region for the NOC to remain operational 24/7.

OCs in ACOMs require construction for a security level of top secret. Provide all other OCs constructed to a classification level of

secret only, unless there is a documented requirement for a higher level. The OC consists of a two-story space with unobstructed sight lines to visual displays in the situational awareness area. Provide each workstation with seating for two, large enough to accommodate two computers. When possible, provide observers, including the CG jump station, a second-floor balcony or mezzanine at the rear of the room.

Provide design considerations for natural disasters that may occur in the region for the OC to remain operational 24/7.

Provide NMT one consolidated break area for SZ 3 personnel, immediately adjacent to, but outside of, the SZ 3 work area. Size the break room based on the full-time staff of the combined SCIF, NOC, and OC during the busiest shift. Provide seating capacity in this break room of NMT 15 persons. Provide the SZ 3 break room with direct access for SZ 3 personnel when possible.

### *iii. Command Suite*

The command suite is the dedicated work area for the command staff. Locate the command suite, which contains private offices for the commanding general, deputy commanding general, command sergeant major, chief of staff, and executive officers, in SZ 1.

In the command suite, provide a reception area; a private shower for the commanding general, deputy commanding general, and command sergeant major; an executive conference room; and a limited-service kitchenette. Provide the executive conference room, designed to top-secret requirements. Provide the command suite a separate area of SZ 1, with private, controlled access.

### **b. Facility Utilization Metrics**

Calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces) included as general functional areas in Appendix A. See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at:  
<http://mrsi.usace.army.mil/cos/savannah/SitePages/c2f.aspx>.

The average GSF per occupant must not exceed 230 GSF.  
Normally, a C2F built to the standard will be not less than 210 GSF per person.

Use formula:

Building GSF = NSF + Electrical + Telecommunications +  
Circulation + Mechanical

Where:

- NSF is the sum of the NSF, including circulation, of all work areas
- Electrical is 1 percent of NSF
- Telecommunications is 4 percent of (NSF + Electrical)
- Circulation is 25 percent of (NSF + Electrical + Telecommunications)
- Mechanical is 7 percent of (NSF + Electrical + Circulation)

### 2. Programming Units

Program to the difference between the total requirement and the available assets. When programming other than a complete building, evaluate alternatives that will allow SZ integrity in the addition.

Program this building as CATCD 14190. However, record the OC, NOC, and SCIF in the inventory. In some cases, analysis may determine whether to program buildings for the OC or SCIF separate from the company.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

A Command and Control Facility for DRU, ACOM, and TDA  
ASCC HQ is a Professional/Institutional building.

Division, corps, and numbered army C2Fs and their associated facilities (e.g., special troops battalion headquarters, COF, and tactical equipment maintenance facility) align with the troop land use. They require NLT 30 contiguous acres of land.



## 2. Site Planning Considerations

In site selection for a C2F, include adjacency to the supporting special troops battalion, COF, and tactical equipment maintenance facility of the C2F headquarters elements. The site requires a loading area on the secured side of the building in a fenced area adjacent to the NOC. Provide the OC access to the secured loading area. Provide a second loading area on the community side of the building, accessible to the service and delivery functions.

Plan required positive control at all external access points to the C2F for pedestrian and vehicle traffic at all times. A security line may divide the front (community) side of the C2F, battalion, and COF buildings from the rear (secured) side, including the TEMF and organizational parking.

Plan dedicated organizational parking for the C2F for NLT 18 HMMWVs for divisions, corps, and deployable numbered armies only. The site requires nonorganizational parking for 90 percent of all assigned personnel within a quarter-mile radius of the building. Allow NMT 15 additional parking spaces for visitors.

If an antenna farm is required, locate it in proximity to the NOC to minimize the distance necessary for cables. The antenna farm is approximately 10,000 NSF, enclosed with type FB-6 fence, and contained within the secured side of the complex. Provide the antenna farm with drive-through capability. Provide required lightening protection.

## F. Other Considerations

### 1. Special Instructions

Classify the NOC area as 13131, the EOC as 14161, and the SCIF as 14162 in the real property inventory (RPI).

Savannah is the COS for divisions and corps. Mobile is the COS for EAC. Consult the COS when programming these facilities.

### 2. Exceptions

The design intent of this Army standard may be met with a campus consisting of more than one building. The decision to create a campus as opposed to a single building will be coordinated through the COS and may require a waiver.



### 3. References

Army Standard for Echelons Above Brigade (EAB) Command and Control Facilities (C2F)	12-MAR-08
UFC 4-140-03 Command And Control Facilities (C2F) and Other Army Headquarters (Army HQ) Standard Design Revision 3.1	21-MAR-13

### 4. See Also

13131	Information Processing Center
14161	Emergency Operations Center (EOC)
14162	Sensitive Compartmented Information Facility (SCIF)
14179	Overhead Protection
14183	Battalion Headquarters Building
14185	Company Headquarters Building
17119	Organizational Classroom
21410	Vehicle Maintenance Shop
44224	Organizational Storage Building
85210	Organizational Vehicle Parking, Paved
85215	Non-Organizational Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Private Offices	A				
General	Open Office Work Areas	A		48 NSF	1 per staff position not in a private office	Refer to Appendix A
General	Small Conference Room	A		255 NSF	255 NSF	12 person capacity, VTC enabled
General	Medium Conference Room	A		572 NSF	572 NSF	24 person capacity, VTC enabled
General	Large Conference Room	A		805 NSF	805 NSF	35 person capacity, VTC enabled
General	Executive Conference Room	A		805 NSF	805 NSF	1 per command suite, VTC enabled
General	Command Conference Room	A		1,600 NSF	1,600 NSF	1 per ACOM only, VTC enabled
General	Multi-Purpose Planning (Team) Rooms	A		120 NSF	1 per 50 open office spaces in a work area	8 person capacity, VTC enabled
General	Distributive/PC Based Learning Room	A		572 NSF	572 NSF	Classroom XXI
General	Break Room	A		108 NSF	108 NSF	SZ 1, 2, 4 one per 100 staff positions, one per SZ 3
General	General Purpose Storage	A		96 NSF	1 per every 100 open office spaces in a work area	If a work area has fewer than 20 positions they do not receive GP storage
General	Printer/Copier Areas	A		96 NSF	1 per every 25 staff positions in a work area	Each work area receives at least one
General	File Storage	A		88 NSF	1 per 30 open office spaces in a work area	
Support	Telecommunications Room	A			No lower limit	
General	Lobby	A		2,000 NSF	No lower limit	1 per building
Mission	Briefing Room	A		2,250 NSF	2,250 NSF	One per C2F
Support	Public Showers	A		1 per 250 People	3 showers each for male and female restrooms	NTE 10 showers each for men's and women's restrooms
Mission	CG Jump Station	A		36 NSF	36 NSF	1 per OC
Mission	OC Shift Console	A		16 NSF	One per OC Shift Worker	NTE 1:3 PN ratio
Mission	Senior Leader Planning Room	A		600 NSF	600 NSF	One per OC
Mission	Mission Planning Room	A		500 NSF	500 NSF	NTE 3 per OC

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APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	NOC Equipment Rooms	A			No lower limit		
Mission	Secure Planning Room	A		500 NSF	500 NSF		NTE 2 per SCIF
Mission	Special Technical Operations (STO) Facility	A		500 NSF	500NSF		EAC Only in SCIF
Mission	SCIF Shift Console	A		16 NSF	1 per shift position		
General	Reception	A		250 NSF	No lower limit		One per Command Suite
Support	Private Showers	A		54 NSF	No lower limit		1 for CG, DCG, and CSM
General	Kitchenette	A		96 NSF	96 NSF		One per Command Suite
Support	Janitor's Closet	A			1 per floor		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

**1. DA Pam 415-28 Description / Definition**

A facility for the manufacture, storage, and dispensing of large quantities of helium.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A facility that houses ship-related operational activities or equipment. This may include administrative functions, records storage, equipment storage, or harbor entrance control posts. This facility handles those functions included in the port control office.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A permanent structure that limits, in a prescribed manner, the effects of an explosion on nearby facilities. Also included are any permanent physical construction and facilities that are intended to restrict the migration or free movement of personnel and/or vehicles.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 149xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure that limits sound transmission between operational areas and/or other facilities. The barrier may take one of many forms, but is most often constructed much like fencing.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure of installed equipment that consists of two main parts: an engaging device, and an energy absorber. Examples of engaging devices are barrier nets, disc-supported cables, and remotely raised cables. Absorbing devices include anchor chains, rotary friction brakes, and rotary hydraulic units, and can be located above ground or underground.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 149xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A structure consisting of permanently constructed fighting positions typically built around areas such as missile and signal sites. The positions are normally constructed of concrete or other permanent building material, and may include some utilities, such as electricity and telephone.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 149xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure that directs exhaust from engines upward or inward to prevent the erosion of paved and unpaved surfaces as well as exhaust interference with taxiways, parking, maintenance areas, and nearby buildings. It is also used to channel the effects of blasts away from critical areas, or to protect nearby facilities.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 149xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An area for testing and evaluating wheeled and tracked vehicle performance. The track may have banked curves and steep hills.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A reinforced frame, metal, wood, or concrete facility that supports or contains various types of equipment. Typical uses include mounting antennas or radar equipment, drying parachutes, and so on.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 149xx for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A fixed structure for servicing and launching missiles.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A ramp consisting of an inclined surface for testing and evaluating wheeled or tracked vehicle performance. This facility may be collocated with 14937, Vehicle Test Track.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure normally located in a motor pool area that provides washing of military and commercial vehicles exteriors, undercarriages, and power trains. The facility typically consists of prepared surfaces, multiple wash stations, hose connections, wash water containment and drains, a sedimentation basin, and sludge removal. Collocated with this facility should be 83180, Gravity Oil and Grease Separator, and 83181, Water and Grit Separator. Each is an occurrence count of the structure, not the number of vehicles that can be washed simultaneously.

**Proponent:**

- DCS, G-4

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Unit

### 4. See Also

See 149xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure consisting of racks used to drain fuel from vehicle tanks at shipping and/or receiving sites.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A structure consisting of drive-on, drive-off, or drive-through ramps with or without a pit for wheeled or tracked vehicles to provide access to the underside of vehicles for scheduled maintenance, inspection, lubrication, and oil changes. Grease racks are frequently collocated with or attached to Vehicle Storage Shed, Installation (44262), or Vehicle Storage Building, Installation (44263), and with Gravity Oil and Grease Separator (83180).

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a ramp capable of supporting a tank, and that is used to verify that the gun tube and sights remain aligned at any hull angle. This is a nonfiring facility.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A wash structure located to support maneuver/training areas and providing prewash mud removal and washing of military and commercial vehicles. The structure must provide water-soaking capability above the track treads for combat vehicles, and above the wheels of tactical vehicles; recirculation of wash water; high-and-low pressure cleaning capability; water cannons; wash water containment and drains; sedimentation basin; and sludge removal. Use Wash Platform, Organizational (14955), or Wash Platform, Installation (14963) for structures that do not contain soaking capability and all of the components listed in this description. Collocated with this facility should be 83180, Gravity Oil and Grease Separator, and 83181, Water and Grit Separator. Each is an occurrence count of the structure, and is always one.

### 2. Criteria

The Army has not established planning criteria for this facility category. Based on similar facility category codes, RPLANS allows one per installation, if it has a garrison assigned.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A wash structure, normally serving multiple organizations, that provides prewash mud removal and washing of military and commercial vehicles. The facility typically includes recirculation of wash water, high- and low-pressure cleaning capability, multiple wash stations, water cannons, wash water containment and drains, paved surfaces, a sedimentation basin, and sludge removal but not full vehicle soaking capability above the track treads. Collocated with this facility should be 83180, Gravity Oil and Grease Separator; and 83181, Water and Grit Separator. For this structure, each (EA) is defined as the number of wash stations within the facility where a wash station has its own set of hoses and can wash one or more vehicles simultaneously. Data on the number of wash stations should be available from the DOL, or obtained by a physical count. Do not consolidate records even if there is more than one installation wash platform.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure consisting of docks and ramps (also called platforms), usually freestanding, that are used to load and unload cargo from railcars or truck-trailers. These facilities may or may not have a roof. Railcar loading/unloading ramps in existing rail yards are often used for loading and unloading vehicles on railcars. These loading/ unloading facilities may contain a crane or hoist that assists in the railroad car or truck loading/unloading process.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for determining vehicle weight that is typically located in or near warehouse areas and quarries/rock-crusher plants.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure to protect specified areas and facilities from military action.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 149xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure extending outward from the shoreline into navigable waters that is used for the loading and unloading of ammunition or supplies from boats and ships, or for the berthing, fueling, or repair of boats and ships. These structures may be open or covered. They can support railroad tracks and other freight-handling equipment. These facilities support craft greater than 66 feet in length. For smaller craft, use 15510, Small Craft Berthing Facility.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15210 Wharf.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = FB
- FAC UM = SY

#### Planning Level:

- Other-than-unit



### 1. A Pam 415-28 Description / Definition

A structure built parallel to the shoreline in navigable waters that is used for the loading and unloading of ammunition or supplies from boats and ships, or for the berthing, fueling, or repair of boats and ships. The wharf may be open or covered. It can support railroad tracks and other freight-handling equipment. These facilities support craft greater than 66 feet in length. For smaller craft, use 15510, Small Craft Berthing Facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SY
- Secondary UM = FB
- FAC UM = SY

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15110 Pier.

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a retaining wall made of wood or stone that is along a waterfront. It is used as a landing place for ships and boats.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15110, 15210, 154xx, and 155xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a wall used as a landing place beside navigable water for convenience in loading and unloading ships.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15110, 15210, 154xx, and 155xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a stone wall, usually solid, built along the waterfront to prevent encroachment by the sea.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the WebRPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. See category codes listed below for relevant information.

### 4. See Also

See 15110, 15210, 154xx, and 155xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a collection of rocks, concrete blocks, or stones placed or dumped on an embankment slope to prevent erosion.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15110, 15210, 154xx, and 155xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = SY
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of either a pier or a wharf providing an area for small craft (less than 66 feet in length) to berth. This may include lighters, tugboats, fireboats, and other small boats.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 15110, 15210, 154xx, and 155xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = FB
- Secondary UM = None
- FAC UM = FB

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building housing the administrative functions associated with inbound and outbound cargo. The facility includes administrative space and record storage, and may be a separate building or be located within a transit shed.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 16310 Offshore Mooring Facility for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a sloping ramp extending out into the water that serves as a place for landing a ferryboat, and allows vehicles to drive on and off the ferry.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A deep, navigable, and usually well-marked channel in a harbor, river, or other body of water used to reach the dock.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The area within a harbor sufficient in size to turn the largest ship under continuous headway without the help of a tug.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure that consists of one or more of the following: an anchored floating structure located away from the shoreline that provides a place to anchor large vessels when water is too shallow along the pier or docking space is insufficient; or a wooden, steel, or concrete column located offshore that is used to tie off boats.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure similar to a wall to protect a harbor or beach from the force of waves.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A rigid structure built out from a shore to protect the shore from erosion, to trap sand, or to direct a current for scouring a channel.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure constructed as an embankment raised above the water level to prevent a waterway from overflowing; it may be used as a river-landing place for ships and boats.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A waterfront structure extending into a sea or river, and built to influence the current or tide to protect a harbor.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A strong masonry structure that forms the wall or breakwater of a harbor. It is usually fitted on the inside with facilities for loading and unloading ships and boats.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 159xx, 16310, and 164xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building housing the training and administrative functions of an Army band unit and/or chorus unit.

**Note:** *Army bands display one of four configurations:*

- Army Band Small
- Army Band Medium
- Army Band Large
- Special Army Band

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

Proponent:

- DCS, G3

COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC UM: SF  
Planning: SF  
Other: None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other = None

Design and measure all rehearsal spaces with both area and cubic feet (CF) to assure acceptable acoustical performance.

## 5. Functional Areas

Table 17170-1 lists the functional areas and types of space in adequate band facilities.

Table 17170-1 Functional Areas and Type of Space		
Functional Area	Type	Presence
Rehearsal and training	Mission	A
Administration and offices	General	A
Toilets/showers/lockers	Support	A
Supplies storage	Support	A
Arms room /sensitive equipment	Mission	A
Instrument storage/repair/cleaning	Support	A
Library/audio recording	Mission	A
Janitor's Closet	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category **at** one per Army Band.

### 2. Programmatic Application

RPLANS generates an allowance for this category code based on the type of band, i.e. Division and Army (DS) or band (GS).

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

RPLANS provides each Division and Army Band (DS) an allowance of 14,830 GSF (1,377.8 SM). Each Army Band (GS) is provided an allowance of 20,330 GSF (1 888.7SM). Allowances for band organizations at West Point, Fort Meade, and Fort Myer are based on unit strength.

GSF of band training facility at West Point, Fort Meade, and Fort Myer = band population multiplied by 270 GSF/PN (band population multiplied by 25.1 SM).

As of 20-AUG-02, TI 800-01 Appendix N includes area allocations noted as “Draft.” See Table 17115-2 for the proposed new standards.

Table 17115-2 Space Criteria for Band Training Facilities						
Function / Space	Small Band 40 Members			Medium / Large Band 62 – 65 Members		
	# of Spaces	NSF / Space	NSM / Space	# of Spaces	NSF / Space	NSM / Space
<b>Rehearsal Areas</b>						
Main	1	1,875	174.2	1	2,275	211.4
Large Group	1	700	65.0	1	700	65.0
Small Group	2	350	32.5	4	350	32.5
Individual – Large	2 – 3	80 – 125	7.4 – 11.6	3 – 4	80 – 125	7.4 – 11.6
Individual – Small	6 – 7	55 – 75	5.1 – 7.0	9 – 11	55 – 75	5.1 – 7.0
<b>Offices/Administration Functions</b>						
Commander	1	200	18.6	1	200	18.6
Deputy Commander/Associate Bandmaster	NA	NA		1	150	13.9
Enlisted Bandleader	1	150	13.9	1	150	13.9
Administration	1 -2 desks	150	13.9	1 -4 desks	300	27.8
Training	1 -2 desks	150	13.9	1 -4 desks	300	27.8
Operations	1 -2 desks	150	13.9	1 -4 desks	300	27.8
Transportation	1 -2 desks	150	13.9	1 -4 desks	300	27.8
Public Affairs	1 -2 desks	150	13.9	1 -3 desks	225	20.9
Information Management	1 -1 desk	75	7.0	1 -2 desks	150	13.9
Recruiting/Retention	1 -1 desk	75	7.0	1 -1 desk	75	7.0
Senior Supervisors	1 -3 desks	225	20.9	1 -5 desks	375	34.8
<b>Toilets/Lockers/Showers</b>						
Men	1	950	88.3	1	1,300	120.8
Women	1	550	51.1	1	580	53.9
Officer/Visitor	1	50	4.6	1	50	4.6
<b>Storage/Supply/Support Areas</b>						
Unit Supply/Storage	1	1,000	92.9	1	1,300	120.8
Arms Room/Sensitive Equipment	1	150	13.9	1	200	18.6
Additional Case & Equipment Storage	1	300	27.8	1	500	46.5
Instrument Repair	1	100	9.3	1	100	9.3
Instrument Lockers	1	520	48.3	1	680	
Instrument Cleaning	1	75	7.0	1	75	7.0
Library	1	500	46.5	1	640	
Recording/Audio	1	250	23.3	1	250	23.3
Janitor's Closet	1	50	4.6	1	50	4.6
<b>Other Areas</b>						
Day Area	1	640	59.5	1	860	79.9

Table 17115-2 Space Criteria for Band Training Facilities

Function / Space	Small Band 40 Members			Medium / Large Band 62 – 65 Members		
	# of Spaces	NSF / Space	NSM / Space	# of Spaces	NSF / Space	NSM / Space
Lobby	1	600	55.7	1	900	83.6
Drill Area (outdoors)	1	30,000	2,787.1	1	30,000	2,787.1
Loading Dock	1	300	27.9	1	300	27.9
Parking area	45	13,500	1,254.2	65	19,500	1,811.7
<b>Notes:</b>						
Mechanical space normally equals 8-10 percent of total area above						
Circulation, walls, etc., normally equals 25 percent of total area above						
Some special bands require additional leadership allotted 150 NSF (13.9 NSM) each						
Main, Large and Small Group rehearsal rooms require sufficient cubic space for sound dispersal – ceilings at least 15 feet = 4.6 m are preferred						

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the band UIC.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested that facilities providing adequate spaces as described herein meet an acceptable level of utilization. Undersized facilities create overutilization, which hurts the ability of the band to perform up to expectations.

## D. Programmable Increments

### 1. Standard Facilities

See A.4.

Programming UM:

- SF

### 2. Programming Units

Using the lower and upper limits in Table 17115-2 produces small facilities in the range of 15,500 GSF (6,272.6 SM) to 16,100 GSF (6,515.4 SM), and medium/large band facilities in the range of 21,200 GSF (8,579.3 SM) to 22,100 GSF (8,943.6 SM). Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

**Desirable Proximities:** It is ideal to locate the band training building near the installation parade ground. This relationship provides convenience for performances and rehearsals of the ceremonial functions that dominate a band's activities.

**Undesirable Proximities:** The site for the band facility must be quiet, located away from truck routes, heavy equipment operations, runways and flight paths, helicopter landing areas, or any other area where noise exceeding 75 decibels (dB) is inevitable. The outdoor practice field must not be located between closely spaced buildings, especially those with parallel walls, to avoid echoes and other undesirable acoustic phenomena. Functions in buildings adjacent to the band training facility should not be sensitive to music and noise from outdoor practices or performances.

### **2. Site Planning Considerations**

The site configuration and relationships to access roads should readily permit design of good, separate patterns for the multiple access needs of the band facility. This should include service access to the loading dock, and mechanical space distinctly separate from the main entrance, preferably to the side or rear of the building. The parking area access should also be separate. Include open land area for a car/bus drop-off space at the main entrance. Also, provide queuing lanes for dropping off dignitaries, patrons, and audience members before their vehicles proceed to the parking area.

The building should be linked to the parade field with pedestrian access that does not cross public roads serving facilities other than the band facility.

**Single-Story Facility:** A strong preference for operational efficiency demands the band training facility be all on one level, in a single-story building. This avoids the problems of sound transmission up or down, from or to band practice spaces, with the resultant disturbance of band activities. It also avoids problems of moving heavy equipment from the ground floor to upper floors.

## **F. Other Considerations**

### **1. Special Instructions**

Provide for connection to fiber-optic Internet, telecommunications, and other utilities to support video and audio recording, and other uses of technology. The facility must also provide adequate sound isolation for each rehearsal and training space for concurrent use. Special attention must be given to planning for lighting and HVAC equipment to avoid interference with audio recordings and clarity of music. A minimum 15-foot ceiling height is required in all rehearsal spaces, except for individual practice chambers. Loading docks and large spaces must be free of columns to facilitate line-of-sight coordination and movement of large instruments, etc.

### **2. Exceptions**

None.

### **3. References**

TI 800-01 Appendix N

20-AUG-02

### **4. See Also**

None.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building (or portions thereof) that provides space to conduct indoor classroom instruction at the organizational level. Such training facilities are used exclusively for organizational training activities. Classrooms may include storage and issue areas for educational materials, movable partition walls, a stage, and a projection room. Classroom areas within a Battalion Headquarters Building (14183), Trainee Barracks (72181), and so on, as well as standalone buildings serving this purpose, should be accounted for using this CATCD. Learning resource centers and military occupational specialty (MOS) libraries are often considered part of the organizational classroom space. This facility also is reported with unit of measure persons (PN). PN refers to the student capacity of the classroom, which should be available from the unit/installation training personnel. Otherwise, conduct a physical inventory of student spaces in the classroom. Other data should be available from personnel. If not, conduct a physical survey.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Centers of Standardization

MTOE battalions other than schools are under the Savannah District Center of Standardization. AIT and BT/OSUT battalions are governed by the Fort Worth District Center of Standardization.

#### Proponent:

- DCS, G3

#### COS:

- MTOE –Savannah
- AIT/BT/OSUT – Fort Worth
- Aviation – Mobile

### 3. Complex

Organizational classrooms are often part of a complex, typically associated with battalions.

- Brigade Complex (MTOE) C2 Element
- C2F Complex (Corps, Division, and Numbered Army)
- Basic Training/One Station Unit Training (BT/OSUT) Complex
- Advanced Individual Training (AIT) Complex
- Aviation Unit Complex

#### Complex:

- Brigade (MTOE) C2 Element
- C2F
- BT/OSUT
- AIT
- Aviation Unit
- ORTC

See Chapter 4 regarding complexes.

#### 4. Units of Measure

Primary	SF
Secondary	PN
FAC UM:	SF
Capacity	EA: Total number of classrooms contained within a building
Capacity	PN: Total number of students accommodated by the room

##### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- CAP = EA
- CAP = PN

EA reflects the number of classrooms, based on structural or permanent walls. For classrooms with movable partitions, EA refers to the room in its maximum size configuration with movable partitions stored.

Also report this facility category with unit of measure personnel (PN). PN refers to the student capacity of the classroom, which is available from the unit/installation training personnel. Otherwise, conduct a physical inventory of student spaces in the classroom.

#### 5. Functional Areas

Table 17119-1 lists the functional areas by type in the Organizational Classroom Building. See the functional adequacy matrix following this facility category discussion.

Table 17119-1 Functional Areas by Type	
Functional Area	Type
Classroom	Mission
Storage	Mission
Public Restrooms	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow organizational classroom space to TOE battalion headquarters and to barracks buildings for BT/OSUT and AIT complexes. Battalions will typically have an allowance for organizational classroom, which is usually located within the battalion headquarters building for TOE battalions, and within the barracks building for BT/OSUT and AIT complexes.

The qualifying attributes are a battalion SRC and the presence of an O5 commander.

TDA organizations are authorized this facility if the unit document contains one or more battalion headquarters. This is identified by



the presence of a O5 commander, a CSM, and a battalion staff that usually contains at least personnel (S1), operations (S3), and logistics (S4) functions.

TDA organizations other than training activities may have a requirement for space in this facility category. Examples include civilian personnel offices, large RDT&E organizations, and garrisons.

## 2. Programmatic Application

RPLANS assigns organizational classroom space based on the number of battalion headquarters. RPLANS assigns each battalion headquarters one classroom. RPLANS determines the SRC battalion classroom sizes by the size of the SRC battalion HQ. RPLANS assigns TDA battalion classrooms a fixed 3,700 NSF. RPLANS effective date is Version 30.

RPLANS uses the attributes generated by RPLANS as the basis for CC 17119. In addition, the RC training population receives an allowance of 1,660 GSF per brigade equivalent. RPLANS effective date is Version 30.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

For TOE and TDA battalions other than BT/OSUT and AIT, calculate a maximum of three 50-person classrooms per battalion, not to exceed 3,000 NUA. BT/OSUT Battalions require one (1) 60 PN classrooms per platoon. AIT Battalions require three 60 PN classrooms per battalion.

### 3. Assigning Space

#### a. Guidance

Provide organizational classrooms access separate from the working areas of the battalion HQ, with separate access, if possible, to prevent training traffic from moving through work areas of the organization. Ideally, provide classrooms as a contiguous area with movable partitions dividing the classrooms.

When assigning space in an existing building, assign NLT 1,000 NUA for the classroom, and NLT 150 NSF for classroom storage.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

Under normal conditions, include organizational classrooms when programming battalion HQ buildings. Program this facility as a standalone building when legacy battalions are adequate for their associated staff functions but lack classrooms. Consider programming a consolidated classroom building for multiple battalions if there are legacy battalions without classrooms in close proximity.

**2. Programming Units**

Refer to Table 17119-2 for total classroom space.

Table 17119-2 Units GSF for Classrooms							
Area	Extra Large	Large	Medium	Small	TDA	BT/ OSUT	AIT
Classroom	4,800	4,800	4,100	3,800	3,700	7,200	2,100
Storage	205	150	160	0	0	320	20

For the combined brigade-battalion complex, program 50 percent of the maximum number of classrooms from the battalions calculated separately.

**E. Land Use and Site Planning Considerations**

The organizational classroom is located within a battalion headquarters, which has its own site and land planning factors.

**1. Land Use Considerations**

Refer to the requisite battalion headquarters discussion.

**2. Site Planning Considerations**

Plan instructional facilities within an 8-minute walking distance between, or from/to, supporting facilities within the complex, especially for AIT and BT/OSUT facilities. Table 17119-3 displays approximate walking distances between school buildings and billets/dining facilities consistent with that goal.

Table 17131-3 Walking Distances	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

UFC 4-140-01 Brigade Operations Complex  
Brigade and Battalion Headquarters Standard  
Revision 5.1

25-JAN-13

Army Standard for Basic Training and One  
Station Unit Training

18-JAN-08

Revised Army Standard for Advanced  
Individual Training (AIT) Complexes -  
Facilities Standardization Program

2-APR-13

### 4. See Also

14183 Battalion Headquarters Building

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Classroom	A		Extra Large – 4,800 Large – 4,800 Medium – 4,100 Small – 3,800 BT/OSUT – 7,200 AIT – 2,100	15 NSF per student	
Mission	Storage	A		Extra Large – 205 Large – 150 Medium – 160 Small – 0 BT/OSUT – 320 AIT – 20	No lower limit	
Support	Public Restrooms	A			No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
						Consolidated Brigade Battalion HQ has half the number of classrooms that would normally be allowed for the total battalions in the brigade
						Male and Female Restrooms

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that includes primarily classroom space for multipurpose training and instruction typically conducted by a school/training center. These facilities may include an auditorium, a library, learning resource centers, and administrative support space. This is a general-purpose facility intended for use by Total Army School System (TASS) schools, schools/training centers of the Active and Reserve Components, the combined arms training center in major training areas, and other sites (such as noncommissioned officer [NCO] academies) that serve a large population for basic lecture/conference seminar type instruction. These facilities are distinct from Organizational Classroom areas (17119) associated with battalion headquarters and trainee barracks. This facility is reported with unit of measure persons (PN). PN refers to the student capacity of the classroom, which should be available from school/training center personnel. Otherwise, conduct a physical inventory of student spaces in the building.

***Note:** See Chapter 3, Paragraph II.D., for a discussion regarding category codes, and see Paragraph V for a specific discussion of category codes with regard to training buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- DCS, G3

#### COS:

- Norfolk

### 3. Complex

General Instruction Buildings may be a part of one or more complexes.

- Army School Complex
- NCO Academy Complex

#### Complex:

- Army School
- NCO Academy

Large academic buildings in a training complex are frequently multiuse buildings with two or more category codes. Consider the

overall mission and composition of the complex in assigning category codes within the complex.

See Chapter 4 for a discussion of the complexes.

#### 4. Units of Measure

Primary:	SF	
Secondary:	PN	
FAC UM:	SF	
Capacity:	PN	Office Capacity of general functional areas
	SE	The capacity of a classroom in seats
Other:	EA	Number of classrooms in building

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Determine EA where “each” is the number of classrooms located within a building.

Classify each classroom by capacity in PN using standard classroom capacities in Table 17120 – 2.

Report PN by building as the sum of the student capacities of the classrooms in the building.

#### 5. Functional Areas

Table 17120-1 lists the functional areas by type of a General Instruction Building. See the functional adequacy matrix following this facility category discussion.

Table 17120-1 General Instruction	
Functional Area	Type
Private Offices (See Appendix A for criteria)	General
Classroom	Mission
Classroom Storage	Mission
Open Offices	General
Record Storage	Mission
Supply Storage	Mission
Copy Room	General
Auditorium	Mission
Break Area	General
Public Restrooms	Support

Loading Dock	Support
Libraries	Mission
Secure Storage	Mission
Janitor's Closet	Support

**a. Additional Classification and Reporting Guidance**

See Chapter 3 for guidance on classroom classifications.

In addition to the functional areas listed in Table 17120-1, this CATCD can include all general functional areas in Appendix A not otherwise listed here. Those functional areas should be included in CATCD 17120 if they are in a building that is primarily instructional in nature. The provisions of Chapter 3 on category codes and functional areas apply.

Instructor offices are included in facility category code 17120 when they are collocated in a single building with general instruction classrooms. When instructor offices are in an administrative building that does not include classrooms, use facility category code 61050 to report the office space. When instructor offices are in an Applied Instruction Building (AIB) with only limited multipurpose classroom space, include the instructor offices in the respective AIB facility category code, unless the offices are aggregated in a contiguous area (AIB classrooms are facility category codes 17131 through 17138).

When traditional or multipurpose classrooms are in an AIB, report them as facility category code 17120 when they are in a contiguous area within the AIB. When the floor plan disperses multipurpose classrooms within an AIB and orients them in a manner to provide direct support to specific AIB classrooms, or if the exclusive or primary access to a classroom is through an AIB instructional area, report them as part of the corresponding AIB facility category code.

Include storage, auditoriums, libraries, and break areas in facility category code 17120 only if they are physically contained within an academic building. For standalone-buildings in school complexes, use facility category code 44224 for storage, facility category code 74010 for auditoriums, facility category code 61065 for libraries, and facility category code 74060 for break areas. When academic libraries are incorporated into a consolidated library, add their requirement to the requirement for 74041 or 74040, as appropriate.

The presence or use of computers within a classroom does not automatically qualify the classroom for reporting as automation aided instructional facility category. Review the definition of facility category code 17136 and the discussion of Classroom XXI in General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design before assigning facility category code 17136 to academic space.

Classrooms for courses requiring the use of specialized equipment require dedicated classroom space because the equipment may not be easy to move, and may require storage within the classroom when not in use. When a course requires a dedicated classroom because of specialized equipment, consider whether classifying the building or a portion thereof as an AIB facility is more appropriate.

Classify classrooms at weapons and training ranges as facility category code 17123, Range Support Building. Classrooms in AIT and BT/OSUT complexes included in Barracks/COF buildings or Battalion Headquarters are facility category code 17119.

The NCO Academy Standard provides general-purpose administration space for the school administrative staff. If all of the academy staff and faculty, the classrooms, auditorium, and the resource center are collocated in a single building, classify the entire building as 17120, except for any Classroom XXI Level 3 classrooms, which should be classified as CATCD 17136.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The basis for authorization is the mission to present course work, including Total Army School System (TASS) schools, schools/training centers of the Active and Reserve Components, the combined arms training center in major training areas, and other sites (such as NCO academies) that serve a large population for basic lecture/conference/seminar-type instruction.

The criteria allow this facility category for organizations that, as a primary or incidental mission, have regularly programmed training for student populations external to the training organization.

The basis of calculation is based on the number of full-time instructors authorized, the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, and the method of instruction associated with each course.



By contrast, facility category code 17119 allows training space intended to meet requirements internal to the organization. Facility category code 17119 is also included in BT/OSUT barracks complexes in lieu of 17120.

## **2. Programmatic Application**

RPLANS calculates allowances at unit level for student UICs and TDA schools other than NCO academies. RPLANS calculates allowances at the complex level for NCO academies. RPLANS uses attributes such as the number of instructors, number of students, percent of time spent in General Instruction Classrooms, and the number of senior enlisted personnel, officers, and civilians in its allowance methodology.

Classroom space is calculated based on the number of students multiplied by percent instruction in general instruction multiplied by 100 GSF per student.

Auditorium space is calculated based on the number of military students E-6 and above plus civilian students times 19 GSF per student.

Instructor spaces are based on 189 GSF per instructor.

Library space is provided at 8,700 GSF if a librarian is present in the TDA.

Unit-level allowances are the sum of student, auditorium, instructor, and library allowances.

NCO academy allowances are calculated based on the complex population of instructors and support staff, students, and an additional audience factor. The additional audience factor accounts for added capacity in the auditorium to accommodate visitors and guests at graduation ceremonies.

Based on these attributes, RPLANS calculates an allowance for instructor office space, classrooms, auditoriums, and learning resource centers.

The installation (base) allowance is the sum of unit allowances and complex allowances for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries.

#### a. Classrooms

When conditions permit, plan, program and manage GIB classrooms based on multipurpose classroom standards in cases where a traditional classroom is otherwise adequate. This provides the maximum flexibility and adaptability for shared use of the space.

Determine the number of classrooms needed to satisfy recurring training requirements by type and size in accordance with Chapter 6, Section VI.B.

Table 17120-2 lists the sizing criteria for classrooms.

Table 17120-2 GIB Allowable Net Areas		
Classroom Type	Occupancy	Dimensions, NSF
Traditional Classroom	30 Students, 1 Instructor	30 FT X 36 FT, 1080 NSF
Traditional Classroom	40 Students, 1 Instructor	40 FT X 36 FT, 1440 NSF
Traditional Classroom	50 Students, 2 Instructors	40 FT X 42 FT, 1680 NSF
Traditional Classroom	60 Students, 2 Instructors	40 FT X 48 FT, 1920 NSF
Traditional Classroom	70 Students, 2 Instructors	46 FT X 48 FT, 2,200 NSF
Multipurpose Classroom	15 Students, 1 Instructor	30 FT X 18 FT, 540 NSF
Multipurpose Classroom	30 Students, 1 Instructor	30 FT X 40 FT, 1,200 NSF
Multipurpose Classroom	40 Students, 1 Instructor	40 FT X 40 FT, 1600 NSF
Multipurpose Classroom	50 students, 2 instructors	40 FT X 48 FT, 1,920 NSF
Multipurpose Classroom	60 students, 2 instructors	40 FT X 55 FT, 2,200 NSF
Multipurpose Classroom	70 students, 2 instructors	47 FT X 55 FT, 2,590 NSF
Seminar Model Classroom	16 – 24 Students, 1 – 4 Instructors	Two rooms, one of 1,000 NSF the other 500 NSF
Consolidated Training Configuration Space	30 Students, 6 Instructors	2,450 NSF divided among 7 300 – 350 NSF rooms

Table 17120-2 GIB Allowable Net Areas		
Classroom Type	Occupancy	Dimensions, NSF
Video-Teleconference Classroom	15 Students, 1 Instructor	40 FT X 24 FT, 975 NSF
Video-Teleconference Classroom	30 students, 1 instructor	40 FT X 40 FT, 1,600 NSF
NCO Academy Training Space	16 Students, 2 Instructors	1,100 NSF
Multipurpose Auditorium	71 – 150 Students	2,250 NSF

Auditoriums are multipurpose shared spaces. Normally, one or two auditoriums will meet the total requirements for a school, even if there are multiple GIBs in a school complex.

#### **b. Instructors**

Determine the number of instructor spaces needed using TDA data from WebTAADS. Verify your understanding by interview with the school. It is helpful to have a current copy of the school TDA when conducting the interview. Many schools have Inter-Service Training Requirements Organization (ITRO)-coordinated courses. ITRO courses will frequently involve instructors from other services who will not be on the Army school TDA. Verify whether this is the case, and add other service instructors and staff as needed.

#### **c. Supporting Spaces**

Each classroom should have a 36 NSF storage space. Larger-than-average classrooms warrant more storage space.

Calculate secured storage at the rate of 1.5 NSF per student requiring secure storage, unless the school documents a greater requirement. Calculate other space as indicated in Table 17120-3.

Table 17120-3		
Room	Programming Dimensions	Planning Dimensions
Classroom Storage	36 NSF	36 NUA
Resource Center	400 NSF Small up to 10 students 1200 NSF Large up to 30 students	400 NUA Small up to 10 students 1200 NUA Large up to 30 students
Instructor Offices	O5, O6 – 200 NSF	Per Appendix A
	O7, O8 – 300 NSF	Per Appendix A
	O9, O10 – 400 NSF	Per Appendix A
	All others – 110 NSF	Per Appendix A
Instructor Work Station	64 NSF	Per Appendix A
Director's Office	220 NSF	Per Appendix A
Administration Office	130 NSF	Per Appendix A

Table 17120-3		
Room	Programming Dimensions	Planning Dimensions
Building Manager's Office	500 NSF	Per Appendix A
Loading Dock	Total net area of 160 NSF gross area for this space is calculated at 50 percent and equals 80 NSF	Total net area of 160 NUA gross area for this space is calculated at 50 percent and equals 80 NUA
Transient Storage	400 NSF	400 NUA
Record Storage	120 NSF	120 NUA
Copy Room	200 NSF	200 NUA
Supply Storage	0.6 percent of total building net area subtotal	0.6 percent of total building net area subtotal
Student Break / Vending	6.0 percent of the building gross area subtotal	6.0 percent of the building gross area subtotal
Staff Break Area	16 Staff, 300 NSF	Per Appendix A

#### d. NCO Academy Requirements

Determine requirements based on the training load. The preferred classroom type, Classroom XXI levels 1 and 2, is a 16-person classroom with a U-shaped layout. Table 17120-4 shows the basis for calculating requirements for NCO Academy instruction and operations areas. The Notes column indicates the CATCD identified in the NCO Academy standard. However, if all functions are in a single building, classify the entire building as CATCD 17120, except for automation aided classrooms, which must be broken out as CATC 17136.

Table 17120-4 NCO Academy		
Room	Basis	Notes
<b>Instruction Areas</b>		
Auditorium	13 NSF/PN	CATCD 17120 Students + Staff + 25%
Automation Aided Classroom	1,500 NSF Each	CATCD 17136 Classroom XXI Level 3 ALC/SLC only
Multipurpose Classrooms	1,100 NSF Each	CATCD 17120 16 PN in U shaped layout
Learning Resource Center	40 NSF/PN	CATCD 61065 ALC / SLC student load only
Instructor Work Station	130 NSF	CATCD 17120 Per Appendix A
Director's Office	220 NSF	Per Appendix A
<b>Operations Areas</b>		
Administration Office	130 NSF/PN	CATCD 61050 Based on TDA Authorization
Secure Test Room	150 NSF/EA	CATCD 61050
Message Center	375 NSF/EA	CATCD 61050
Staff Break Area	300 NSF/EA	CATCD 61050
Small Conference Room	150 NSF/EA	CATCD 61050
Medium Conference	375 NSF/EA	CATCD 61050

Table 17120-4 NCO Academy		
Room	Basis	Notes
Room		
Large Conference Room	500 NSF/EA	CATCD 61050
Soldiers Records Storage	120 NSF/EA	CATCD 61050
Copy Center	200 NSF/EA	CATCD 61050
Office Supply	300 NSF/EA	CATCD 61050
Reception	500 NSF/EA	CATCD 61050
Storage Space	2.34 NSF/PN	CATCD 44224
Arms Vault	400 NSF/EA	CATCD 44223
Soldiers Fitness Room	1.25 NSF/PN	CATCD 17120

Barracks, dining, and external area requirements are addressed separately under the appropriate CATCD. See also Chapter 4 for more information about complexes.

### 3. Assigning Space

#### a. Guidance

Assigning space for this facility category includes determining the required number and size of classrooms, the number and size of instructor offices, the number of open office cubicles, and the amount of space required for supporting facilities, including storage, break rooms, auditoriums, resource centers, and libraries.

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign NUA within that building that corresponds to the required NSF for each functional area.

Locate classrooms such that they are readily accessible from public entrances and within proximity of instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants. The total net area for student break areas should be 6 percent of the building gross area subtotal.

Locate instructor offices near classrooms but, when possible, in an administrative area that contains other offices not directly related to teaching, such as the administration office and building manager's office. Provide space within the administration area for storing seven years of records. Additionally, provide a copy room and storage for supplies. Provide supply storage area at 0.6 percent of the building net area subtotal.

In buildings over 40,000 NSF requiring a loading dock, the dock is usually 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### **b. Facility Utilization Metrics**

The TRADOC goal for classroom utilization is 80 percent. This equates to 80 percent of the available PN capacity occupied 100 percent of the time, 100 percent of the available PN capacity occupied 80 percent of the time, or any combination thereof. However, PN alone is not a valid basis for determining actual utilization. A classroom that is in use for an appropriate number of students is 100 percent utilized when instruction is in progress.

Conversely, a 100-person classroom cannot simultaneously support three different classes with 30 students each, although that would appear possible for analysis at the PN level only. Further, a vacant 30-person classroom can support a 15-person class.

Additionally, while structural loads spread training requirements evenly over a 50-week period, actual class scheduling concentrates loads in surge periods, resulting in peaks and valleys in the actual number of active classes throughout the year.

Finally, proximity may affect utilization, especially at large schools. Many large schools have campuses that focus on different aspects of training. These campuses may be dispersed and represent diverse training missions. For example, Fort Lee has the Logistics University (LOGU) campus, consisting of primarily facility category code 17120. It also has the Ordnance School campus, which is dominated by AIT courses and consists of a mix of facilities classified as CATCD 17120 and a variety of applied instruction CATCDs. Because of the distance involved and the logistics of moving AIT students, a GIB classroom in LOGU cannot reasonably support a requirement for a GIB classroom for an AIT course in the Ordnance School, even though they are on the same installation.

Because of these factors, it is necessary to calculate utilization by campus and, within each campus, by classroom size. For each classroom size:

Table 17120-4 shows an example of classroom utilization calculations. Divide the maximum number of active classes (**REQUIRED**) for a classroom size by the number of available classrooms of that size (**AVAIL**). Multiply the product by 100 and round up to the nearest whole number to obtain the utilization rate.

Table 17120 – 4: Sample Classroom Utilization Calculation			
CLASSROOM SIZE	REQUIRED	AVAIL	UTILIZATION RATE
15 Students	40	38	106%
30 Students	32	42	77%
40 Students	20	22	91%
50 Students	11	16	69%
60 Students	2	2	100%
70 Students	1	1	100%
<b>Total</b>	<b>106</b>	<b>121</b>	<b>88%</b>

In the example, while the number of 15-student classrooms is insufficient, there are enough larger classrooms to offset the shortage if they are otherwise suitable. In a reverse situation with a shortage of larger classrooms, it would be difficult to adjust to the situation.

The actual number of active classes may be higher than the calculated number at times during the academic year. Class starts are not always evenly spaced throughout the year, because of scheduling requirements and the uneven distribution of available student loads. Consequently, even though the utilization rate is below 90 percent in this example, there may be times during the year when there are insufficient classrooms to meet the requirement.

Note that some professional schools, such as the Army War College, have an academic year that parallels civilian colleges and universities. Calculate their classroom utilization based on the number of training weeks in the academic year.

## D. Programmable Increments

### 1. Standard Facilities

Use the GIB and ACES Standard Design, which provides an interactive programming worksheet. For programming purposes, base classroom portions of the scope on multipurpose classrooms rather than traditional classrooms, except when another type of classroom included in the Standard Design (e.g., seminar room) is more appropriate.

## **2. Programming Units**

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties. Unit interviews are essential for understanding organizations that perform this type of training and the operational requirements of their training environment.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. The interactive spreadsheet provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate Army schools in a professional/institutional land use. Locate AIT and BT/OSUT in a troop land use. Consider whether there is a need for an Army school to use space in AIB at an AIT complex, and factor that relationship into location selection and site planning.

### **2. Site Planning Considerations**

Locate the GIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Design circulation to provide direct access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation.

Instructional spaces should not be greater than an 8-minute walk distance, especially for AIT and OSUT facilities. Table 17120-4 displays approximate walking distances between school buildings and billets/dining facilities consistent with that goal.



Table 17120-4 Walking Distances

Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

Consult the Norfolk District Center of Standardization when programming this CATCD.

Avoid dedicated GIB classrooms unless 1) a course requires special features; 2) a single class, because of its frequency, occupies the classroom more than 80 percent of the time; or 3) an applied instruction classroom requires frequent movement between lectures and hands-on presentations.

Large equipment or training aids that are used infrequently should be stored within the classroom if possible, but blocked from view. Large and medium-size equipment in daily use should be stored within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

### 2. Exceptions

NCO academies that conduct Warrior Leaders Course (WLC) will generally have the staff documented on a self-contained TDA. NCO academies that conduct ALC and SLC will frequently be documented on a TDA that includes other portions of a branch school. In that case, the NCO academy may share General Instruction Building space with other non-NCO academy activities, and may rely on AIB classrooms in an AIT complex.

### 3. References

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1	16-SEP-08
GIB or ACES Programming Worksheet_	16-SEP-08
US Army Training and Doctrine Command Non-Commissioned Officer Academy Standard Facility Planning Criteria	MAR-12
AR 405-70 Utilization of Real Property	12-MAY-06

### 4. Also See

17123	Range Support Building
17131	Compact Item Repair Instructional Building
17132	General Item Repair Instructional Building
17133	Vehicle Maintenance Instructional Building
17134	Aircraft Maintenance Instructional Building
17135	Laboratory Instructional Building
17136	Automation Aided Instructional Building
17137	Material Handling Instructional Building
17138	Limited Use Instructional Building
61050	Administrative Building, General Purpose
61065	Technical Library

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
General	Private Offices	A		130 NSF per office	110 NSF per office		
Mission	Traditional Classroom	A		Refer to Table 17120-2	32 NSF		
Mission	Multipurpose Classroom 15 Student	A		30 FT X 18 FT	540 NSF		
Mission	Multipurpose Classrooms 30 Student to 70 Student	A		Refer to Table 17120-2	37 NSF per student		
Mission	Classroom Storage	A		36 NSF per classroom	36 NSF per classroom		
General	Open Offices	A			No lower limit		
Mission	Record Storage	B		520 NSF	520 NSF		
Mission	Supply Storage	A		0.6% of total building net area	0.6% of total building net area		
Support	Copy Room	A		200 NSF	No lower limit		
Mission	Auditorium	E		7.5 NSF per student	No lower limit		Minimum aisle width is 3 feet
Support	Break Area	A		6% of the building gross area			Staff break area 300 NSF
Support	Public Restrooms	A			1 per floor		
Support	Loading Dock	D		160 NSF	No lower limit		
Mission	Libraries	E		N/A	No lower limit		See also CATCD 61065
Mission	Secure Storage	D		1.5 NSF per student requiring secure storage	No lower limit		
Support	Janitor's Closet	A		1 per floor	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An indoor range building designed for indoor weapons zero and alternate qualification for rifles, combat pistols, and revolvers. This range facilitates alternate qualification courses in extreme climatic conditions, or in land-restricted areas. This facility does not require any automation. This range does not require any additional support structures. Also, report this building with unit of measure firing points (FP). Data should be available from the installation range and/or from Directorate of Plans, Training, and Mobilization (DPTM) personnel. If not, conduct a physical survey. A firing point is a single location from which fire is delivered in target practice.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

### 4. Units of Measure

Report and program Indoor Firing Ranges in SF.

### 5. Functional Areas

Table 17121-1 lists the functional areas and types associated with an Indoor Firing Range.

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FP
- FAC UM = SF
- Planning UM = SF

Table 17121-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Firing Area	Mission	A
Target Area	Mission	A
Arms Storage	Mission	A
Ammunition Issue Room	Mission	A
Reloading Room	Mission	A
Munitions Drop Area	Mission	A
Ventilation Equipment Room	Support	A
Air Lock	Support	A
Maintenance Room	Support	B
Administration office	General	B
Public Restrooms	Support	B
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis of Allowance

As required.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code because the August 2004 RPLANS/FPS/ACTS CCB determined that allowances for this FCG will be set to zero at all installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

“Safe Ranges” must comply with design standards in the National Guard Bureau Design Guide (DG) 415-1, 2-3.3.1 or CEHND 1110-1-18

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the training UIC.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

See Sections F.1. and F. 3.

### 2. Programming Units

Programming documents report Indoor Firing Ranges in GSF to make cost comparisons between projects. Design and construction become part of larger projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

None.

### **2. Site Planning Considerations**

None.

## **F. Other Considerations**

### **1. Special Instructions**

The Mandatory Center of Expertise (MCX) for Army Ranges and Training Land Programs is the Huntsville Division Engineer Office (CEHND). In Accordance with AR 210-21, the design manual CEHND 1110-1-18 will be used when designing U.S. Army Indoor Ranges.

Generic standard designs developed by the MCX and from previous projects by the Kansas City District Engineer Office (CEMRK) are available from the MCX.

AR 210-21 has no facility criteria, only the references approval process for using civilian ranges and host-nation ranges.

Existing facilities must meet the standards for a “Safe Range” (given above), as well as the following:

In older ranges, sidewall windows in front of the firing line have been removed and the openings sealed flush to the wall with materials compatible with the adjacent walls. New ranges are not built with windows in front of the firing line.

Firing lanes without a target retrieval system shall not be used.

### **2. Exceptions**

None.

**3. References**

[www.wbdg.org/design/firing\\_range.php](http://www.wbdg.org/design/firing_range.php) 20-JUN-11

NGR 385-15, Policy and Responsibilities for  
Inspection, Evaluation and Operation of Army  
National Guard Indoor Firing Ranges 3-NOV-06

**4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A building designed for direct support to range operations. This building supports a variety of operations for a firing range, such as range operations, administrative support, target storage and issue, equipment storage and maintenance, and ammunition breakdown and distribution (not storage). This category includes the standard buildings listed in TC 25-8 as range operations center, operations/storage building, and ammo breakdown building. Report structures used for these purposes as 17139, Covered Training Area.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

171xx and 172xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A building that houses support functions conducted at the range complex but not covered elsewhere. This includes range billets, classroom space at a range, buildings to conduct after-action reviews (AARs), and all other range support activities (except activities described in Range Operations and Storage Building [17122], Observation Tower [17971], Observation Bunker ([17972], and Separate Toilet/Shower Building [73075]). Other structures used as range support facilities should be reported as 17139, Covered Training Area.

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 171xx and 172xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building that houses physical education training facilities at the United States Military Academy (USMA) at West Point. These facilities are used for the fitness development program of instruction at the Academy. This CATCD is for use only by the USMA.

**Proponent:**

- DCS, G-1

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

171xx and 172xx for related facility category codes.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for small-item hands-on training of relatively small and delicate items for operation, maintenance, and repair. This training facility has equipment similar to a Small Item Repair Maintenance Facility, and consists of workstations, work tables, test equipment and manuals, and tools and parts storage. The building may consist of all of the above, or any combination thereof. Examples of training facilities in this category are communications-electronics maintenance and repair training facilities, radar maintenance and repair training facilities, and individual weapons maintenance and repair training facilities.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G3

#### COS:

- None

### 3. Complex

Compact Item Repair Instructional Building may be a part of one or more complexes.

- Advanced Individual Training (AIT) Complex
- Army School Complex

#### Complex

- AIT
- Army School

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Capacity: SE

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for mission and general functional areas in accordance with Chapter 3 and Appendix A.

Count seats (SE) as the number of students that can train concurrently in the classroom in its primary configuration.

Determine EA where “each” is the number of AIB classrooms in this CATCD located within a building.

### 5. Functional Areas

This category code is one of eight category codes classified as Applied Instructional Buildings (AIB). Applied Instructional Buildings consist of special-purpose classrooms and may include any or all of the following functional areas.

A Compact Item Repair Instructional Building or Classroom replicates a portion of the consolidated bench functional area in CATCD 21410. Table 17131-1 lists the functional areas by type and adequacy requirements in a Compact Item Repair Instructional Building.

Table 17131-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Special Purpose Classrooms	Mission	A
Central Tool Room	Mission	D
Private Offices (See Appendix A for criteria)	General	E
Open Offices	General	E
Traditional or Multipurpose Classrooms	Mission	F
Storage	General	E
Resource Center	Mission	D
Break Area	General	D
Men’s Restroom	Support	A
Women’s Restroom	Support	A
Janitor’s Closet	Support	A
Loading Dock	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

#### a. Additional Classification and Reporting Guidance

Compact-item repair instruction space is designed to support training on items that, by size and weight, one person may lift and place on a bench. The fact that hands-on training involving compact items occurs in a classroom does not, in itself, justify classification in this facility category. The Army frequently uses traditional classrooms to conduct hands-on training on small components. Classify a traditional classroom as facility category code 17120 if it otherwise meets the description of that category and the conditions in Chapter 3, Section III.D., Reporting Facilities vs. Reporting Functional Areas of Facilities. This applies even

when used for compact-item repair instruction if the classroom has not been physically altered to support this training, and may still be used for lecture-type presentations when not in use for compact-item instruction.

When the finishes, furnishings, and layout are consistent with an industrial setting, and the space has the characteristics of a workshop, classify the space more appropriately as facility category code 17131. Factors influencing this classification may include, but are not limited to, the presence of grounding strips and power outlets at each student workstation, work benches with stools rather than desks with chairs, and special ventilation and storage areas for toolboxes and parts.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The basis for authorization is the mission to present course work involving hands-on training with compact items such as weapons, or small equipment or components. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated space because of the configuration of the classroom, the number of student workstations, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### **2. Programmatic Application**

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in Compact Item Repair Instructional Building multiplied by 190).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in Compact Item Repair Instructional Building is provided by course Programs of Instruction when available, or estimated when it is not.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

Planning for this facility category includes determining the number and size of classrooms required. Additionally, consider the amount of space required for supporting facilities, including storage, break rooms, resource centers, and libraries when these are not included in GIB calculations for a training complex. Classroom requirements are dependent on the nature and size of the equipment, the number of items per module, safety setbacks, circulation, and noise. See Chapter 6 for the general method for calculating requirements for AIB classrooms.

Use the criteria and techniques in CATCD 17120 in Appendix F to determine the functional areas, other than applied instruction classrooms, and calculate requirements.

#### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

#### b. Active Classes

See Chapter 6 for information on determining the number of active classes for each course for AIB classrooms.

**c. Classroom Types**

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that personnel cannot readily change to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

**d. Classroom Size**

See Chapter 6 for information on calculating requirements for AIB classrooms.

**3. Assigning Space****a. Guidance**

When assigning space in an existing building, assign the NUA corresponding to the required NSF for each functional area.

Provide classrooms with ready access from public entrances and in close proximity to instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants. Provide 6 percent of the building gross area subtotal for student break areas.

Locate instructor offices near classrooms, but also, when possible, in an administrative area that contains other offices not directly related to teaching, such as the administration office and building manager's office. Provide space within the administrative area for storing seven years of records. Additionally, provide a copy room and storage for supplies. Provide 0.6 per cent percent of the building net area subtotal for the supply storage area.

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate it in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms

that require GIB instruction in conjunction with the applied instruction.

When possible, provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium-size equipment used daily within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

A loading dock is usually required in buildings over 40,000 NSF with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### **b. Facility Utilization Metrics**

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent. This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for this facility category. AIB buildings are not normally programmed in isolation from a larger building. A planning charrette is strongly recommended as a tool for scope development.

### **2. Programming Units**

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties. In addition to document reviews, unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming.



The worksheet is an integral component of the Army Standard Design for GIB.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

AIB is rarely programmed independently from other facilities. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes.

### 2. Site Planning Considerations

Locate the AIB within proximity of supporting facilities within a complex. If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate these classrooms in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Design circulation to provide direct access to field training areas. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities. Table 17133-2 displays approximate walking distance between school buildings and billets/dining facilities consistent with that goal.

Table 17131-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

## 2. Exceptions

None.

## 3. References

The Army Standard for General Instruction Buildings (GIB) and Army Continuing Education System (ACES) Facilities	14-DEC-04
	16-SEP-08
General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1	
GIB or ACES Programming Worksheet	16-SEP-08
AR 405-70 Utilization of Real Property	12-MAY-06
UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13

## 4. See Also

17120	General Instruction Building
17132	General Item Repair Instructional Building
17133	Vehicle Maintenance Instructional Building
17134	Aircraft Maintenance Instructional Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides hands-on training space for the operation, maintenance, and repair of general portable items. This building has equipment similar to a General Item Repair Maintenance Facility, and consists of workstations, work tables, test equipment and manuals, and tools and parts storage. The building may consist of all the above, or any combination thereof. Examples of this category are general maintenance and repair training facilities, field laundry equipment maintenance and repair training facilities, fabric maintenance and repair training facilities, and portable crew-served weapons maintenance and repair training facilities.

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-3

#### b. Center of Standardization

None.

Proponent:

- DCS, G3

COS:

- None

### 3. Complex

General Item Repair Instruction Building may be a part of one or more complexes.

- Advanced Individual Training (AIT) Complex
- Army School Complex

Complex:

- AIT
- Army School

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
 Secondary: None  
 FAC UM: SF  
 Capacity: SE      Number of students that can train concurrently in a classroom  
 Other: EA

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Calculate EA where “each” is the number of classrooms located within the portion of building with this category code. For large bays with multiple equipment sets, EA is the number of distinct instructional sets of equipment within the bay. For example, a class on generator repair designed for 12 students with three students working on each generator requires four generators. The four generators and associated training aides and circulation area count as each, even if in a large bay with other equipment sets.

## 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms, and may include any or all of the following functional areas.

A General Item Repair Instructional Building or Classroom replicates a portion of the consolidated bench functional area in CATCD 21410. Table 17132-1 lists functional areas by type and adequacy requirements for a General Item Repair Instructional Building.

Table 17132-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Special Purpose Classrooms	Mission	A
Central Tool Room	Mission	D
Private Offices (See Appendix A for Criteria)	General	E
Open Offices	General	E
Traditional or Multipurpose Classrooms	General	F
Storage	General	E
Resource Center	Mission	D
Break Area	General	D
Men’s Restroom	Support	A
Women’s Restroom	Support	A
Janitor’s Closet	Support	A
Loading Dock	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

See Chapter 3 for additional information on classification and reporting of instructional buildings.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The basis for authorization is the mission to present course work involving hands-on training with general items such as laundry and shower equipment, generators and compressors, or other items that are generally too large for one person to carry but do not require a high bay area for maintenance and repair. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated space because of the configuration of the classroom, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### **2. Programmatic Applications**

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in General Item Repair Instructional Building multiplied by 300).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is provided by course Programs of Instruction when available, or estimated when not available.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries. See Chapter 6 for information on calculating requirements for AIB classrooms. Use the criteria and techniques in facility category code 17120 to determine the functional areas other than Applied Instruction Classrooms, and calculate requirements.

#### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

#### b. Active Classes

See Chapter 6 for information on determining the number of active classes for each course for AIB classrooms.

#### c. Classroom Types

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that personnel cannot readily change to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

#### d. Classroom Size

See Chapter 6 for information on calculating requirements for AIB classrooms.

### 3. Assigning Space

#### a. Guidance

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign the NUA corresponding to the required NSF for each functional area.

Provide classrooms with ready access from public entrances, and close proximity to instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all occupants. Provide 6 percent of the building gross area subtotal for student break areas.

Locate instructor offices near classrooms but also, when possible, in an administrative area that contains other offices not directly related to teaching, such as the administration office and building manager's office. Provide space within the administrative area for storing seven years of records. Additionally, provide a copy room and storage for supplies. Provide 0.6 percent of the building net area subtotal for the supply storage area.

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate it in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium-size equipment used daily within the classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

Provide a loading dock in buildings over 40,000 NSF, with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### b. Facility Utilization Metrics

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent.

This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for this facility category. AIB buildings would not normally be programmed in isolation from a larger building. A planning charrette is strongly recommended as a tool for scope development.

### **2. Programming Units**

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties. In addition to document reviews, unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design for GIB.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

AIB is rarely programmed independently from other school facilities. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes.

### **2. Site Planning Considerations**

Locate the AIB within proximity of supporting facilities within a complex. If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate these classrooms in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those



AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Design circulation to provide direct access to field training areas. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities. Table 17133-2 displays approximate walking distance between school buildings and billets/dining facilities consistent with that goal.

Table 17131-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

The Army Standard for General Instruction Buildings (GIB) and Army Continuing Education System (ACES) Facilities	14-DEC-04
General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1	16-SEP-08
AR 405-70 Utilization of Real Property	12-MAY-06
UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13

### 4. Also See

17120	General Instruction Building
17131	Compact Item Repair Instructional Building
17133	Vehicle Maintenance Instructional Building
17134	Aircraft Maintenance Instructional Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for hands-on training of large-item operation and maintenance. The facility has equipment similar to a maintenance bay in a repair facility and consists of structural bays, bay doors, workstations, maintenance pits, bridge cranes, environmental controls, and tools and parts storage. The building may consist of all of the above, or any combination thereof. Examples of this category vary from light vehicle maintenance and repair training facilities to heavy tracked-vehicle maintenance and repair training facilities. Also, report this facility with unit of measure vehicles (VE). Data should be available from school/training center personnel. If not, conduct a physical survey. VE is simply a count of the vehicle bays within the facility. A single bay counts as one VE, and a double bay counts as two VE.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

#### Proponent:

- DCS, G3

#### COS:

- None

### 3. Complex

Vehicle Repair Instructional Building may be a part of the following complexes.

Advanced Individual Training (AIT) Complex  
Army School Complex

#### Complex:

- AIT
- Army School

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

Primary: SF  
Secondary: VE  
FAC UM: SF  
Capacity: SE      Number of students that can train  
                                 concurrently in a classroom  
Other: EA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Determine EA where “each” is the number of classrooms located within a building. For large bays with multiple equipment sets, EA is the number of distinct class sets of equipment within the bay. For example, a class on HMMWV repair designed for 42 students with seven students working on each HMMWV requires six HMMWVs. The six HMMWVs and associated training aids and circulation area count as each, even if in a large bay with other equipment sets.

## 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms and may include any or all of the following functional areas.

A Vehicle Repair Instructional Building or Classroom replicates the maintenance or repair bay functional areas in CATCD 21410. Table 17133-1 lists the functional areas by type and adequacy requirements in a Vehicle Repair Instruction Building.

Table 17133-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Special Purpose Classrooms	Mission	A
Central Tool Room	Mission	D
Vehicle Repair Instructional Bay	Mission	A
Private Offices (See Appendix A for Criteria)	General	E
Open Offices	General	E
Traditional or Multipurpose Classrooms	General	F
Storage	General	E
Resource Center	Mission	D
Break Area	General	D
Men’s Restroom	Support	A
Women’s Restroom	Support	A
Janitor’s Closet	Support	A
Loading Dock	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

See Chapter 3 for additional classification and reporting guidance.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The basis for authorization is the mission to present course work involving hands-on training with tracked or wheeled vehicles or their major components, as well as trailers and other large, wheeled equipment that requires a high bay for maintenance. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated or unique space because of the configuration of the classroom or the attributes of the equipment, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### **2. Programmatic Application**

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in Vehicle Repair Instructional Building multiplies by 375).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus us direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is normally provided by course Programs of Instruction.

## C. Planning

### 1. Planning Level

The planning level is unit.

#### Planning Level:

- Unit

### 2. Requirements Calculations

Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries. See Chapter 6 for information on calculating requirements for AIB classrooms.

Use the criteria and techniques for CATCD 17120 in Appendix F to determine the functional areas other than Applied Instruction Classrooms, and calculate requirements.

#### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

#### b. Active Classes

See Chapter 6 for information on determining the number of active classes for each course for AIB classrooms.

#### c. Classroom Types

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that personnel cannot readily change to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

Assume, for example, the 91B10 AIT course at the Ordnance School lasts 12 weeks and has 48 class starts per year. That calculates as 576 classroom-weeks/year for this course (12 weeks

per class times 48 starts), and 12 active classes at any given time if there are 50 training weeks per year (576 classroom weeks divided by 50 training weeks per year equals 11.52, or 12 active classes).

If there are 12 modules in the course and each module requires a classroom with some type of equipment, this suggests each classroom is in use every week during 50 weeks of the year. Moreover, while not every module requires full-time use of the Applied Instruction Classroom all day for each day of the week, the classroom has limited availability to support other training because of the time it takes to reset the classroom in preparation for the next class.

#### **d. Classroom Size**

See Chapter 6 for information on calculating requirements for AIB classrooms. Vehicles or major vehicle components are the normal items of equipment that this facility category accommodates.

### **3. Assigning Space**

#### **a. Guidance**

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign the NUA corresponding to the required NSF for each functional area.

Provide classrooms with ready access from public entrances and in close proximity to instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants. Provide 6 percent of the building gross area subtotal for student break areas.

Locate instructor offices near classrooms, but also, when possible in an administrative area that may contain other offices not directly related to teaching, such as the administration office and building manager's office. Provide space within the administrative area for storing seven years of records. Additionally, provide a copy room and storage for supplies. Provide 0.6 percent of the building net area subtotal for the supply storage area.

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate it in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose

classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium-size equipment used daily within the classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

Provide a loading dock in buildings over 40,000 NSF with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### **b. Facility Utilization Metrics**

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent. This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for this facility category. AIB facilities are not normally programmed in isolation from a larger building. A planning charrette is strongly recommended as a tool for scope development.

### **2. Programming Units**

Program to requirements. Avoid single purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties. In addition to document reviews, unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming.

The worksheet is an integral component of the Army Standard Design for GIB.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

AIB is rarely programmed independently from other facilities. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes.

### 2. Site Planning Considerations

Locate the AIB within proximity of supporting facilities. If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate these classrooms in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Design circulation to provide direct access to field training areas. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities. Table 17133-2 displays approximate walking distance between school buildings and billets/dining facilities consistent with that goal.

Table 17133-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.



## 2. Exceptions

Because the number of students and the nature of the tasks performed in training, the 512 NSF work area per vehicle that applies to CATCD 21410 does not ensure sufficient space in the training setting.

Unlike CATCD 21410, CATCD 17133 does not require a configuration that allows each bay direct access to a vehicle door, because vehicles used in this setting are not moved in and out of the work area on a daily basis.

## 3. References

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1	16-SEP-08
AR 405-70 Utilization of Real Property	12-MAY-06
UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13

## 4. Also See

17120	General Instruction Building
17131	Compact Item Repair Instructional Building
17132	General Item Repair Instructional Building
17133	Vehicle Maintenance Instructional Building
17136	Automation Aided Instructional Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for specialized, hands-on, formal instruction in a laboratory environment. The facility is of a general laboratory nature, and consists of workstations, work tables, sinks, gas and power sources, ovens and refrigerator/freezers, mock-ups, environmental controls, and tools and materials storage. The facility may consist of all of the above, or any combination thereof. Examples are medical, dental, nursing, X-ray, medic and veterinarian instructional facilities; soils and materials training facilities; food preparation training facilities; carpentry, plumbing, and electrical training facilities; and mortuary affairs training facilities. This category differs from a general instruction building (17120) in that it has specialized laboratory equipment for training.

*Note: Some standards refer to this facility as an Aircraft Repair Instruction Building.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G3

#### COS:

- None

### 3. Complex

Aircraft Maintenance Instruction Buildings may be a part of one or more complexes.

- Advanced Individual Training (AIT) Complex
- Army School Complex

#### Complex:

- AIT
- Army School

Large academic buildings in a training complex are frequently multiuse facilities with two or more category codes. Consider the overall mission and composition of the complex in assigning category codes to facilities within the complex.

See Chapter 4 for a discussion of complexes.

#### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Capacity: SE      Number of students that can train  
                         concurrently in a classroom  
Other: EA

##### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Area UM = NUA
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Determine EA where “each” is the number of classrooms located within a building. For large bays with multiple equipment sets, EA is the number of distinct class sets of equipment within the bay. For example, a class on UH-60 repair designed for 12 students with three students working on each UH-60 requires four UH-60 frames or components. The four UH-60 elements and associated training aides and circulation area count as each, even if in a large bay with other equipment sets.

#### 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms and may include any or all of the following functional areas.

An Aircraft Maintenance Instructional Building or Classroom replicates the hangar bay or maintenance shop functional areas in CATCD 21110. Table 17134-1 lists the functional areas by type and adequacy requirements in the Aircraft Repair Instruction Building.

Table 17134-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Special Purpose Classrooms	Mission	A
Central Tool Room	Mission	D
Aircraft Maintenance Instruction Bays	Mission	A
Private Offices (See Appendix A for criteria)	General	E
Open Offices	General	E
Traditional or Multipurpose Classrooms	General	F
Storage	General	E
Resource Center	Mission	D
Break Area	General	D
Men's Restroom	Support	A
Women's Restroom	Support	A
Janitor's Closet	Support	A
Loading Dock	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

See Chapter 3 for additional information on classifying and reporting this facility category.

***Note:** Use the criteria and techniques in facility category code 17120 to determine the functional areas other than Applied Instruction Classrooms. Base category codes assignment on the guidelines discussed in this section.*

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the mission to present course work involving hands-on training in aircraft and aircraft component maintenance. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated or unique space because of the configuration of the classroom or the attributes of the equipment, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

## 2. Programmatic Application

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in General Item Repair Instructional Building multiplied by 1,875).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is provided by course Programs of Instruction.

## C. Planning

### 1. Planning Level

Planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

***Note:** Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries.*

Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries. See Chapter 6 for information on calculating requirements for AIB classrooms.

Use the criteria and techniques in CATCD 17120 in Appendix F to determine the functional areas other than applied instruction classrooms, and calculate requirements.

**a. Courses**

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

**b. Active Classes**

See Chapter 6 for information on determining the number of active classes for AIB classrooms.

**c. Classroom Types**

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness refers to a particular characteristic or feature of the classroom that cannot be readily changed to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

Scheduling is a dedicated classroom factor when the number of active classes results in a continuing requirement for a classroom to meet the necessary throughput. For example, if course 600-15R10 at the Aviation Logistics School is 16 weeks long and has 49 class starts per year, there would be 768 classroom weeks/year for this course (16 weeks times 49 starts). There would be fifteen active classes at any given time if there are 50 training weeks per year (768 classroom weeks divided by 50 training weeks per year). The course director is able to provide the number of modules required to meet the requirements of the Program Of Instruction.

**d. Classroom Size**

See Chapter 6 for information on calculating classroom size. This is a sample application for an instructional bay that requires AH-64 aircraft with rotors to conduct the training:

A – 3 students per workstation

B – 12 NSF per student

C – Workstation is 84 feet long by 64 feet wide, or 5,376 NSF including circulation

D – 12 students per class

$$\begin{array}{rcl} \{ [ (3 \times 12) + 5,376 ] & \times (12 \div 3) \} & \times 1.2 \\ \{ [ 36 + 5,376 ] & \times (4) \} & \times 1.2 \\ \{ 5,412 \times 4 = 21,648 \text{ NSF} \} & & \times 1.2 \\ \{ 21,648 \} & & \times 1.2 = 25,978 \text{ NSF} \end{array}$$

This example does not include any supporting space for storage, instructor station, or safety equipment.

### 3. Assigning Space

#### a. Guidance

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign the NUA within that building that corresponds to the required NSF for each functional area.

Locate classrooms with ready access from public entrances and within proximity of instructor offices and break areas. Locate student break areas physically separated from instructor break areas and close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants. Provide total net area for student break areas at 6 percent of the building gross area subtotal.

Locate instructor offices near classrooms but also in an administrative area that contains other offices not directly related to teaching, such as the administration office and the building manager's office. Provide space within the administrative area for storing seven years of records. Additionally, provide a copy room and storage for supplies. Provide 0.6 percent of the building gross area subtotal for supply storage area.

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate it in the same building to reduce the time required to move between venues. When conditions permit, locate a traditional or multipurpose classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium-size equipment used daily within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

Provide a loading dock in buildings over 40,000 NSF, with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.b.

#### **b. Facility Utilization Metrics**

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent. This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for the Aircraft Maintenance Instructional Building. AIB facilities are not normally programmed in isolation from a larger facility. A planning charrette is strongly recommended as a tool for scope development.

### **2. Programming Units**

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties, and to determine course and class data for GIBs. Unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design.



## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Consider adjacency requirements with an airfield if the training involves flying or hovering operational aircraft.

AIB is rarely programmed independently from other facilities. Integrate AIB into a school complex.

### 2. Site Planning Considerations

See Chapter 4 for a discussion of school complexes. Locate the AIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Design circulation to provide direct access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities.

Table 17134-2 displays approximate walking distances between school buildings and billets/dining facilities consistent with that goal.

Table 17134-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

**3. References**

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design	16-SEP-08 v2.1
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AR 405-70: Utilization of Real Property	12-MAY-06
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Army Standard for Aircraft Maintenance Hangar (HGR) Complex	13-APR-12
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**4. Also See**

17120	General Instruction Building
17123	Range Support Building
17135	Laboratory Instructional Building
17136	Automation-Aided Instructional Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for specialized, hands-on, formal instruction in a laboratory environment. The facility is of a general laboratory nature and consists of workstations, work tables, sinks, gas and power sources, ovens and refrigerator/freezers, mock-ups, environmental controls, and tools and materials storage. The facility may consist of all of the above, or any combination thereof. Examples are medical, dental, nursing, X-ray, medic and veterinarian instructional facilities; soils and materials training facilities; food preparation training facilities; carpentry, plumbing, and electrical training facilities; and mortuary affairs training facilities. This category differs from a general instruction building (17120) because it has specialized laboratory equipment for training.

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-3

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G3

#### COS:

- None

### 3. Complex

Laboratory Instructional Building may be a part of the following complexes:

- Advanced Individual Training (AIT) Complex
- Army School Complex

#### Complex:

- AIT
- Army School

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Capacity: SE      Number of students that can train  
                                 concurrently in a classroom  
Other: EA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Determine EA where “each” is the number of classrooms located within a building. For Laboratory Instructional Buildings with large bays containing multiple distinct functions, EA is the number of classes that can train simultaneously on a distinct environment within the bay.

## 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms, and may include any or all of the following functional areas.

A Laboratory Instructional Building or Classroom replicates one or more mission functional areas from another facility category. Table 17135-1 lists the functional areas by type and adequacy requirements for the Laboratory Instruction Building.

Table 17135-1 Functional Areas and Adequacy and Requirements		
Functional Area:	Type	Presence
Private Offices (See Appendix A for criteria)	General	E
Open Offices	General	E
Special Purpose Classrooms	Mission	A
Traditional or Multipurpose Classrooms	General	F
Storage	General	E
Central Tool Room	Mission	D
Resource Center	Mission	D
Break Area	General	D
Public Restrooms	Support	A
Janitor's Closet	Support	A
Loading Dock	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

See Chapter 3 for additional guidance on classifying and reporting AIB classrooms.

*Note: Use the criteria and techniques in CATCD 17120 to determine the functional areas other than Applied Instruction Classrooms. Base category codes assignment on the guidelines discussed in this section.*

## B. Criteria

### 1. Basis of Allowance

The basis for authorization is the mission to present course work involving hands-on training in an environment that replicates a mission functional area in another facility category (e.g., kitchen, chemistry lab, carpentry shop). The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated or unique space because of the configuration of the classroom or the attributes of the equipment, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### 2. Programmatic Application

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in General Item Repair Instructional Building multiplied by 80).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is provided by course Programs of Instruction when available, or estimated when it is not.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries. See Chapter 6 for information on calculating requirements for AIB classrooms.

Use the criteria and techniques in CATCD 17120 in Appendix F to determine the functional areas other than applied instruction classrooms, and calculate requirements.

***Note:** Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries.*

#### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

#### b. Active Classes

See Chapter 6 for information on determining the number of active classes for AIB classrooms.

#### c. Classroom Types

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that personnel cannot readily change to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

The RPLANS calculation methodology blurs distinctions among the diverse subject matters associated with this CATCD. The nature of the courses taught in Laboratory Instructional Buildings makes it important to work at the course and classroom levels in determining requirements. Distinctly different classroom attributes occur within schools, and even within courses, in order to meet training requirements.

Classrooms are rarely interchangeable. For example, the Quartermaster School includes Culinary Arts and Mortuary Affairs. Both require laboratories that, clearly, cannot be shared.

The Culinary Arts Center of Excellence has classrooms for teaching stove-top cooking techniques, and different classrooms for teaching tasks using ovens. Even though they are both used by the same courses, the configurations are different and not interchangeable. The Culinary Arts School also has a working dining facility that is part of the final phase of each class. While it contains the same functions as the stove-top and oven classrooms, it is configured for operational experience, not teaching the fundamentals.

The main point is that this CATCD in particular needs a careful analysis at POI level to determine the distinct types of laboratory space needed in order to document requirements that will frequently be higher than the RPLANS allowance.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

#### **d. Classroom Size**

Classroom size for AIB classrooms is a function of the type and size of a training station, the number of training stations required to accomplish the training, and the amount of supporting and circulation space necessary to conduct the desired training. Supporting space may include an instructor workstation, individual lockers for Soldiers' equipment, tools storage, parts storage, test equipment storage, and safety equipment such as an emergency eyewash station.

Use the Program Of Instruction, instructor interviews and site visits to identify or verify the elements needed in the classroom.

Use the procedures in Chapter 6 for determining requirements for AIB classrooms.

### **3. Assigning Space**

#### **a. Guidance**

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign the NUA corresponding to the required NSF for each functional area.

Locate classrooms with ready access from public entrances and within proximity of instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants. Provide 6 percent of the building gross area subtotal for student break areas.

Locate instructor offices near classrooms but in an administrative area with other offices not directly related to teaching, such as the administration and building manager's office. Provide storage for seven years of records within the admin area. Additionally, provide a copy room and storage for supplies. Provide 0.6 percent of the building net area subtotal for the supply storage area.

Provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium-size equipment used daily within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

Provide a loading dock in facilities over 40,000 NSF, with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### **b. Facility Utilization Metrics**

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent.



This may be challenging for classrooms that support low-density courses with specialized classroom requirements.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for this facility category. AIB facilities are not normally programmed in isolation from a larger building. A planning charrette is strongly recommended as a tool for scope development.

### **2. Programming Units**

Program requirements. Avoid single-purpose individual buildings, when possible.

Review WebTAADS to identify TDA positions associated with instructor duties and to determine course and class data for GIBs. Unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design for GIB.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

AIB is rarely programmed independently from other facilities. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes.

### **2. Site Planning Considerations**

Locate the AIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB.

If traditional or multipurpose classroom space is needed in direct support of training in AIB classrooms, locate these classrooms in the same building to reduce time required to move between venues. When conditions permit, locate a traditional or

multipurpose classroom adjacent to the AIB classroom for those AIB classrooms that require GIB instruction in conjunction with the applied instruction.

Design circulation to provide direct access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities. Table 17133-2 displays approximate walking distances between school buildings and billets/dining facilities consistent with that goal.

Table 17135-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design 16-SEP-08 v2.1

AR 405-70 Utilization of Real Property 12-MAY-06

### 4. Also See

17120 General Instruction Building  
17138 Limited Use Instructional Building

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
General	Private Offices	A		130 NSF per office	110 NSF per office		Director's office – 220 NSF; Building Manager's Office – 500 NSF; locate instructor offices near classrooms
General	Open Offices	A			96 NSF per instructor		
Mission	Automation Aided (Special Purpose) Classroom	A		2,175 GSF	1,500 NSF		Classroom XXI, Level 3
Mission	Classroom Storage	A		36 NSF per classroom	36 NSF per classroom		
General	Storage	A		Per Appendix A			
Support	Break Area	A		6% of the building gross area			Staff break area – 300 NSF; may be consolidated with other student break rooms
Support	Public Restrooms	A			1 per floor		
Support	Janitor's Closet	A		1 per floor	No lower limit		
Support	Loading Dock	D		160 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for hands-on instruction in an automation-aided environment. This building is similar to a computer laboratory involving personal computers or a mainframe with individual linkups, and consists of workstations, computers, video and audio players, and similar equipment. Include digital training facilities, a component of the Army Distance Learning Program, in this category. Do not confuse this category with the buildings that conduct training in simulators such as 17210, Simulator Building(Motion-Based); 17211, Simulator Building (Non Motion-Based); 17213, Simulation Center; or 17214, Battle Lab.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- DCS, G3

#### COS:

- Norfolk

### 3. Complex

Automation Aided Instructional Buildings may be a part of the following complexes.

Advanced Individual Training (AIT) Complex  
Army School Complex

#### Complex:

- AIT
- Army School

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: GSF  
Secondary: None  
FAC UM: GSF  
CAP: SE  
Other: EA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = SE
- Other = EA

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Determine SE where seats is the number of students that can train concurrently in a classroom.

Determine EA where “each” is the number of classrooms located within a building.

## 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms and may include any or all of the following functional areas.

Table 17136-1 lists the functional areas by type of the Applied Instruction Buildings. See the functional adequacy matrix following this facility category description.

Table 17136-1 Functional Areas by Type	
Functional Area	Type
Private Offices (See Appendix A for criteria)	General
Open Offices	General
Automation Aided (Special Purpose) Classrooms	Mission
Classroom Storage	General
Storage	General
Break Area	Support
Public Restrooms	Support
Janitors Closet	Support
Loading Dock	Support

### a. Additional Classification and Reporting Guidance

The GIB Standard Design reserves the use of this category code to buildings that meet the definition of Classroom 21 (CR XXI):

“CR XXI design focuses on instructor use, instructor led training, and instructor facilitated self-paced student training. The level classroom used in these buildings is ‘Level 3/High Tech Room’. It is an open architecture, standards compliant, fully networked multimedia classroom with interoperable Video Teletraining (VTT), Internet access, Installation networked with full distance learning capability. The space requires two video projectors and two 3048 mm [10 ft] wide motor operated projection screens. For ease of viewing and transmitting, other CR XXI technologies are used in favor of marker/integrated white boards. The instructor workstation and projection screens are located at the front of the room. An unobstructed view to the front of the room by all students is required. The instructor has digital access to each student computer. The instructor station has a computer, document camera, projector control, lighting and a sound system. Each

student must have a networked computer on a desk. Rooms are generally square in plan with a wall at least 9144 mm [30 ft] long is optimal. A communication rack is required for the VTT function in each classroom. For renovations, the rack is often in an alcove leading into the room while in new construction it is usually in a closet within the room.”

The GIB criterion uses a 20- to 24-person classroom, which has been most common to the Army, and very successful. Coordinate other sizes, especially Larger Classroom XXI, with Training and Doctrine Command (TRADOC).

Use this category code for buildings that meet the standard, even when they are not driven by ATRRS or located at a TRADOC School.

***Note:** In a TRADOC school, this facility will normally be contained within a larger building. At other locations, this facility may be a standalone building or space within nonacademic buildings.*

*Use this facility category code for classrooms with dedicated, single-purpose computers that do not meet the definition of a simulation building (non-motion-based).*

*Use the criteria and techniques in facility category code 17120 to determine the functional areas other than Applied Instruction Classrooms. Base category codes assignment on the principles discussed in this section.*

See Chapter 3 for additional guidance on classifying and reporting AIB classrooms.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the mission to present course work that must be delivered over Level 3 distance learning classrooms, or to be able to receive distance learning courses.

The criteria allow this space for TRADOC Schools and Regional Training Centers for the Reserve Components with a mission to provide classes interactively at a distance from the instructor. Criteria also allow this space for installations with Soldier populations that are required to participate in professional development or career development training via distance learning.

Criteria may allow large TDA work organizations this facility category to support internal training. Criteria allow space based on the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated space because of the configuration of the classroom, and the method of instruction associated with each course.

The basis for calculation for NCO Academies is one classroom for each NCO academy that has the mission to conduct the Senior Leader Course (SLC) and/or Advanced Leader Course (ALC).

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

## 2. Programmatic Application

RPLANS calculates unit allowances using the formula (number of students multiplied by percentage of course time in Vehicle Repair Instructional Building multiplied by 135 GSF/PN).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is normally provided by course Programs of Instruction.

RPLANS calculates complex allowances of 2,175 GSF for each NCO Academy complex with ALC or SLC.

## C. Planning

### 1. Planning Level

Planning level may be unit or other-than-unit. Unit-level planning applies to TRADOC or other schools that have regular programs of instruction for trainees or TDY/PCS students. Other-than-unit planning applies to distance learning requirements for continuing military education and Army Continuing Education System (ACES) programs. The training mission triggers the requirement.

#### Planning Level:

- Unit
- Other-Than-Unit

## 2. Requirements Calculations

*Note: Planning for this facility category includes determining the number and size of classrooms required and the amount of space required for supporting facilities, including storage, break rooms, resource centers, and libraries.*

### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

Determine whether there is an NCO Academy that is responsible for conducting SLC or ALC. For NCO Academy, see also CATCD 17120 in Appendix F.

### b. Active Classes

See Chapter 6 for information on calculating requirements for AIB classrooms.

### c. Classroom Types

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that cannot be readily changed to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements. Uniqueness normally does not apply to Classroom XXI buildings.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

### d. Classroom Size

The Standard Design provides for up to 24 workstations for a standard CRXXI at 1,500 NSF. For existing buildings, the size may increase based on the actual geometry of the room.

Calculate 6 percent NUA of the building gross area subtotal for student break areas. Calculate 0.6 percent of the building net area subtotal for supply storage area.



### 3. Assigning Space

#### a. Guidance

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Locate classrooms with ready access from public entrances and within proximity of instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants.

Locate instructor offices near classrooms but also, when possible, in an administrative area that contains other offices not directly related to teaching, such as the administration office and building manager's office. Provide a storage area of at least 36 NSF in each classroom. Additionally, provide a copy room and storage for supplies.

Provide a loading dock in buildings over 40,000 NSF with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### b. Facility Utilization Metrics

Calculate AIB classroom utilization by multiplying training days used by hours per day in use to obtain classroom hours used. Then multiply training days per year (240) by hours per day (8) to obtain classroom hours available. Divide hours used by hours available and multiply by 100 to obtain the utilization percent. The optimum utilization is 80 percent.

## D. Programmable Increments

### 1. Standard Facilities

This facility category normally represents a classroom or suite of classrooms in an academic building or continuing education facility. While there is no Standard Design for a building, there are specific configuration and technical requirements for this facility category that are necessary for it to function as intended.

## 2. Programming Units

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties. In addition to document reviews, unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for this CATCD, for supporting GIB classrooms, and for other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design for GIB.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

### 2. Site Planning Considerations

AIB is rarely programmed independently from other facilities. Integrate it into a school complex. See Chapter 4 for a discussion of school complexes. Locate the AIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation.

Design circulation to provide access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities.

Table 17136-2 displays approximate walking distances between school buildings and billets/dining facilities consistent with that goal.

**Table 17136-2 Maximum Walking Distance**

<b>Distance</b>	<b>Building Type</b>
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Norfolk District.

### **2. Exceptions**

None.

### **3. References**

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1	16-SEP-08
GIB or ACES Programming Worksheet	16-SEP-08
US Army Training and Doctrine Command Non-Commissioned Officer Academy Standard Facility Planning Criteria	MAR-12
AR 405-70 Utilization of Real Property	12-MAY-06

### **4. See Also**

17120	General Instruction Building
17123	Range Support Building
17137	Material Handling Instructional Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for hands-on training with materials, parts, and equipment operated or stored in a general warehouse environment. The facility has equipment similar to a General Purpose Warehouse building, and consists of workstations, basic 24-foot clear height, warehouse doors, and material and parts storage. The building may consist of all of the above or any combination thereof. Examples are material storage and handling training facilities, parachute rigging training facilities, and other training areas requiring large, open, under-roof facilities.

***Note:** Use this category for buildings that meet the description if they are for instructional purposes, even when they are not driven by ATRRS or located at a TRADOC School.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

Proponent:

- DCS, G3

COS:

- None

### 3. Complex

Material Handling Instruction Buildings may be part of one of the following complexes.

Complex:

- AIT
- Army School

- Advanced Individual Training (AIT) Complex
- Army School Complex

Large academic buildings in a training complex are frequently multiuse facilities with two or more category codes. Consider the overall mission and composition of the complex in assigning category codes to facilities within the complex. See Chapter 4 for a discussion of the complexes.

#### 4. Units of Measure

Primary: SF

Secondary: None

FAC: SF

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms, and may include any or all of the following functional areas.

A Material Handling Instructional Building may replicate many of the functional areas of CATCD 44220 and similar. It may also replicate functional areas associated with rigging and parachute packing. Table 17137-1 lists the functional areas by type and adequacy requirements for the Material Handling Instruction Building.

Table 17137-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Offices (See Appendix A for criteria)	General	E
Open Offices	General	E
Special Purpose Classrooms	Mission	A
Traditional or Multipurpose Classrooms	Mission	F
Storage	General	E
Central Tool Room	Mission	D
Resource Center	Mission	D
Break Area	General	D
Public Restrooms	Support	A
Janitor's Closet	Support	A
Loading Dock	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

See Chapter 3 for additional guidance on classifying and reporting this facility category.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The basis for authorization is the mission to present course work involving hands-on training involving material handling tasks including logistics and rigging-related tasks. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated or unique space because of the configuration of the classroom or the attributes of the equipment, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### **2. Programmatic Application**

RPLANS calculates allowances using the formula (number of students multiplied by percentage of course time in Material Handling Instructional Building multiplied by 1,125).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S. direct hires, plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is provided by course Programs of Instruction.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

In a TRADOC school, this facility category will normally be contained within a larger building. Planning for this facility category includes determining the number and size of classrooms required, and the amount of space required for supporting facilities including storage, break rooms, resource centers, and libraries.

Use the criteria and techniques in CATCD 17120 in Appendix F to determine the functional areas other than applied instruction classrooms, and calculate requirements.

#### a. Courses

Determine the number of courses requiring AIB space. Derive this information from RPLANS UIC attribute reports for student UICs. Information from the Army Training Requirements and Resources System (ATRRS) and user interviews may be necessary to augment the information available in RPLANS.

#### b. Active Classes

See Chapter 6 for information on determining the number of active classes for AIB classrooms

#### c. Classroom Types

Determine the number of dedicated AIB classrooms required for each course. There are two primary reasons for dedicated classrooms. The first is uniqueness, and the second is scheduling.

Uniqueness means there is a particular characteristic or feature of the classroom that personnel cannot readily change to meet the training requirements of other courses. This may be because of installed equipment, special environmental factors, or physical/information security requirements.

Scheduling applies when the training load for a particular class or instructional period results in a sustained utilization rate in excess of 80 percent.

#### d. Classroom Size

Classroom size for material handling classrooms is a function of the type of material handling activities supported. While parachute

rigging training classrooms may have fixed workstations, the configuration of most facilities in this category code will be similar to a warehouse or a shipping and receiving area.

Use the program of instruction, instructor interviews, and site visits to identify or verify the elements that need to be included in the classroom.

Calculate 6 percent NUA of the building gross area subtotal for student break areas. Calculate 0.6 percent of the building net area subtotal for supply storage area.

### **3. Assigning Space**

#### **a. Guidance**

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

When assigning space in an existing building, assign the NUA corresponding to the required NSF for each functional area.

Assign space for full-time instructors in facility category code 17120. See the section on Reporting to determine whether use of an AIB category for instructor offices is appropriate.

Provide classrooms ready access from public entrances and within proximity of instructor offices and break areas. Physically separate student break areas from instructor break areas, and locate them close to restrooms and drinking fountains. Provide vending within the student break area for use by all building occupants.

Locate instructor offices near classrooms but in an administrative area that contains other offices not directly related to teaching, such as the administration office and building manager's office. Provide space for the storage of seven years of records. Additionally, provide a copy room and storage for supplies.

Provide storage for large, infrequently used equipment within the classroom, but blocked from view. Provide storage for large and medium sized equipment used daily within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.



Provide a loading dock in buildings over 40,000 NSF, with the dock 3 feet, 6 inches above a truck parking area. Locate transient storage for the use of transient programs near the loading dock.

#### **b. Facility Utilization Metrics**

Calculate AIB classroom utilization by multiplying training days used by hours per day in use to obtain classroom hours used.

Calculate AIB classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent. This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

### **D. Programmable Increments**

#### **1. Standard Facilities**

There is no Standard Design for the Material Handling Instruction Building. AIB facilities are not normally programmed in isolation from a larger building. A planning charrette is strongly recommended as a tool for scope development.

#### **2. Programming Units**

Program to requirements. Avoid single-purpose individual buildings when possible.

Review WebTAADS to identify TDA positions associated with instructor duties, and to determine course and class data for GIBs. Unit interviews are essential for understanding organizations that perform this type of training.

Use the inputs from WebTAADS and the COS programming worksheet to determine net and gross areas for supporting GIB classrooms and other supporting spaces during DD-1391 development. This is an interactive spreadsheet that provides an outline for planning and serves as a calculator for programming. The worksheet is an integral component of the Army Standard Design for GIB.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

AIB is rarely programmed independently from other facilities. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes.

## 2. Site Planning Considerations

Locate the AIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. Design circulation to provide direct access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation.

Design Material Handling Instructional Facilities to support training on tasks that correspond to a warehouse or parachute rigging environments.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities. Table 17137-2 displays approximate walking distance between school buildings and billets/dining facilities consistent with that goal.

Table 17137-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design	16-SEP-08 v2.1
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AR 405-70 Utilization of Real Property	12-MAY-06
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### 4. See Also

17120	General Instruction Building
44220	Storage Building, General Purpose, Installation

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that contains special design features that allow its use in conducting specialized hands-on Army training. These features are of such a nature that the facility cannot be used as applied instruction space for compact item repair; general item repair; vehicle repair; aircraft maintenance repair; laboratory, medical, dental, nursing, X-ray, medic and veterinarian instruction, automation-assisted; or material handling instruction. Examples of this category include the zoo used for jungle training, and an indoor rock face used for mountaineering.

*Note: This facility may be in training areas and unit areas on troop installations with an ongoing requirement to maintain proficiency in specialized tasks. This is typically a facility custom designed and built to provide an environment not readily simulated or replicated by other means.*

*Note: Do not use this facility category for training facilities classified as **structures**.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### b. Center of Standardization

None.

Proponent:

- DCS, G3

COS:

- None

### 3. Complex

Limited Use Instructional Buildings may be a part of the following complexes.

- Advanced Individual Training (AIT) Complex
- Army School Complex

Complex:

- AIT
- Army School

See Chapter 4 for a discussion of the complexes.

#### 4. Units of Measure

Primary: SF  
 Secondary: None  
 FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### 5. Functional Areas

This category code is one of eight category codes classified as Applied Instruction Buildings (AIB). Applied Instruction Buildings consist of special-purpose classrooms, and may include any or all of the following functional areas.

Table 17138-1 lists the functional areas by type and adequacy requirements of the Limited Use Instruction Building.

Table 17138-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Offices (See Appendix A for criteria)	General	E
Open Offices	General	E
Special Purpose Classrooms	Mission	A
Traditional or Multipurpose Classrooms	General	F
Storage	General	E
Central Tool Room	Mission	D
Resource Center	Mission	D
Break Area	General	A
Public Restrooms	Support	A
Janitor's Closet	Support	A
Loading Dock	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

#### a. Additional Classification and Reporting Guidance

Use this facility category for facilities or buildings that meet the definition, even when they are not driven by ATRRS or located at a TRADOC School.

Limited Use Instruction Buildings are designed to support training on tasks that correspond to environments not readily simulated or replicated without a custom-built building.

*Note: In a TRADOC school, this facility will normally be contained within a larger building. Planning for this facility category requires a special study.*

*Note: Use the criteria and techniques in CATCD 17120 to determine the functional areas other than applied instruction classrooms. Base category codes assignment on the note discussed under Reporting in this section.*

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the mission to present course work involving hands-on training that requires design features that limit the building's use to specialized hands-on Army training. These features are of such a nature that the facility cannot be used for other applied instruction. The criteria allow this space for Training and Doctrine Command (TRADOC) Schools and Regional Training Centers for the Reserve Components that conduct these courses.

The basis for calculation is the number of different courses taught, the frequency and length of classes for each course, the maximum class size for each class taught, the number of modules requiring dedicated space because of the configuration of the classroom, and the method of instruction associated with each course.

Other organizations that have regularly programmed training for student populations external to the training organization, as a primary or incidental mission, may also have a requirement for space in this category code.

RPLANS provides allowances in CATCD 17120 for full-time instructors, including those who are primarily engaged in applied instruction. See Chapter 3, Section V on reporting instructional space to determine whether use of an AIB category for instructor offices is appropriate.

### 2. Programmatic Application

RPLANS calculates Allowances using the formula (number of students multiplied by percentage of course time in Limited Use Instructional Building multiplied by 80).

The number of students is based on ASIP unit strength for student UICs that have the attribute associated with training in this facility type. The total number of students equals officers plus warrant officers plus enlisted soldiers plus U.S direct hires plus other civilians from the applicable student UICs.

The attribute identifying student UICs and the percentage of course time in General Item Repair Instructional Building is provided by course Programs of Instruction when available, or is estimated when it is not available.

## C. Planning

### 1. Planning Level

Planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

#### a. Courses

Buildings in this category tend to be unique. Develop requirements through active involvement with the proponent, and possibly a special study. Consider a planning charrette to develop requirements for this facility category.

### 3. Assigning Space

#### a. Guidance

Assign this space to the Army school or other training activity responsible for conducting programs of instruction.

Existing buildings that were not built for this express purpose will require extensive renovation or modification to meet the unique requirements.

Locate instructor offices near classrooms but within an administrative area that contains other offices not directly related to teaching, such as the administration office and the building manager's office. Provide space within the administration area for the storage of seven years of records. Additionally, provide a copy room and storage for supplies. Provide the supply storage area at 0.6 percent of the building net area subtotal.

Provide storage for large, infrequently used equipment within the classroom but blocked from view. Provide storage for large and medium-size equipment used daily within a classroom dedicated to the instruction of the class requiring that equipment, if there are sufficient class starts to justify a dedicated classroom. Consider the use of rolling storage containers for low-density courses that require the use of light, hand-carried equipment.

#### **b. Facility Utilization Metrics**

Calculate classroom utilization by dividing days used per year by training days available (240). Optimum utilization is 80 percent. This may be difficult to achieve for classrooms that support low-density courses with specialized classroom requirements.

### **D. Programmable Increments**

#### **1. Standard Facilities**

There is no Standard Design for this facility category.

#### **2. Programming Units**

The Army does not have a minimum unit to program. Program to requirements.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

Coordinate with user. Some facilities associated with this facility category may have special requirements relative to ranges or training land.

#### **2. Site Planning Considerations**

AIB is rarely programmed independently from other buildings. Integrate AIB into a school complex. See Chapter 4 for a discussion of school complexes. Locate the AIB within proximity of supporting facilities. Most importantly, locate UPH and dining facilities near the GIB. Design pedestrian circulation to minimize conflict between school and post circulation.

Design circulation to provide direct access to the field training area. Movement of students and equipment to field training areas should not disrupt school or post circulation.

Instructional spaces should not be greater than an 8-minute walking distance from supporting facilities within the complex, especially for AIT and OSUT facilities.

Table 17138-2 lists the approximate walking distance between school buildings and billets/dining facilities consistent with that goal.

Table 17138-2 Maximum Walking Distance	
Distance	Building Type
1,920 feet	Single-Story Buildings
1,800 feet	Two-Story Buildings
1,680 feet	Three-Story Buildings

## F. Other Considerations

### 1. Special Instructions

Contact TRADOC or the proponent for assistance in planning.

### 2. Exceptions

None.

### 3. References

General Instruction Building (GIB) and Army  
Continuing Education System (ACES) Standard  
Design v2.1 16-SEP-08

AR 405-70 Utilization of Real Property 12-MAY-06

### 4. Also See

17120 General Instruction Building  
17123 Range Support Building  
17135 Laboratory Instructional Building



### 1. DA Pam 415-28 Description / Definition

A structure that provides a covered area to support, feed, and conduct training of soldiers while also providing protection from the elements for equipment and personnel. Typically, the structure has open sides and a metal roof. This structure does not require any automation. These facilities are usually located in ranges, training areas, bivouacs, or maneuver areas. For structures other than buildings, square footage is the measurement used for the area under the roof or cover.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

171xx and 172xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building or complex that supports training and operations of USAR units and units from a different Reserve Component of the Armed Forces. The center is the single gathering point for Reserve Component personnel for meetings and weekends, and could serve as an initial mobilization location during federal and state activation of Reserve Component troops. The building serves as a headquarters for TOE and TDA Reserve Component organizations, and provides support to the community. Functional areas included in this single category are assembly spaces, classrooms, distributive learning centers, locker rooms, physical fitness areas, kitchens, weapons and protective masks storage, other storage, enclosed areas to support training with simulation, operator-level maintenance on assigned equipment, and use of NBC equipment.

**Proponent:**

- DCS, G3/OCAR

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

### 2. Criteria

Units and personnel assigned to the building determine the facility requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Chief, Master Planning, Army Reserve Installation Management Directorate.

### 4. References

AR 140-483 Army Reserve Land and Facilities Management	24-JUL-07
AR 210-20 Real Property Master Planning for Army Installations	16-MAY-05

### 4. See Also

17141    Armed Forces Reserve Center Building

## 1. DA Pam 415-28 Description / Definition

A building or complex that supports training and operations of USAR units and units from a different Reserve Component of the Armed Forces. The center is the single gathering point for Reserve Component personnel for meetings and weekends, and could serve as an initial mobilization location during federal and state activation of Reserve Component troops. The building serves as a headquarters for TOE and TDA Reserve Component organizations, and provides support to the community. Functional areas included in this single category are assembly spaces, classrooms, distributive learning centers, locker rooms, physical fitness areas, kitchens, weapons and protective masks storage, other storage, enclosed areas to support training with simulation, operator-level maintenance on assigned equipment, and use of NBC equipment.

### Proponent:

- DCS, G-3/OCAR

### Complex:

- None

### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

### Planning Level:

- Unit

## 2. Criteria

Units and personnel assigned to the building determine the facility requirements. This facility requires United States Army Reserve Personnel (USAR), and Non-USAR military personnel.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Chief, Master Planning, Army Reserve Installation Management Directorate. See category codes listed below for relevant information.

## 4. References

AR 140-483 Army Reserve Land and Facilities Management 24-JUL-07

AR 210-20 Real Property Master Planning for Army Installations 16-MAY-05

## 5. See Also

17140 Army Reserve Center Building

### 1. DA Pam 415-28 Description / Definition

a building or buildings that support individual and collective training as well as administrative, automation and communications, and logistical requirements for the Army National Guard (ARNG) and other Reserve Components (for example, USAR, United States Marine Corps Reserve, United States Naval Reserve). The center is the single gathering point for Reserve Component personnel, and is a mobilization platform during federal and state activation of Reserve Component troops. The building serves as a headquarters for TOE and TDA organizations, and provides support to the community. Functional areas included in this single category are assembly spaces, classrooms, distributive learning centers, locker rooms, physical fitness areas, kitchens, weapons and protective masks storage, other storage, enclosed areas to support training with simulation, operator-level maintenance on assigned equipment, and use of NBC equipment.

**Proponent:**

- DCS, G3/NGB

**Complex:**

- None

**Units of Measure:**

- Area UM = SF
- Other UM = PN
- Programming UM = SF

**Planning Level:**

- Unit

### 2. Criteria

Units and personnel assigned to the building determine the facility requirements. This facility requires United States Army National Guard Personnel (ARNG), and Non-ARNG military personnel. This building is often referred to as the Joint Force Headquarters.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Army National Guard Director of Installations Services and Support Program. See category codes listed below for relevant information.

### 4. References

NG PAM 415-12: Army National Guard Facilities Allowances (Construction)	01-JUN-11
AR 140-483 Army Reserve Land and Facilities Management	24-JUL-07
Army National Guard DG 415-1, Readiness Centers Design Guide	01-Jun-11

AR 140-483 Army Reserve Land and Facilities Management 24-JUL-07

Army National Guard DG 415-5, General Facilities Design Guide 01-JUN-11

### **5. See Also**

17140 Army Reserve Center Building  
17141 Armed Forces Reserve Center Building  
17180 National Guard Readiness Center

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for training personnel in the use of protective masks and the effects of chemical warfare.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF

### 5. Functional Areas

Table 17170-1 lists the functional areas and their types.

Table 17170-1 Functional Areas		
Functional Area	Type	Presence
Equipment storage	Mission	A
Equipment cleaning	Mission	A
Training chamber	Mission	A
Supplies storage	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

One each per brigade or brigade-size unit requiring this type of training.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

TI 800-01, 20-JUL-98, Table M-17 specifies 768 GSF (71 SM) gross area, including mechanical, electrical and electronic equipment space, per chamber building.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison for maintenance and schedule management.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

See Section C.2. Programming documents report these facilities in GSF to make cost comparisons among projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility relates to other non-arms training facilities. However, because it produces noxious exhaust, its placement requires careful site selection. Training facilities involving hands-on performance or tasks aside from weapons firing and tactical maneuvers may be located within troop training areas.

### **2. Site Planning Considerations**

Placing this facility within marching distance of similar training facilities expedites its use. Prevailing winds receive the highest consideration to avoid negative impacts on adjoining training facilities. Because of the use of tear gas, this facility should be at least 300 feet, or 91.4 meters, from other buildings and facilities.

Orient the doors to provide good cross-ventilation with prevailing winds, so that the gas will be dispersed quickly at the end of the exercise.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design  
Criteria

16-SEP-05 w  
changes 1-29

**4. See Also**

42225 Smokedrum Storehouse, Installation



## 1. DA Pam 415-28 Description / Definition

A building or buildings that support individual and collective training, administrative, automation and communications, and logistical requirements for the ARNG. The center is the single gathering point for ARNG personnel, and is a mobilization platform during federal and state activation of ARNG troops. The building serves as a headquarters for TOE and TDA organizations, and provides support to the community. Functional areas included in this single category are assembly spaces, classrooms, distributive learning centers, locker rooms, physical fitness areas, kitchens, weapons and protective masks storage, other storage, enclosed areas to support training with simulation, operator-level maintenance on assigned equipment, and use of NBC equipment.

### Proponent:

- DCS, G3/NGB

### Complex:

- None

### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

## 2. Criteria

Units and personnel assigned to the building determine the facility requirements.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Army National Guard Director of Installations Services and Support Program. See category codes listed below for relevant information.

## 4. References

NG PAM 415-12: Army National Guard Facilities Allowances (Construction)	01-JUN-11
Army National Guard DG 415-1, Readiness Centers Design Guide	01-JUN-11
Army National Guard DG 415-5, General Facilities Design Guide	01-JUN-11

## 5. See Also

17142 National Guard/Reserve Center Building

### 1. DA Pam 415-28 Description / Definition

A building used to house various simulators used to train crews in weapons systems, and to improve crew proficiency. A simulator is a device whose control inputs duplicate the controls of a weapon or vehicle. The facility is characterized by large bay areas with high ceilings and clear span to accommodate moving modules that replicate or simulate the sense of actual operations in the air or over terrain. These facility types usually require separate hydraulic machinery rooms with rated firewalls and fire suppression/alarm systems, and special footing pads to accommodate high ground pressure loading and stress. Examples of the devices located in these type of facilities include most flight or combat mission simulators (for example, AH-64), or combat vehicle driver (for example, M1 driver) simulators.

**Proponent:**

- DCS, G3

**Complex:**

- Aviation Unit

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Planning Level:**

- Unit

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See Chapter 4 for Aviation Unit Complex.

### 1. DA Pam 415-28 Description / Definition

A building used to house various simulators used to train crews in weapons systems, and to improve crew proficiency. A simulator is a device whose control inputs duplicate the controls of a weapon or vehicle. Similar in functional and spatial relationships to 17210, Simulator Building (Motion-Based), except that facilities in this category do not require special motion-based accommodations for large hydraulic pumps or special footing pads to accommodate high ground pressure loading. Examples of devices supported by this category are Conduct of Fire Trainers or modules that make up the Combined Arms Tactical Trainers family.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A dedicated building for conducting battle staff training and constructive simulation. Usually includes a large clear span room used either as a reconfigurable amphitheater (e.g., terrain board) or auditorium (e.g., electronic battlefield imaging); and dedicated, separate rooms large enough to accommodate complete staff elements of organizations that are battalion size or larger (e.g., S-1 through S-8), with computer terminals interlinked to a central server that replicates tactical dispersion sites on a battlefield (e.g., Mission Support Training Facility) or can be used to conduct command post exercises. Facilities in this category may require additional space to accommodate opposing-force staff elements of similar organizational size. Differs from both Automation Aided Instruction Building (17136), whose separate classrooms are intended to deliver instruction or courses that are not dependent upon interaction with activities conducted in adjacent classrooms; and Battle Lab (17214), which is dedicated to developing new technologies, organization composition, or war-fighting doctrine using primarily electronically generated staff elements.

**Proponent:**

- DCS, G3

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Complex:**

- None

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

171xx and 172xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building that supports conducting force projection experiments using simulations or prototypes with soldiers and actual units. The objective is to determine new technologies and requirements that focus on lethality, survivability, synchronization, and battle command requirements needed to meet the global mission through the 21st century. Care must be taken not to confuse this facility with 17136, Automation Aided Instruction Building, or 17213, Simulations Center.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. .

**Planning Level:**

- Other-than-unit

### 4. See Also

171xx and 172xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Space for ground and air combat forces to practice movements and tactics as specified in the unit's Army Training and Evaluation Program (ARTEP). Different types of units may work in support of one another (combined arms), or a unit may operate on its own to practice a specific set of ARTEP tasks. The "light" designation refers to areas where maneuver may be restricted for some reason to only small units, or units having only wheeled vehicles. Light Maneuver/Training Areas are not typically used by "heavy" forces, other than assembly areas where movement is restricted to roads or trails. Included in this category are bivouac sites, base camps, and other miscellaneous training areas. These areas typically are managed and scheduled by alphanumeric code through the garrison training or range control manager (for example, DPTM or DPTM-equivalent). Account for each area with a separate facility number and individual real property record.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None

#### Complex:

- None

### 4. Units of Measure

Report and program training areas in AC.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC
- Planning UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

Mission to support unit training for Army Training Support Center (ATSC)-identified units.

### 2. Programmatic Application

As of April 2003, the maneuver area needed to satisfy unit annual training requirements is provided by the ATSC in acres to RPLANS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Compare the existing facilities to the Mission Essential Task List (METL) of the units served by the training area to determine the adequacy of the area. Review the Mission Training Plans (MTP) of the units to be served to determine specific requirements. Most units operate under a Combined Arms Training Strategy (CATS) that also contributes requirements for planning purposes. The total installation light maneuver area allowance is the sum of all designated light unit allowances.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The range planner will need input from Range Facility Management Support System (RFMSS) and Integrated Training Area Management (ITAM) program.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report training areas in AC to make cost comparisons among projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Because of noise, dust, and the large acreage required, these facilities must collocate with similar land uses and away from densely developed areas of the installation.

**2. Site Planning Considerations**

None.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TC 25-1 - Training Circular: Training Land, 01-MAR-04  
Page 3.2

**4. See Also**

17711 Maneuver/Training Area, Amphibious Forces  
17720 Maneuver/Training Area, Heavy Forces



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Space for ground and air combat forces to practice movements and tactics during amphibious (ship-to-shore) operations. Different types of units may work in support of one another (combined arms), or the unit may operate on its own to practice a specific set of ARTEP tasks. Tasks can include both combat and logistics (especially logistics over the shore). Included in these areas are bivouac sites, base camps, and other miscellaneous training areas. These areas typically are managed and scheduled by either a numeric, lettered, or alphanumeric code through the garrison training or range control manager (for example, DPTM or DPTM-equivalent).-Account for each area with a separate facility number and individual real property record.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program training areas in AC.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC
- Planning UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The criteria allow these maneuver/training areas at an Army Training Support Center (ATSC) whose mission requires training amphibious forces units.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code. As of April 2003, maneuver area needed to satisfy unit annual training requirements is provided by the Army Training Support Center (ATSC) in acres.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Use the Mission Essential Task List (METL) of the units served by the training area to determine the facility requirements. Review the Mission Training Plans (MTP) of the units to be served to determine specific requirements. Most units operate under a Combined Arms Training Strategy (CATS) that also contributes requirements for planning purposes. The total installation light maneuver area allowance is the sum of all designated light unit allowances.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The range planner will need input from Range Facility Management Support System (RFMSS) and Integrated Training Area Management (ITAM) program.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report training areas in AC to make cost comparisons between projects. The Army does not program a minimum or maximum increment.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Because of noise, dust, and the large acreage required, collocate this facility with similar land uses and away from densely developed areas of the installation.

**2. Site Planning Considerations**

None.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TC 25-1 - Training Circular: Training Land,  
Page A.2

01-MAR-04

**4. See Also**

17710 Maneuver/Training Area, Light Forces

17720 Maneuver/Training Area, Heavy Forces

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Space for ground and air combat forces to practice movements and tactics as specified in the unit's ARTEP. Different types of units may work in support of one another (combined arms), or the unit may operate on its own to practice a specific set of ARTEP tasks. The "heavy" designation refers to areas where maneuver is unrestricted and can consist of all types of vehicles and equipment, including tracked vehicles. Heavy Maneuver/Training Areas can be used by light forces. This category includes bivouac sites, base camps, and other miscellaneous training areas. These areas typically are managed and scheduled by alphanumeric code through the garrison training or range control manager (for example, DPTM or DPTM-equivalent), Account for each area with a separate facility and individual real property record.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program training areas in AC.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC
- Planning UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The criteria allow these maneuver/training areas at an Army Training Support Center (ATSC) whose mission requires training heavy forces units.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code. As of April 2003, maneuver area needed to satisfy unit annual training requirements is provided by the Army Training Support Center (ATSC) in acres.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Compare the existing facilities to the Mission Essential Task List (METL) of the units served by the training area to determine the adequacy of the area. Review the Mission Training Plans (MTP) of the units to be served to determine specific requirements. Most units operate under a Combined Arms Training Strategy (CATS) that also contributes requirements for planning purposes. The total installation light maneuver area allowance is the sum of all designated heavy unit allowances.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The range planner will need input from Range Facility Management Support System (RFMSS) and Integrated Training Area Management (ITAM) program.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report training areas in AC to make cost comparisons among projects. The Army does not program a minimum or maximum increment.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Because of noise, dust, and the large acreage required, these facilities must collocate with similar land uses and away from densely developed areas of the installation.

**2. Site Planning Considerations**

None.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TC 25-1 - Training Circular: Training Land                      01-MAR-04

**4. See Also**

17710    Maneuver/Training Area, Light Forces  
17711    Maneuver/Training Area, Amphibious Force

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An area having designated boundaries within which all dud-producing ordnance will detonate or land. Vehicle bodies are sometimes placed in the area to act as targets for artillery direct and indirect fire. The primary function of the impact area is to contain weapons effects as much as possible using earthen berms or natural terrain features. Assume impact areas contain unexploded ordnance and may not be used for maneuver. These areas typically are managed and scheduled by either a numeric, lettered, or alphanumeric code through the garrison training or range control manager (for example, DPTM or DPTM-equivalent). Account for each area with a separate facility number and individual real property record.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report these facilities in AC.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC
- Planning UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

Allowances are dictated by the impact requirements of training ranges using dud-producing ordnance.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Impact areas can be any size that will accommodate all training weapons, including field artillery systems. Normally, this requires an area 8,000 YD by 16,000 YD, or 7,315.2 meters by 14,630.4 meters. The land area requirement is 26,880 AC, or 10,878.0 HA.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The range planner will need input from Range Facility Management Support System (RFMSS) and Integrated Training Area Management (ITAM) program.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report impact areas in AC to make cost comparisons among projects. These facilities would not be programmed independently of range programming.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Use range land use areas because safety and adjacency are paramount to permanently dedicated land that will have no other foreseeable uses.

### 2. Site Planning Considerations

None.



## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### **2. Exceptions**

None.

### **3. References**

TC 25-1 - Training Circular: Training Land	01-MAR-04
TC 25-8 - Training Circular: Training Ranges, Page 5-8	20-MAY-10

### **4. See Also**

17731 Impact Area Non-Dudded

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An area having designated boundaries within which ordnance that does not produce duds will land. This area is composed mostly of the safety fans for small-arms ranges. The primary function of the impact area is to contain weapons effects as much as possible using earthen berms or natural terrain features. These areas typically are managed and scheduled by either a numeric, lettered, or alphanumeric code through the garrison training or range control manager (for example, DPTM or DPTM-equivalent). Account for each area with a separate facility number and individual real property record. These impact areas may be used for maneuver when the weapons ranges are not in use.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program impact areas in AC.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC
- Planning UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is dictated by the ranges served.

### 2. Programmatic Application

RPLANS does not generate an allowance for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other -than- unit

## **2. Requirements Calculations**

Impact areas can be any size that will accommodate all weapons, including field artillery systems. This normally requires an area 8,000 YD by 16,000 YD, or 7,315.2 meters by 14,630.4 meters. The land area requirement is 26,880 AC, or 10,878.0 HA.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. The range planner will need input from Range Facility Management Support System (RFMSS) and Integrated Training Area Management (ITAM) program.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report impact areas in AC to make cost comparisons among projects. Design and construction become part of larger projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Safety and adjacency are paramount to permanently dedicated land that will have no other foreseeable uses.

### **2. Site Planning Considerations**

None.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

**2. Exceptions**

None.

**3. References**

TC 25-1 - Training Circular: Training Land	01-MAR-04
TC 25-8 - Training Circular: Training Ranges,	20-MAY-10

**4. See Also**

17730     Impact Area Dudded

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

This complex is used to train and test aviation crews, teams, platoons, companies/troops along with armor, infantry, Stryker, unstabilized platforms and convoy live-fire crews, sections, squads, and platoons on the skills necessary to detect, identify, and effectively engage stationary and moving infantry and/or armor targets in a tactical array. It also supports MGS (with the addition of breach walls/windows) and dismounted infantry squad/platoon tactical live-fire operations, either independently of or simultaneously with supporting vehicles. Company combined arms live-fire exercises (CALFEX) and fully integrated advanced tables may also be conducted on this range. This complex also accommodates training with subcaliber and/or laser training devices. MOUT and convoy live-fire facilities are required to enable aircraft diving engagement to specified streets/intersections and engagements in close proximity on adjacent terrain. Additionally, the DAGIR will enable critical air-ground integration tactics, techniques, and procedures (TTP) training to ensure the optimum teaming of ground and air, Army, and joint platforms. Primary features include threshold and objective areas A and B. Aviation FARP, tower, aerial firing positions, and aircraft holding area are also required. Construction of these facilities will be targeted to sites that will support medium or heavy combat aviation brigades (CABs). Sites with light CABs or smaller units should ensure that aviation requirements are addressed in existing or programmed facilities (DMPRC, DMPTR, and BAX). A convoy live-fire route is included with the use of the crossover roads.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of lanes (LN) for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

programming documents. An EA is a DAGIR range designed to support up to six vehicles (2 LNs).

## 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC). Construction of a DAGIR will be targeted to installations that will support medium or heavy combat aviation brigades (CABs). Installations with light CABs or smaller units should ensure that aviation requirements are addressed in existing or programmed facilities (DMPRC, DMPTR, and BAX).

### 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual lane-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine a lane utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of lanes allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year

Number of LN allowed = Sum of unit LN utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

A DAGIR complex requires a minimum area of 4,000 m/4 km (the baseline) by 6,000 m/6 km. An additional objective area depth of 6,000 m/6 km is allowed, expanding out to a width of 8,000 m/8 km. The total range footprint (in addition to space in front of the

Planning UM:

- EA

baseline) falls between an area of 24 square km and a larger area of 96 square km.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operations, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[Sum of Annual lane-hours required by all units ]  
Divided by  
[(No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A DAGIR minimum training standard area of 4 km by 6 km includes:

Programming UM:

- EA

- 2 LNs (4 course roads) with midpoint crossover capability
- 50 stationary armor targets (SATs)
- 8 moving armor targets
- 246 stationary infantry targets (SITs) (35 clusters at 6 SITs each and 3 SITs per facade)
- 35 moving infantry targets (one per SIT cluster) (28 at 15 m and 7 at 40 m)
- 12 facades
- 4 trenches with bunkers
- 2 urban clusters (5 and 7 buildings)
- 2 breaching obstacles
- 4 breach walls (SBCT equipped installations requires additional SATs)
- 4 stationary 3-D diving fire targets (may be located in objective areas, if available)
- 1 convoy live-fire lane (extends into objective area A, if available)

- 20 battle positions (12 defilade, 8 hasty, one MSD/BES provided with every other BP)
- 12 aerial firing positions (some may be placed in objective areas A and B, if available)
- 1 Air/Ground Integration Village with:
  - 13 structures – standard mix of multistory modular construction (nonlive-fire village) surrounded by:
  - 14 modular structures optimally configured to leverage existing targetry to enable live-fire engagement of nearby/ interspersed targets by aviation assets.

If range depth extends beyond 6 km, an additional **Objective Area A** of 1 km lateral extension on both sides of threshold, and a 3 km extension in depth (total depth 9 km). Objective Area A includes:

- 15 SATs
- 2 moving armor targets
- 60 SITs (10 clusters with 6 SITs each)
- 10 moving infantry targets (one per SIT cluster)
- 1 urban cluster (5-7 buildings; live fire within the facility by aviation assets); may be placed in Area A if Area B is not available because of terrain limitations
- An additional **Objective Area B** of 1 km lateral extension on both sides of threshold, and a 3 km extension in depth (total depth 12 km). Objective Area B includes:
  - 5 SATs
  - 2 moving armor targets
  - Static targets (to support indirect fire/close air support [CAS] engagements)

## 2. Programming Units

Programming documents report complexes in AC to make cost comparisons between projects.



## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should boarder one another and share impact zones.

### **3. Other Facilities**

This range uses the standard aviation range operations and control area facilities.

These ranges use thermal targets, muzzle flash simulators, and hostile-fire/target-kill simulators. Location of the boresight target and weapon harmonization target must be coordinated with the trainer.

Gunnery tasks requiring the use of dud-producing ammunition cannot be fired on this complex.

Target emplacement must enable protection and resilience from training munitions fired from diving-fire angles of 15 to 30 degrees.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapons systems. Range managers are to plan for the appropriate level of military parking required to support range activities, based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### **2. Exceptions**

None.

### 3. References

ARTEP 7-20 MTP Mission Training Plan for the Infantry Battalion	27-NOV-01
ARTEP 71-2 Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force	03-MAR-00
ARTEP 1-111 Mission Training Plan for the Aviation Brigades	27-OCT-05
ARTEP 1-113 Mission Training Plan for the Assault Helicopter Battalion	29-DEC-05
ARTEP 1-118 Mission Training Plan for the General Support aviation Battalion	17-JAN-06
ARTEP 1-126 Mission Training Plan for the Attack Reconnaissance Helicopter Battalion/Squadron	8-MAR-06
FM 3-04.111 Aviation Brigades	07-DEC-07
FM 3-04.140 Helicopter Gunnery	14-JUL-03
FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
FM 3-22.3 STRYKER Gunnery	09-MAR-06 15-AUG-05
TC 25-8 - Training Circular: Training Ranges, Page D-42	20-MAY-10

### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

## 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	After Action Review (AAR) Building, Instrumented Ranges
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
14970	Vehicle Instrumentation Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX								
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY				ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS		
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit			
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit			
Mission	Operations Storage	B		1,800 SF, Large	No lower limit			
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit			
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit			
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit			
Mission	Ammo Loading Dock	B		283 SF	No lower limit			
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit			
Mission	Bivouac Area	C		AC / As Required	No lower limit			
Mission	Unit Staging Area	C		SY / As Required	No lower limit			
Presence Requirements for Adequacy:								
A - Required, Collocated								
B - Required, Adjacent								
C - Required, Vicinity								
D - Not required, if present collocated								
E - Not required, if present: adjacent or vicinity								
F - Occupant Dependent								
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).								

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

This complex is designed to train and test Soldiers, crews, platoons, and companies on the skills necessary to employ convoy-mounted weapon systems, and to detect, identify, engage, and defeat stationary and moving armored vehicle and infantry targets from a stationary or moving platform using all assigned weapons and weapon systems. The targets may be presented individually or as part of a tactical array in an open or urban environment. This complex is also designed to train and test Soldiers to engage and defeat vehicle and infantry targets from multiple firing points as part of an Entry Control Point (ECP). Report this category in acres (AC) within the course boundary and firing points (FP) where each station represents one FP, regardless of the number of places to fire at each station.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC, before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP Utilization Factor = Annual FP-Hours Required by unit  
divided by Annual FP-Hours Available. Annual FP-hours available  
= 14 Hours / Day times 242 Training Days / Year.

Number of FP Allowed = Sum of unit FP Utilization Factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of CLF ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training, and Mobilization (DPTM/G-3). The CLF range requires a variable footprint depending on the length or roadways available to emplace the location of the ECP and six objectives in addition to impact areas on both sides and the rear. Follow FM 3-22.9, FM 22.68, FM 3-22.65, FM 3-22.27, FM 5-34, FM 4-01.45, TC-63-1, and TSP-Convoy survivability in planning these ranges.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
Divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The CLF range includes:

One course road with ECP and 6 objectives of:

- Objective 1 - Sniper
- Objective 2 - Ambush: Blocked
- Objective 3 - Ambush
- Objective 4 - Urban ambush
- Objective 5 - React to RPG Team
- Objective 6 - React to Technical Trucks

5 stationary armor targets

4 moving armor targets

43 stationary infantry targets (SIT)

3 moving infantry targets

6 facades

Other facilities (as listed below under “See Also”)

The ECP targets are fully automated, and scored from the range operations and storage building. They are fully capable of providing immediate performance feedback to the using participants. All other targets are reconfigurable/RF and controlled with a hand-held device.

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

Programming UM:

- LN

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211. Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for specific guidance relative to the mission and topographic constraints in planning this range.

### 2. Exceptions

None.

### 3. References

FM 3-22.9 Rifle Marksmanship, M16/M4  
Series Weapons (INCL C1) 12-AUG-08

FM 3-22.27 MK 19, 40mm Grenade Machine  
Gun, MOD3 (INCL C1) 28-NOV-03

FM 3-22.65 Browning Machine Gun Caliber  
.50 HB, M2 (INCL C1) 03-MAR-05

FM 3-22.68 Crew Served Weapons 21-JUL-06

FM 4-01.45 Multi-Service Tactics,  
Techniques, and Procedures for Tactical  
Convoy Operations 13-JAN-09

FM 5-34 Engineer Field Data 01-AUG-2011

TC 25-8 - Training Circular: Training Ranges,  
20-MAY-10, Page D-80

TC 63-1 Warfighter Handbook for Combat  
Service Support Live Fire Exercises  
20 DEC-04



TSP-Convoy Survivability

#### **4. See Also**

17122 Range Operations and Storage Building

73075 Separate Toilet/Shower Building

Note: Range Managers may request to have a CATCD 85212 Staging/Marshaling Area at the start/finish point of the convoy route for vehicle lineup and preparation prior to entering/departing the range.

#### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage, Large

17122 Ammo Breakdown Building

73075 Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).		
				CATCD 73075		
				CATCD 17122		
				CATCD 17139		

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training shot-grouping and zeroing exercises with rifles and machine guns. This range is used to train individual Soldiers on the skills necessary to align the sights and practice basic marksmanship techniques against stationary targets. This range requires no automation. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in AC while developing their requirements in firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from Standards in Training Commission (STRAC), and output from the Army Range Requirements Model (ARRM).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The requirements for this range depend on throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training, and Mobilization (DPTM / G-3). Follow FM 3-22.9, FM 23-14, and FM 23-65 in planning these ranges.

Planning UM:

- FP

Land area requirement: 2.7 AC = 1.1 HA per complete range.

More than one range may be required, depending on the training load.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The Army does have a standard design found in TC 25-8, and it is site-adapted to each location. A range must include:

#### Programming UM:

- FP

- 32 (foxhole) fire points (FP)
- 32 target locations at 25 m
- 16 target locations at 10 m
- Other facilities (as listed below under E. 2)
- Adequate safety fan for impact zone per reference cited below

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Plan this range with 32 lanes, each 4 m wide and 25 m deep. Allow circulation, observation, and instruction areas behind the foxholes and safety fan, per regulations. Ranges should boarder one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 23-14 M249 Light Machine Gun in the Automatic Rifle Role	26-JAN-94
FM 23-68 M-249 / M-240 / M-60 Light Machinegun Qualification Course	01-AUG-05
FM 3-22.9 Change 1 Rifle Marksmanship M16A1, M16A2 / 3, M16A4, and M4 Carbine (INCL C-1 through C-4)	10-FEB-11
TC 25-8 - Training Circular: Training Ranges, Page D-5	20-MAY-10

### 4. See Also

17122	Range Operations And Storage Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code name:

17971	Range Tower
73075	Latrine
17122	Ammo Breakdown Building
17139	Covered Mess
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Bleacher Enclosure	B		726 / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971 (Range Tower)  CATCD 73075  CATCD 75061  CATCD 17139  CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B or C).

### 1. DA Pam 415-28 Description / Definition

A range designed for training Soldiers on target-engagement techniques with rifles. This range is used to train and familiarize Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training target engagement techniques with rifles. This range is used to train and familiarize Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in AC while developing their requirements in FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres, before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The presence and number of units that need to qualify on this range, plus input from Standards in Training Commission (STRAC), and output from the Army Range Requirements Model (ARRM).

### 2. Programmatic Application

As of February 1995, Firing point utilization requirements for specific types of units are provided by the Army Training Support Center (ATSC) and are expressed in numbers of annual firing point hours. The number of FP-hours required annually by a particular

type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = Sum of unit FP utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than- unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training, and Mobilization (DPTM / G-3). Plan this range with thirty-two 16 m-wide lanes 300 m deep.

Planning UM:

- FP

Land area requirement: 40 AC = 15.4 HA

Follow FM 3-22.9, FM 23-14, and FM 23-65 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A range must include:

- 32 (foxhole) firing points (FPs)
- 96 stationary target locations
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Ranges should border one another and share impact zones.

### 2. Site Planning Considerations

Allow circulation, observation, and instruction areas behind the foxholes and safety fan, per regulations.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.9 Change 1 Rifle Marksmanship, M16- / M4-Series Weapons	10-FEB-11
TC 25-8 - Training Circular: Training Ranges, Page D-7	20-MAY-10
DA Regulation 350-8 Training Ammunition	05-MAY-04

### 4. See Also

17122	Range Operations And Storage Building
17971	Observation Tower
17123	Range Support Building
17139	Covered Training Area
73075	Separate Toilet / Shower Building
75061	Grandstand / Bleachers

### 5. Notes

TC 25-8 Uses Different Facility Category Code Names As Follows:

17971	Range Tower
17122	Operations Storage
17139	Covered Mess
17129	Ammo Breakdown Building
17123	Classroom Facility
73075	Latrine
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A range designed for training Soldiers on and day/night qualification requirements with rifles. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17805, Automated Record Fire (ARF) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. See category codes listed below for relevant information.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training and day/night qualification requirements with rifles. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual firing point-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation

are summed to determine the total number of firing points allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with 16 lanes that are 20 m wide and 300 m deep. Allow circulation, observation, and instruction areas behind the foxholes and safety fan per regulations.

Planning UM:

- FP

Land area requirement: 35.6 AC = 14.4 HA

Follow FM 3-22.9, FM 23-14, and FM 23-65 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation Range Manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.



## D. Programmable Increments

### 1. Standard Facilities

An ARF range must include:

- 16 (foxhole) FPs
- 112 stationary target locations
- 32 target boots at 25m zero line
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per Reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

## 2. Exceptions

None.

## 3. References

FM 3-22.9, Change 1 Rifle Marksmanship, 10-FEB-11  
M16- / M4-Series Weapons

TC 25-8 - Training Circular: Training Ranges, 20-MAY-10  
Page D-11

## 4. See Also

17122 Range Operations And Storage Building  
17123 Range Support Building  
17139 Covered Training area  
17971 Observation Tower  
73075 Separate Toilet / Shower Building  
75061 Grandstand / Bleachers

## 5. Notes

TC 25-8 Uses Different Facility Category Code Names As Follows:

17122 Operations Storage  
17122 Ammo Breakdown Building  
17123 Classroom Facility  
17123 Range Operations Center, Small And Small AAR Building  
17139 Covered Mess  
17971 Range Tower  
73075 Latrine  
75061 Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF, Small	No lower limit	
Mission	Classroom Facility	B		800 SF	No lower limit	
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971 (Range Tower)  CATCD 73075  CATCD 17122 CATCD 17123 (Range Support Building) CATCD 75061 CATCD 17139 CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training and day/night qualification requirements with rifles. This range combines the capabilities of 17803, Automated Field Fire (AFF) Range; and 17805, Automated Record Fire (ARF) Range, to reduce land and maintenance requirements. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that

unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-Than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). A standard 17806 range is approximately 320 m along the FP line by 300 m deep, excluding all support facilities, functional areas, and safety zones. Follow FM 3-22.9, FM 23-14, and FM 23-65 in planning these ranges.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by

[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A MRF range must include:

- 144 Stationary infantry targets
- 16 Foxholes
- 32 target boots at the 25 m zero line
- Associated range operations and control facilities:
- Standard small-arms ROCA facilities

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use. Firing and tactical training areas should be planned based on a geographical hierarchy. Firing and maneuver areas used regularly by large groups of people should be within foot-marching distance of each other and within an hour's march from the cantonment area. The dynamic and potentially hazardous nature of operations at training courses and ranges makes them incompatible with built-up land uses. The potential for negative environmental impact is greater in this category than for any other land use.

### 2. Site Planning Considerations

Allow circulation, observation and instruction areas behind the foxholes and safety fan per regulations. Ranges should boarder one another and share impact zones.

### 3. Other Facilities

This range uses the standard Small Arms Range Operations and Control Area Facilities.

Unpaved (gravel) Organizational Vehicle Parking, CATCD 85211 is required at most training ranges as on-site parking for military vehicles; ambulance, troop transport(s), ammunition carrier, and vehicle mounted weapon systems. Range Managers are to plan for

the appropriate level of military parking required to support range activities based on the largest size of the unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### **2. Exceptions**

None.

### **3. References**

TC 25-8 - Training Circular: Training Ranges      20-MAY-10  
Page D-9

### **4. See Also**

17122      Range Operations And Storage Building  
17123      Range Support Building  
17139      Covered Training Area  
17971      Observation Tower  
73075      Separate Toilet / Shower Building  
75061      Grandstand / Bleachers

### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17129      Ammo Breakdown Building  
17122      Operations Storage  
17123      Classroom Facility  
17139      Covered Mess  
17971      Range Tower  
73075      Latrine  
75061      Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF, Small	No lower limit	
Mission	Classroom Facility	B		800 SF	No lower limit	
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971 (Range Tower)  CATCD 73075  CATCD 17122 CATCD 17123 (Range Support Building) CATCD 75061 CATCD 17139 CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).



### 1. DA Pam 415-28 Description / Definition

A range designed for night training and qualification requirements with rifles. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17808, Automated Night Fire (Small Arms) Range. This category is for existing and closed ranges only.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A range designed for night training and qualification requirements with rifles. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. This range is overlaid on a 17806, Modified Record Fire (MRF) Range, or a 17805, Automated Record Fire (ARF) Range. Standard facilities associated with this range are listed in TC 25-8. This category is for existing and closed ranges only.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range complex designed to satisfy day and/or night training and qualification requirements with rifles, pistols, and machine guns. This range complex could include 17806, Modified Record Fire Range; 17812, Automated Sniper Field Fire Range; 17822, Combat Pistol/Military Police Qualification Course; and 17833, Multipurpose Machine Gun (MPMG) Range, to centralize training and reduce land, maintenance, and unit overhead requirements. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25–8. Use this CATCD for programming only. You must select specific range CATCDs and units of measure for inventory purposes.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program QTR ranges in acres (AC) while developing their requirements in the number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = None
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

See B. 1. of the CATCDs listed.

## 2. Programmatic Application

RPLANS does not calculate allowances for this CATCD. Program on the basis of the composite requirements of the CATCDs listed in the description/definition above.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with a footprint that is 480 m wide by 1,500 m deep. Follow FM 3-22.9, FM 23-14, and FM 23-65 in planning these ranges.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A QTR range must include:

- 15 Lanes Combat Pistol Qualification

Programming UM

- FP

- 4 Lanes Sniper Field Fire
- 16 Lanes Modified Record Fire
- 10 Lanes Multipurpose Machine Gun
- 32 Lanes Rifle/Machine Gun Zero

The overlapping lanes require a total width of 480 m.

The range also includes a variety of automated targets:

- 350 stationary infantry targets
- 24 double target arm – stationary infantry targets
- 20 stationary armor targets
- 24 moving infantry targets
- 20 iron maiden targets
- Note: 26 stationary infantry emplacements are widened to support two target mechanisms
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

## **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

Allow circulation, observation, and instruction areas behind the FP line and safety fan, per regulations.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for

the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 19-10 Military Police Law and Order Operations	30-SEP-87
	11-APR-07
FM 3-22.65 Change 1 Browning Machinegun, Caliber .50 HB, M2	
	22-OCT-13
FM 3-22.10 (23-10) Sniper Training And Employment	
	03-OCT-88
FM 3-22.35 (23-35) Combat Training With Pistols And Revolvers	
	21-JUL-06
FM 3-22.68 Crew Served Weapons	
	10-FEB-11
FM 3-22.9 Change 1 Rifle Marksmanship M16A1, M16A2/3, M16A4, and M4 Carbine (Incl. C-1 through C-4)	
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-13	

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
17806	Modified Record Fire (MRF) Range
17812	Automated Sniper Field Fire (SFF) Range

17822 Automated Combat Pistol/Military Police Firearms  
Qualification Course (CPQC/MPFQC)  
17833 Automated Multipurpose Machine Gun (MPMG) Range  
73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122 Ammo Breakdown Building  
17122 Operations Storage  
17123 Classroom Facility  
17139 Covered Mess  
17971 Range Tower  
73075 Latrine  
75061 Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training rifle marksmanship and target engagement techniques. This range is used to train soldiers on the skills necessary to identify, calculate the distance from, engage, and hit stationary targets in a static array. This range requires no automation. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to train and or certify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with 32 FPs that are 10 m wide by 1,000 m deep. Allow circulation, observation, and instruction areas behind the FPs and safety fan, per regulations.

Planning UM:

- FP

Follow FM 3-22.9, FM 3-22.10, and FM 3-22.68 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A KD range includes:

- 32 target-lifting devices
- 32 firing points/lanes (10 m width)
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below
- Note: Target-lifting devices are behind a berm or target embankment, and are manually operated/scored by personnel.

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

This range can be used for automatic rifle practice, basic and advanced rifle marksmanship, designated marksman, and sniper training.

### 2. Exceptions

None.

### 3. References

FM 3-22.9, Change 1 Rifle Marksmanship, M16-/M4-Series Weapons	10-FEB-11
FM 3-22.10 Sniper Training and employment	08-MAR-12
FM 3-22.68 Crew Served Weapons	21-JUL-06
TC 25-8 - Training Circular: Training Ranges, Page D-15	20-MAY-10

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

### 5. Notes

TC 25-8 Uses Different Facility Category Code Names As Follows:

17122	Operations Storage
17122	Ammo Breakdown Building
17123	Classroom Facility
17123	Range Operations Center, Small And Small AAR Building
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A range designed to prepare Soldiers to meet training and qualification requirements with the sniper rifle. This range is used to train and test Soldiers on the skills necessary to detect, identify, engage, and hit stationary and moving infantry targets in a tactical array, in accordance with applicable field manuals. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17812, Automated Sniper Field Fire (SFF) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training and qualification requirements with the sniper rifle. This range is used to train and test Soldiers on the skills necessary to detect, identify, engage, and hit stationary and moving infantry targets in a tactical array in accordance with applicable field manuals. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP Allowed =  
Sum of unit FP Utilization Factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by  
throughput analysis overseen by the range manager and validated  
by the installation Directorate of Plans, Training and Mobilization  
(DPTM / G-3). Follow FM 3-22.9, FM 23-14, and FM 23-65 in  
planning these ranges.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is  
responsible for operation, management, scheduling, control, and  
maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles)  
multiplied by 1,936 ]

## D. Programmable Increments

### 1. Standard Facilities

An SFF range must include:

- 4 firing points (FPs)
- 32 stationary infantry targets
- 20 moving infantry targets

Programming UM:

- FP



- 20 iron maiden targets
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

## **2. Programming Units**

Programming documents report ranges in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Ranges should boarder one another and share impact zones.

### **2. Site Planning Considerations**

Plan this wedge-shaped range with an 80 m-wide firing line with four 20 m-wide FPs at the base, and 1,000 m deep with an arc of 600 m wide. This range requires natural vegetation across the entire range. Allow circulation, observation, and instruction areas behind the FP line and safety fan per regulations.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

New extended range sniper systems in calibers less than .50 may require an extended, modified version of the SFF out to 1,500 m. See also CATCD 17829, Heavy Sniper Range.

## 2. Exceptions

None.

## 3. References

FM 3-22.10 (23-10) Sniper Training And                      17-AUG-94  
Employment

TC 25-8 - Training Circular: Training Ranges,              20-MAY-10  
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## 4. See Also

17122   Range Operations And Storage Building  
17123   Range Support Building  
17139   Covered Training Area  
17971   Observation Tower  
73075   Separate Toilet/Shower Building  
75061   Grandstand/Bleachers

## 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122   Operations Storage  
17122   Ammo Breakdown Building  
17123   Classroom Facility  
17139   Covered Mess  
17971   Range Tower  
73075   Latrine  
75061   Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF, Small	No lower limit	
Mission	Classroom Facility	B		800 SF	No lower limit	
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971 (Range Tower)  CATCD 73075  CATCD 17122 CATCD 17123 (Range Support Building) CATCD 75061 CATCD 17139 CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

### 1. DA Pam 415-28 Description / Definition

A range designed for training Soldiers on target-engagement techniques with rifles and the squad automatic weapon (SAW). This range is used to train soldiers on the skills necessary to employ automatic and semiautomatic firing techniques. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A range designed for training Soldiers on requirements that are not associated with current published doctrine, but that fall within a commander's training requirements. This range includes all small-arms ranges that do not fit into other categories. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A facility designed for training assault techniques with a rifle and bayonet. These techniques are applied through a series of obstacles. This facility requires no automation. Report the number of lanes (LN) as the number of prepared paths or sets of targets in a standard path to be used in training. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program assault courses as EA and in AC while developing their requirements based on the number of LN prepared for the number of soldiers intended to use them.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- Programming UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

None.

### 2. Programmatic Application

RPLANS does not generate an allowance this category code.

#### Planning Level:

- Other-than-unit

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning UM:

- LN

## 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Follow FM 3-25.150 in planning these ranges.

## 3. Assigning Space

### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

### b. Facility Utilization Metrics

[ Sum of annual training hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The configuration of this range forms a horseshoe negotiated in a counter-clockwise direction starting on the right prong of the horseshoe. The first six items form the right prong:

- Log wall
- Hurdles (two rows similar to track hurdles)
- Ditch (to jump)
- Silhouette parry, left thrust
- Silhouette parry, right butt stroke to groin
- Silhouette parry, thrust

The next six form the arc of the horseshoe:

- Prone targets in craters
- Log balance and horizontal ladder
- Silhouette parry, left butt stroke to head

#### Programming UM:

- LN

- Dirt mound
- Silhouette parry, thrust
- Tunnel crawl

The final six form the left prong of the horseshoe and return the Soldier to the baseline of the range:

- Silhouette parry, right thrust
- Prone targets in craters
- Fence vault
- Silhouette parry, left butt stroke to groin
- Thrust
- Double-apron barbed wire fence

## **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report these facilities in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate this range with other nonfiring outdoor training facilities.

### **2. Site Planning Considerations**

None.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.



## 2. Exceptions

None.

## 3. References

FM 3-25.150 Combatives 18-JAN-02

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## 4. See Also

73075 Separate Toilet / Shower Building  
17122 Range Operations and Target Storage Building  
17139 Covered Training Area

## 5. Notes

TC 25-8 uses different Facility Category Code names, as follows:

73075 Latrine  
17122 Operations Storage  
17139 Covered Mess

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b>  CATCD 73075  CATCD 17122  CATCD 17139						

*This is a Non-Live Fire range.*

### 1. DA Pam 415-28 Description / Definition

A range designed to prepare Soldiers to meet training and qualification requirements with combat pistols and revolvers. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17822, Automated Combat Pistol/Military Police Firearms Qualification Course (CPQC/MPFQC).

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## **A. Reporting**

### **1. DA Pam 415-28 Description / Definition**

A range designed to meet training and qualification requirements with combat pistols and revolvers. This range is used to train and test Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### **2. Proponent**

Deputy Chief of Staff, G-3 (DCS, G-3)

### **3. Complex**

None.

Complex:

- None

### **4. Units of Measure**

Report and program these courses in acres (AC) while developing their requirements in the number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### **5. Functional Areas**

None.

## **B. Criteria**

### **1. Basis of Allowance**

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### **2. Programmatic Application**

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available

FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors

## **C. Planning**

### **1. Planning Level**

The planning level is other-than-unit.

Planning Level:

- Other- than-unit

### **2. Requirements Calculations**

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with 15 lanes that are 9 m wide and 31 m deep. Allow circulation, observation, and instruction areas behind the foxholes and safety fan, per regulations.

Planning UM:

- FP

Land area requirement: 1 AC = 0.4 HA

Follow FM 3-22.35 (23-35) in planning these courses.

### **3. Assigning Space**

#### **a. Guidance**

These courses are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### **b. Facility Utilization Metrics**

[ Sum of annual FP-hours required by all units ]  
divided by

[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## **D. Programmable Increments**

### **1. Standard Facilities**

A CPQC/MPFQC must include:

- 15 firing points (FP) each on a 1 m-wide trail
- 120 stationary infantry targets
- 15 barricades (MP Qual)
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

A CPQC/MPFQC is further utilized for the conduct of sub-machinegun and shotgun weapons fire and training. See CATCD 17823, Submachine Gun Range.

### **2. Exceptions**

None.

### **3. References**

CPQC: FM 3-22.35 (23-35) Change 1 Combat      05-SEPT-2005  
Training With Pistols And Revolvers

TC 25-8 - Training Circular: Training Ranges,      20-MAY-10  
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### **4. See Also**

17122      Range Operations And Storage Building  
17123      Range Support Building  
17139      Covered Training Area  
17971      Observation Tower  
17809      Automated Qualification/Training Range (QTR)  
73075      Separate Toilet/Shower Building  
75061      Grandstand/Bleachers

### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122      Operations Storage  
17122      Ammo Breakdown Building  
17123      Classroom Facility  
17139      Covered Mess  
17971      Observation Bunker  
73075      Latrine  
75061      Bleacher Enclosure





### 1. DA Pam 415-28 Description / Definition

A range designed for training target engagement techniques with the submachine gun. This range is used to train soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated and/or the scenarios are not computer driven or scored. Standard facilities associated with this range are the same as those listed in TC 25–8 for 17822, Automated Combat Pistol/Military Police Firearms Qualification Course (CPQC/MPFQC).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training and qualification requirements with the heavy sniper rifle. This range is used to train and test Soldiers on the skills necessary to detect, identify, engage, and hit stationary and moving infantry and material targets in a tactical array in accordance with applicable field manuals. All targets, except iron maidens, are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8. Count and report the number of firing points (FPs) on the range.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April, 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available

FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-Unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). A heavy sniper range must have a 60 m-wide firing point baseline spreading to a width of 250 m minimum at the back (1,775 m away).

#### Planning UM:

- FP

Follow FM 3-22.10 (23-10) in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range primary features include:

- 3 stationary infantry targets
- 10 iron maiden targets
- 14 stationary armor targets
- 2 moving armor targets (200 m)
- 1 zero target at 500 m
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones. Natural vegetation is required in the target area to provide realistic natural obstacles for the sniper to negotiate.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.10 (23-10) Sniper Training And Employment 17-AUG-94

TC 25-8 - Training Circular: Training Ranges, Page D-23 20-MAY-10

### 4. See Also

17122 Range Operations And Storage Building  
17123 Range Support Building  
17139 Covered Training Area  
17809 Automated Qualification/Training Range (QTR)  
17812 Automated Sniper Field Fire (SFF) Range  
17971 Observation Tower  
73075 Separate Toilet / Shower Building  
75061 Grandstand / Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
17123 Classroom Facility  
17122 Ammo Breakdown Building  
17123 Range Operations Center, Small and Small AAR Building  
17139 Covered Mess  
17971 Range Tower  
73075 Latrine  
75061 Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A range designed to prepare Soldiers to meet training requirements with machine guns. This range is used to train Soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17833, Automated Multipurpose Machine Gun (MPMG) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A range designed to train Soldiers on target-engagement techniques with squad assault weapons and machine guns. This range is used to train soldiers on the skills necessary to identify, engage, and hit stationary infantry, vehicle, and bunker-type targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17833, Automated Multipurpose Machine Gun (MPMG) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for zeroing, training and qualification requirements with SAW and machine guns. This range is used to train soldiers on the skills necessary to identify, engage, and hit stationary infantry targets. All targets are fully automated and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program MPMG ranges in acres (AC) while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This wedge-shaped range includes a number of features not found on most ranges.

Planning UM:

- FP

1. Include 10 foxholes in 10-by-5-meter cells along the firing line.

2. Behind the middle four foxhole cells, include a paved area for the positioning and maneuvering of firing vehicles to use the middle four lanes for longer-distance targets.

3. Each lane widens as it recedes away from the firing line.

Allow circulation, observation, and instruction areas behind the FP line and safety fan, per regulations.

Follow FM 3-22.10 (23-10) in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

**b. Facility Utilization Metrics**

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

**D. Programmable Increments****1. Standard Facilities**

The range includes:

- 10 firing points (FP)
- 98 stationary infantry target (SIT) locations
- 24 moving infantry target emplacements (each with 2 single-arm mechanisms)
- 20 stationary armor targets
- Other facilities (as listed below under “See Also”)
- Adequate impact zone per reference cited below

The range maybe augmented with light-vehicle and bunker targets.

Programming UM:

- FP

**2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Place only in Range land use.

**2. Site Planning Considerations**

Ranges should border one another and share impact zones.

**3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

Category Code 17833 centralizes training and reduces land, maintenance and unit overhead requirements by including the capabilities of the following ranges:

17803, Automated Field Fire (AFF) Range

17806, Modified Record Fire (MRF) Range

17812, Automated Sniper Field Fire (AFF) Range

### **2. Exceptions**

None.

### **3. References**

FM 23-14 M249 Light Machine Gun in the Automatic Rifle Role	26-JAN-94
	03-MAR-05
FM 3-22.65 Change 1 Browning Machinegun, Caliber .50 HB, M2	21-JUL-06
FM 3-22.68 Crew Served Weapons	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-25	

**4. See Also**

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17809	Automated Qualification / Training Range (QTR)
17971	Observation Tower
73075	Separate Toilet / Shower Building
75061	Grandstand / Bleachers

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17122	Ammo Breakdown Building
17123	Classroom Facility
17123	Range Operations Center, Small and Small AAR Building
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A range designed to prepare Soldiers to conduct qualification firing with the grenade machine gun (e.g., MK-19). This range is used to train Soldiers with the weapon, whether it is ground-mounted or vehicle-mounted. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See CATCD 17833, Automated Multipurpose Machine Gun Range (MPMG) in TC 25-8 for a range designed to support MK-19 live fire training.

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training target engagement techniques with light antiarmor weapons (i.e., LAW/AT-4). This range is used to train Soldiers on the skills necessary to employ the weapon and hit stationary and moving targets using a subcaliber training device. Targets are not fully automated and/or the scenarios are not computer-driven or scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of firing points (FP) for the units intended to use them.

Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are



summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires a footprint that is approximately 200 m wide by 6000 m deep in addition to impact areas at the rear. Consult the Center of Standardization noted below for specific guidance relative to the mission and topographic constraints in planning a range for this type training.

Follow FM 3-23.25 and AR/DA Pam 385-63 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## **D. Programmable Increments**

### **1. Standard Facilities**

The range includes:

- 2 moving armor targets
- 9 static stationary armor targets
- 2 machine gun bunkers

Moving targets are controlled from a small, centrally located control building (shed).

### **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

Programming UM:

- FP

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

Ranges should border one another and share impact zones.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### **2. Exceptions**

None.

### **3. References**

FM 3-23.25 Light Anti-Armor Weapons 30 AUG 01

TC 25-8 - Training Circular: Training Ranges, 20-MAY-10  
Page D-66

### **4. See Also**

73075 Separate Toilet/Shower Building

Note: The SAROCA table does not list a “small centrally located control building (shed) for this range: use CATCD 17123, Range Support Building, for this purpose.

### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
73075 Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	CATCD 73075
Presence Requirements for Adequacy:						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).						

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training target engagement techniques with light antiarmor weapons (i.e., LAW/AT-4). This range is used to train soldiers on the skills necessary to employ the weapon and hit stationary and moving targets using live rockets or a subcaliber training device. Targets are not fully automated and/or the scenarios are not computer-driven or scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of firing points (FP) for the units intended to use them.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires a footprint that is approximately 200 m wide by 6000 m deep, in addition to impact areas at the rear. Consult the Center of Standardization noted below for specific guidance relative to the mission and topographic constraints in planning a range for this type training.

Follow FM 3-23.25 and AR/DA Pam 385-63 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 2 moving armor targets
- 9 static stationary armor targets
- 2 machine gun bunkers

Moving targets are controlled from a small centrally located control building (shed).

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

Programming UM:

- FP

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

Ranges should border one another and share impact zones.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-23.25 Light Anti-Armor Weapons	30-AUG-01
TC 25-8 - Training Circular: Training Ranges, Page D-27	20-MAY-10

### 4. See Also

73075 Separate Toilet / Shower Building

Note: The SAROCA table does not list a “small centrally located control building (shed) for this range: use CATCD 17123, Range Support Building, for this purpose.

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
73075	Latrine



### 1. DA Pam 415-28 Description / Definition

A range designed to prepare Soldiers to meet training and qualification requirements with the recoilless rifle. This range is used to train and test individual Soldiers on the skills necessary to employ the weapon, and to identify, engage, and hit stationary and moving targets. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17803, Automated Field Fire (AFF) Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

## 1. DA Pam 415-28 Description / Definition

A range complex designed to meet training and qualification requirements with medium and heavy antiarmor weapon systems. This complex is used to train and test Soldiers on the skills necessary to employ the weapon, and to identify, track, engage, and defeat stationary and moving armor targets presented individually or as part of a tactical array. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this complex are the same as those listed in TC 25-8 for 17845, Automated Antiarmor Tracking and Live-Fire Range.

### Proponent:

- DCS, G3

### Complex:

- None

### Units of Measure:

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

### Planning Level:

- Other-than-unit

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range complex designed to meet training and qualification requirements with medium and heavy antiarmor weapons systems. This complex is used to train and test Soldiers on the skills necessary to employ the weapon, and to identify, track, engage, and defeat stationary and moving armor targets presented individually or as part of a tactical array. All targets are fully automated, computer-driven, and scored from the range operations center. Standard facilities associated with this complex are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in the number of lanes (LN) for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into AC before developing programming documents. A LN consists of a range area to accommodate up to 10 gunners.

#### Units of Measure:

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available

FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This rectangle-shaped range has a firing baseline that is 1,000 m wide with a depth of 4,000 m, and a back line 1,000 m wide. Land area requirement: 988 AC = 400 HA.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 5 moving armor targets
- 12 stationary armor targets
- 1 course road
- Other facilities (“See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

The range includes natural vegetation and a course tracking road that follows the topography with target and tracing features at specified distances from the base firing line. Allow circulation, observation, and instruction areas behind the FP line and safety fan, per regulations. Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Gunnery tasks requiring use of dud-producing ammunition cannot be fired on the range. Provisions for these tasks must be made in impact areas adjacent to the range.

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-20.8 Scout Gunnery	12-JAN-06
	28-NOV-03
FM 3-22.34 TOW Weapon Systems	30-AUG-01
FM 3-23.24 DRAGON Medium Antitank / Assault Weapon System	29-AUG-13
FM 3-22.37 Javelin - Close Combat Missile System, Medium	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-29	

### 4. See Also

17123 Range Support Building  
14970 Loading/Unloading Docks and Ramps  
17122 Range Operations and Storage Building  
17139 Covered Training Area  
17720 Maneuver/Training Area, Heavy Forces  
17971 Observation Tower  
73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers  
85212 Staging/Marshaling Area

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

14970 Ammo Loading Dock  
17122 Operations Storage

17123 Classroom Facility  
17139 Covered Mess  
17720 Bivouac Area  
17971 Range Tower  
75061 Bleacher Enclosure  
73075 Latrine  
85212 Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Loading Dock	B		283 SF	No lower limit		CATCD 14970
Mission	Bivouac Area	C		AC / As Required	No lower limit		CATCD 17720
Mission	Unit Staging Area	C		SY / As Required	No lower limit		CATCD 85212
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			



### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training requirements of mortar crewmen. This range is used to train mortar crews on the skills necessary to apply fire mission data, to engage, and to hit stationary targets in a tactical array using subcaliber training devices. No automation is required for this facility. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17852, Mortar Range.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. Contact Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = EAF
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training requirements of mortar crewmen. This range is used to train mortar crews on the skills necessary to apply fire mission data, to engage, and to hit stationary targets in a tactical array using live-fire mortars. No automation is required for this facility. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in EA while developing their requirements in number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres (AC) before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with observation posts in front of and to the sides of the firing line at the corners of the impact area: a rectangle 2,000 m wide by 6,000 m deep. Natural vegetation and topography should remain intact to the greatest extent possible.

Planning UM:

- FP

Land area requirement: 1,615 AC = 654 HA.

Follow FM 7-90, FM 23-85, FM 23-90, FM 23-91, and FM 23-92 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The mortar range includes:

- 10 surveyed firing points
- 7 or more static (hard) targets
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

The Mandatory Center of Expertise (MCX) for Army Ranges and Training Land Programs is the Huntsville Division Engineer Office (CEHND). In Accordance with AR 210-21, the design manual

CEHND 1110-1-18 will be used when designing U.S. Army indoor ranges.

## 2. Exceptions

None.

## 3. References

FM 3-22.90 Mortars	07-Dec-07
	06-DEC-91
FM 23-91 Mortar Gunnery	01-JUN-70
FM 23-92 4.2-inch Mortar M30	04-APR-11
FM 3-21.90 Tactical Employment Of Mortars	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-31	02-FEB-67
FM 23-85 60-mm Mortar M2	

## 4. Notes

There are no standard facilities associated with this range, per TC 25-8.

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training requirements of field artillery crews. This range is used to train field artillery crews on the skills necessary to apply fire mission data, to engage, and to hit stationary targets in a tactical array using subcaliber training devices. No automation is required for this facility. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17856, Field Artillery Indirect Fire Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established criteria or allowances for this facility category code. Contact Army Training Support Center (ATSC) for requirements.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training requirements of field artillery crews. This range is used to train field artillery crews on the skills necessary to employ direct-fire gunnery techniques with indirect-fire equipment against stationary targets in a tactical array using live direct-fire artillery. No automation is required for this facility. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17856, Field Artillery Indirect Fire Range.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = EAF
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training and qualification requirements of field artillery (FA) units. This range is used to train FA crews on the skills necessary to apply fire mission data, to engage, and to hit stationary targets in a tactical array with indirect fire. No automation is required for this facility. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program FA indirect fire ranges in EA while developing their requirements in firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres (AC) before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are



summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3).

Planning UM:

- FP

This wedge-shaped range covers an extensive area in front of and to the sides of the firing line. It is over 1,000 m (0.62 miles) at the firing line, and over 12,500 m (7.77 miles) at the back of the impact zone. The depth of the impact zone depends on the weapons intended for training (See Table 17856-1); it may extend beyond 30,000 m (18.7 miles).

Land area requirement: 26,869 AC = 10,878 HA = 42 square miles  
= 108.7 square kilometers

**Table 17856-1 - Range Dimensions in Meters  
Depending on Size of Weapon**

<b>Weapon</b>	<b>Firing Position Width</b>	<b>Range Width</b>	<b>Range Depth</b>
M119 / M102 (105 mm) Battery	500	7,500	1,500
M109 / M198 (155 mm) Battery and M977 (203 mm) Battery	1,000	12,500	25,000
MLRS Launcher (one weapon live fire) See Note	10	15,000	30,000
Note: Rear of MLRS launch blast: 400 m wide by 800 m deep			

Follow FM 6-30, FM 6-40, FM 6-50, TC 25-1, and FM 3-09.70 in planning this range.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- Surveyed firing points along a 1,000 m firing line
- Alternate firing line using the same impact area (this firing line should be located to take advantage of local topography)
- “Hard” targets
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

## 2. Site Planning Considerations

Ranges should border one another and share impact zones.

## 3. Other Facilities

There are no standard small-arms range operations and control area facilities associated with this range per TC 25-8.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-09.70 Tactics, Techniques, And Procedures For M109a6 Howitzer (Paladin) Operations	01-AUG-00
	16-JUL-91
FM 6-30 Tactics, Techniques, And Procedures For Observed Fire	23-APR-96
FM 6-40 Tactics, Techniques, And Procedures For Field Artillery Manual Cannon Gunnery (Incl. C-1)	23-DEC-96
FM 6-50 Tactics, Techniques, And Procedures For The Field Artillery Cannon Battery	01-MAR-04
TC 25-1 - Training Circular: Training Land	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-33	

**4. See Also**

None.

**5. Notes**

No standard facilities associated with this range per TC 25-8.

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training and qualification requirements of multiple-launch rocket system (MLRS) crews. This range is used to train and test MLRS crews on the skills necessary to apply fire mission data, and to engage targets in a tactical array. No automation is required for this facility. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17856, Field Artillery Indirect Fire Range.

**Proponent:**

- DCS. G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

A Field Artillery Indirect Fire Range, CATCD 17856, allows the live fire of one MLRS weapon if the range dimensions shown in the table are present.

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A complex designed to meet the training and qualification requirements of scout and reconnaissance vehicles. This complex is used to train and test crew members on the skills necessary to zero and/or boresight weapons systems, and to detect, identify, engage, and defeat stationary and moving infantry and armor targets in a tactical array. All targets are fully automated, using event-specific, computer driven target scenarios and scoring. Targets will receive and transmit digital data from/to the range operations center. The captured data is then compiled and available to the unit during the AAR. Standard facilities associated with this complex are listed in TC 25-8. Count and report the number of lanes (LN).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these complexes as an each (EA) while developing their requirements as the number of LN for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC), before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual lane-hours (LN-hours). The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine a lane utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Plan this range with a footprint of 650 m wide by 2,100 m deep.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

Planning UM:

- LN

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 1 LN has two parallel course roads including a crossover path with:
- 35 stationary armor targets
- 4 moving armor targets
- 8 moving infantry targets
- 154 stationary infantry targets (SIT) (12 clusters of 7 SITs each, 70 SITs for machine gun qualification)
- 2 facades
- 8 battle positions
- Other facilities (as listed below under “See Also”)

Programming UM:

- LN

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

This range does not require a safety fan.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.



## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.27 Change 1 MK 19, 40mm Grenade Machine Gun, MOD 3	14-SEPT-06
	15-AUG-05
FM 3-20.8 Scout Gunnery	
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-35	

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage, Large
17129	Ammo Breakdown Building
17123	After Action Review (AAR) Building, Small
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	Observation Tower	A		657 SF / Non-Instrumented	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		CATCD 17122
Mission	After Action Review	B		1,064 SF, Small / 960 SF Enclosed	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Loading Dock	B		283 SF	No lower limit		CATCD 14970
Mission	Bivouac Area	C		AC / As Required	No lower limit		CATCD 17720
Mission	Unit Staging Area	C		SY / As Required	No lower limit		CATCD 85212
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010 Flagpole, is required for display of range “hot” safety flag (may be located A, B, or C)			

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range specifically designed to satisfy training and qualification requirements for the crews and sections of armor, infantry, and aviation units. This range also supports dismounted infantry squad tactical live-fire operations, either independently of or simultaneously with supporting vehicles. All targets are fully automated, using event-specific, computer-driven target scenarios and scoring. Targets will receive and transmit digital data from/to the range operations center. The captured data are then compiled and available to the unit during the AAR. Standard facilities associated with this range are listed in TC 25–8. Count and report the number of lanes (LN).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of LNs for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a

particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit divided by annual LN-hours available. Annual LN-hours available = 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range with a footprint that is 1,000 m wide by 3,000 m in depth. Vegetation and topography should remain to the greatest extent possible, including the defilade battle positions. Follow FM 3-20.12, FM 23-1), FM 3-20.8, and FM 3-04.140 in planning these ranges.

#### Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The DMPTR includes:

#### Programming UM:

- LN

- 1 LN has two course roads with a midpoint crossover capability30 stationary armor targets
- 6 moving armor targets
- 146 stationary infantry targets (SIT) (14 clusters of 7 SITs each, 4 at six SITs each, and 3 DITs per facade)
- 4 moving infantry targets (40 m each, with 6-man SIT cluster)
- 8 facades
- 2 trenches with bunkers
- 1 urban cluster with 7 buildings
- 8 battle positions
- 2 breach walls (SBCT installations – requires 2 additional SATs)
- Other facilities (as listed below under “See Also”)

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones. Keep in mind that this range supports live-fire, as well as simultaneous armor, infantry (mounted and dismounted), and aviation units.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for

the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.1 Bradley Gunnery	28-NOV-03
	14-JUL-03
FM 3-04.140 Helicopter Gunnery	
	15-AUG-05
FM 3-20.12 Tank Gunnery (Abrams)	
	15-AUG-05
FM 3-20.8 Scout Gunnery	
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-18	

### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage, Large
17123	After Action Review (AAR) Building, Instrumented Ranges
17122	Ammo Breakdown Building
17139	Covered Mess
17971	Range Tower
73075	Latrine

75061	Bleacher Enclosure
14970	Ammo Loading Dock
14970	Vehicle Instrumentation Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit		
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit		
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		
Mission	Ammo Loading Dock	B		283 SF	No lower limit		
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit		
Mission	Bivouac Area	C		AC / As Required	No lower limit		
Mission	Unit Staging Area	C		SY / As Required	No lower limit		
Preference Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).							

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A complex specifically designed to satisfy training and qualification requirements for the crews and platoons of armor, infantry, and aviation units. This complex also supports dismounted infantry platoon tactical live-fire operations, either independently of or simultaneously with supporting vehicles. All targets are fully automated, using event-specific, computer-driven target scenarios and scoring. Targets will receive and transmit digital data from/to the range operations center. The captured data are then compiled and available to the unit during the AAR. Standard facilities associated with this complex are listed in TC 25–8. Count and report the number of lanes (LN).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of LNs for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing programming documents. An EA is a DMPRC range designed to support up to six vehicles (three LNs).

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

A DMPRC range complex requires a baseline that is, at minimum, 2,500 m (2.5 km) wide and 5,000 m (5 km) deep. An additional objective area depth of 3 km more is allowed. The total range footprint (in addition to space in front of the baseline) falls between an area of 12.5 square km and a larger area of 20 square km.

Planning UM:

- LN

## 3. Assigning Space

### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A DMPRC minimum training standard area of 2.5 km by 5 km includes three LNs (six course roads) with midpoint crossover capability and:

Programming UM:

- LN

- 80 stationary armor targets (SATs)
- 12 moving armor targets
- 306 stationary infantry targets (SITs) (45 clusters at 6 SITs each and 3 SITs per facade)
- 45 moving infantry targets (one per SIT cluster) (38 at 15 m and 7 at 40 m)
- 12 facades
- 4 trenches with bunkers
- 2 urban clusters (5 and 7 buildings)
- 2 breaching obstacles
- 4 breach walls (SBCT-equipped installations require 8 additional SATs)
- 30 defilade battle positions (1 mortar simulation device/BES provided with every other battle position)
- 4 breach walls with windows (SBCT-equipped installations require 8 additional SATs)
- If range depth extends beyond 5 km, an additional **Objective Area** is allowed with:
  - 10 SATs
  - 3 moving armor targets
  - 6 defilade battle positions (1 mortar simulation device/BES provided with every other battle position)

### 2. Programming Units

Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should boarder one another and share impact zones.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

This range uses thermal targets, muzzle flash simulators, and hostile-fire/target-kill simulators. A standard boresight line with target will be placed on the range footprint.

Gunnery tasks requiring the use of dud-producing ammunition cannot be fired on these ranges.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-20 MTP Mission Training Plan for the Infantry Battalion	27-NOV-01
ARTEP 71-2 Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force	03-MAR-00
FM 23-1 Bradley Gunnery	28-NOV-03 14-JUL-03
FM 3-04.140 Helicopter Gunnery	15-AUG-05
FM 3-20.12 Tank Gunnery (Abrams)	
FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
FM 3-22.3 STRYKER Gunnery	09-MAR-06 15-AUG-05

FM 3-20.8 Scout Gunnery

TC 7-9 Infantry Live Fire Training 10-MAY-05

20-MAY-10

TC 25-8 - Training Circular: Training Ranges,  
Page D-39

#### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

#### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	After Action Review (AAR) Building, Instrumented Ranges
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
14970	Vehicle Instrumentation Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX								
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY				ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS		
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit			
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit			
Mission	Operations Storage	B		1,800 SF, Large	No lower limit			
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit			
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit			
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit			
Mission	Ammo Loading Dock	B		283 SF	No lower limit			
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit			
Mission	Bivouac Area	C		AC / As Required	No lower limit			
Mission	Unit Staging Area	C		SY / As Required	No lower limit			
Presence Requirements for Adequacy:								
A - Required, Collocated								
B - Required, Adjacent								
C - Required, Vicinity								
D - Not required, if present collocated								
E - Not required, if present: adjacent or vicinity								
F - Occupant Dependent								
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).								

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

## 1. DA Pam 415-28 Description / Definition

A range designed to meet training requirements of armor crews. This range is used to train armor crews on the skills necessary to detect, identify, engage, and hit stationary and moving scaled targets in a tactical array using subcaliber training devices. No automation is required for this facility. No standard facilities are associated with this range.

### Proponent:

- DCS, G3

### Complex:

- None

### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### Planning Level:

- Other-than-unit

## 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. Contact the Army Training Support Center (ATSC) for requirements.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training requirements of armor and infantry crews. This range is used to train armor and infantry crews on the skills necessary to detect, identify, engage, and hit stationary and moving scaled targets in a tactical array using subcaliber training devices and/or simulations. All targets are fully automated, computer-driven, and scored from the range operations center. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of FPs for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres (AC) before developing programming documents. An EA is defined as a range able to support up to four vehicles.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in



numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Plan this range with a footprint per lane with a baseline that is approximately 150 m wide by 400 m deep.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 1 LN has two parallel course roads that meet as a “U”-shaped turn with:
- 19 stationary infantry targets
- 8 moving infantry targets
- 4 battle positions
- 1 façade (with 3 stationary infantry targets (SIT), included in total SITs)
- Other facilities (as listed below under “See Also”)

Programming UM:

- EA

This range uses thermal targets and muzzle flash simulators

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

This range does not require a safety fan.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
	09-MAR-06
FM 3-22.3 STRYKER Gunnery	
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-47	

### 4. See Also

17122	Range Operations And Storage Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17139	Covered Mess
17971	Range Tower
73075	Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Operations Storage	B		800 SF	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971  CATCD 73075  CATCD 17122  CATCD 17139						

*This is a Non-Live Fire range.*

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for conducting weapons system boresighting, screening, zeroing, and/or harmonization. Armor, infantry, and/or aviation crews use this range. All targets are fully automated, computer-driven, and scored from the range operations center. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these complexes as an each (EA) while developing their requirements as the number of LN for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC), before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization

factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Plan this range with a baseline footprint of 1,000 m wide by 3,000 m deep.

#### Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

Programming UM:

- EA

- 1 LN has:
- 25 stationary armor targets
- 4 moving armor targets
- 7 moving infantry targets (15 m each with 6-man SIT cluster)
- 42 stationary infantry targets (SIT) (7 clusters of 6 SITs each)
- Other facilities (as listed below under “See Also”)

This range uses thermal targets, muzzle flash simulators, and hostile-fire/target-kill simulators. A standard boresight line with target will be placed on the range footprint.

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

This range does not require a safety fan.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
FM 3-22.3 STRYKER Gunnery	09-MAR-06
TC 25-8 - Training Circular: Training Ranges, Page D-47	20-MAY-10

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
85212	Staging/Marshaling Area

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	Classroom Facility
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
85212	Unit Staging Area



APPENDIX F SUPPORTING FACILITY MATRIX								
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY				ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS		
Mission	Observation Tower	A		657 SF / Non-Instrumented	No lower limit			
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit			
Mission	Operations Storage	B		1,800 SF, Large	No lower limit			
Mission	After Action Review	B		1,064 SF, Small / 960 SF Enclosed	No lower limit			
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit			
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit			
Mission	Ammo Loading Dock	B		283 SF	No lower limit			
Mission	Bivouac Area	C		AC / As Required	No lower limit			
Mission	Unit Staging Area	C		SY / As Required	No lower limit			
Preference Requirements for Adequacy:								
A - Required, Collocated								
B - Required, Adjacent								
C - Required, Vicinity								
D - Not required, if present collocated								
E - Not required, if present: adjacent or vicinity								
F - Occupant Dependent								
A CATCD 69010 Flagpole, is required for display of range “hot” safety flag (may be located A, B, or C)								

### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training and qualification requirements for the crews, teams, and sections of combat units. This range is used to train and test armor, infantry, and aviation crews, and sections on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description/Definition

A range specifically designed to satisfy the training and qualification requirements for the crews, teams, and sections of combat units. This range supports dismounted infantry squad tactical live-fire operations, either independently of or simultaneously with supporting vehicles. This range is used to train and test armor, infantry, and aviation teams, crews, and sections on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer driven and scored from the range operations center. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of LNs for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into AC before developing programming documents.

Units of Measure:

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit divided by annual LN-hours available. Annual LN-hours available = 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). The MPTR requires a footprint that is approximately 1,000 m wide at the baseline by 3,500 m deep, in addition to impact areas on both sides and the rear. Follow FM 3-20.12, FM 23-1, FM 3-20.8, and FM 3-04.140 in planning these ranges.

Planning UM:

- LN

## 3. Assigning Space

### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied by  
(training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The MPTR includes:

#### Programming UM:

- LN

- 1 LN has two course roads with a midpoint crossover capability
- 30 stationary armor targets
- 6 moving armor targets
- 146 stationary infantry targets (SIT) (14 clusters of 7 SITs each, 4 at six SITs each and 3 DITs per facade)
- 4 moving infantry targets (40 m each with 6-man SIT cluster)
- 8 facades
- 2 trenches with bunkers
- 1 urban cluster with 7 buildings
- 8 battle positions
- 2 breach walls (SBCT installations – requires 2 additional SATs)
- Other facilities (as listed below under “See Also”)

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 2. Other Facilities

This range uses the standard armor range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for specific guidance relative to the mission and topographic constraints in planning this range.

### 2. Exceptions

None.

### 3. References

FM 23-1 Bradley Gunnery	28-NOV-03 14-JUL-03
FM 3-04.140 Helicopter Gunnery	15-AUG-05
FM 3-20.12 Tank Gunnery (Abrams)	15-AUG-05
FM 3-20.8 Scout Gunnery	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-37	

### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage, Large
17123	After Action Review (AAR) Building, Instrumented Ranges
17122	Ammo Breakdown Building
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
14970	Vehicle Instrumentation Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF / Non-Instrumented	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		CATCD 17122
Mission	After Action Review	B		1,064 SF / (960 SF Enclosed)	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Loading Dock	B		283 SF	No lower limit		CATCD 14970
Mission	Bivouac Area	C		AC / As Required	No lower limit		CATCD 17720
Mission	Unit Staging Area	C		SY / As Required	No lower limit		CATCD 85212
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			



### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training and qualification requirements for platoons of armor and infantry units. This range is used to train and test armor and infantry platoons and sections on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. Targets are not fully automated, and/or the scenarios are not computer-driven or scored. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

APPENDIX F – SUPPORTING FACILITY MATRIX								
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY				ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS		
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit			
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit			
Mission	Operations Storage	B		1,800 SF, Large	No lower limit			
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit			
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit			
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit			
Mission	Ammo Loading Dock	B		283 SF	No lower limit			
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit			
Mission	Bivouac Area	C		AC / As Required	No lower limit			
Mission	Unit Staging Area	C		SY / As Required	No lower limit			
Presence Requirements for Adequacy:								
A - Required, Collocated								
B - Required, Adjacent								
C - Required, Vicinity								
D - Not required, if present collocated								
E - Not required, if present: adjacent or vicinity								
F - Occupant Dependent								
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).								

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range complex designed to meet the training and qualification requirements for platoons of light and mechanized infantry, armor, and aviation units. This complex is used to train and test infantry, armor, and aviation platoons, sections, teams, and crews on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this complex are the same as those listed in TC 25-8 for 17859, Digital Multipurpose Training Range (DMPTR).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these ranges in AC while developing their requirements as LN for the units intended to use them.

Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to

determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit divided by annual LN-hours available. Annual LN-hours available = 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires a footprint of approximately 1,000 m by 4,500 m in addition to impact areas on both sides and the rear. Follow TC 25-8 page D-21, FM 3-20.12, FM 23-1, FM 3-20.8, FM 3-04.140, ARTEP 7-20 MTP, and ARTEP 71-2 in planning these ranges.

Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## **D. Programmable Increments**

### **1. Standard Facilities**

The range includes:

- 60 stationary armor targets
- 12 MATs
- 154 SITs (22 clusters with 7 SITs each)
- 22 moving infantry targets
- 3 lanes (2 course roads each)
- 36 defilade battle positions
- Other facilities (as listed below under “See Also”)
- Adequate impact zone per reference cited below

Programming UM:

- LN

### **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Huntsville Center for specific guidance relative to the mission and topographic constraints in planning a range of this type.

### **2. Exceptions**

None.

### **3. References**

ARTEP 7-20 MTP Mission Training Plan for the Infantry Battalion	27-NOV-01
	03-MAR-00
ARTEP 71-2 Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force	
	28-NOV-03
FM 23-1 Bradley Gunnery	14-JUL-03
FM 3-04.140 Helicopter Gunnery	15-AUG-05
FM 3-20.12 Tank Gunnery (Abrams)	15-AUG-05
FM 3-20.8 Scout Gunnery	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-21	

### **4. See Also**

17122	Range Operations And Storage Building
17123	Range Support Building
73075	Separate Toilet/Shower Building

### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17129	Ammo Breakdown Building
17123	Range Operations Center, Small and Small AAR Building
73075	Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit		
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit		
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		
Mission	Ammo Loading Dock	B		283 SF	No lower limit		
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit		
Mission	Bivouac Area	C		AC / As Required	No lower limit		
Mission	Unit Staging Area	C		SY / As Required	No lower limit		
Preference Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).							

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Aar range complex specifically designed to satisfy the training and qualification requirements for the crews and platoons of armor, infantry, and aviation units. This complex supports dismounted infantry squad tactical live-fire operations, either independently of or simultaneously with supporting vehicles. This range is used to train and test armor, infantry, and aviation platoons, sections, teams, and crews on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Standard facilities associated with this complex are the same as those listed in TC 25–8 for 17859, Digital Multipurpose Training Range (DMPTR).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Complex:

- None

### 3. Complex

None.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of LN for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing programming documents. An EA is a DMPRC range designed to support up to six vehicles (three LNs).

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).



## 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

A DMPRC range complex requires a baseline that is, at minimum, 2,500 m (2.5 km) wide by 5,000 m (5 km) deep. An additional objective area depth of 3 km is allowed. The total range footprint (in addition to space in front of the baseline) falls between an area of 12.5 square kilometers and a larger area of 20 square kilometers.

Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A DMPRC minimum training standard area of 2.5 km by 5 km includes:

Programming UM:

- EA

- 3 LNs (6 course roads) with midpoint crossover capability
- 80 stationary armor targets (SATs)
- 12 moving armor targets
- 306 stationary infantry targets (SITs) (45 clusters at 6 SITs each and 3 SITs per facade)
- 45 moving infantry targets (one per SIT cluster) (38 at 15 m and 7 at 40 m)
- 12 facades
- 4 trenches with bunkers
- 2 urban clusters (5 and 7 buildings)
- 2 breaching obstacles
- 4 breach walls (SBCT equipped installations require 8 additional SATs)
- 30 defilade battle positions (1 mortar simulation device/BES provided with every other battle position)
- 4 breach walls with windows (SBCT-equipped installations require 8 additional SATs)
- If range depth extends beyond 5 km, an additional **Objective Area** is allowed with:
  - 10 SATs
  - 3 moving armor targets
  - 6 defilade battle positions (1 mortar simulation device/BES provided with every other battle position)

### 2. Programming Units

Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should boarder one another and share impact zones.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

These ranges use thermal targets, muzzle flash simulators, and hostile-fire/target-kill simulators. A standard boresight line with target will be placed on the range footprint.

Gunnery tasks requiring the use of dud-producing ammunition cannot be fired on these ranges.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-20 MTP Mission Training Plan for the Infantry Battalion	27-NOV-01
	03-MAR-00
ARTEP 71-2 Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force	
	28-NOV-03
FM 23-1 Bradley Gunnery	
	14-JUL-03
FM 3-04.140 Helicopter Gunnery	
	15-AUG-05
FM 3-20.12 Tank Gunnery (Abrams)	
FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
FM 3-22.3 STRYKER Gunnery	09-MAR-06
	15-AUG-05

FM 3-20.8 Scout Gunnery

TC 7-9 Infantry Live Fire Training 10-MAY-05

20-MAY-10

TC 25-8 - Training Circular: Training Ranges,  
Page D-39

#### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

#### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	After Action Review (AAR) Building, Instrumented Ranges
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		1,544 SF / Instrumented	No lower limit		
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		
Mission	After Action Review	B		3,024 SF / Instrumented Range	No lower limit		
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		
Mission	Ammo Loading Dock	B		283 SF	No lower limit		
Mission	Vehicle Instrumentation Dock	B		900 SF / (100 SF Enclosed)	No lower limit		
Mission	Bivouac Area	C		AC / As Required	No lower limit		
Mission	Unit Staging Area	C		SY / As Required	No lower limit		
Preference Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).							

*A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).*

### 1. DA Pam 415-28 Description / Definition

A range formerly used to teach CEV crews the skills needed to destroy stationary and moving targets during day and night exercises. It was used for crew qualification, dry firing, and subcaliber engagements. Crews conducted engagements at the halt, and from moving vehicles with simultaneous weapon applications. This category is for existing and closed ranges only. Use Engineer Qualification Ranges, 17888 or 17889, for new ranges.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A complex designed for gunnery training and qualification requirements of the weapons systems of the brigade combat team and other combat units in both mounted and dismounted operations. This complex is used to train and test brigade combat team crews on the skills necessary to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, using event-specific, computer-driven target scenarios and scoring. Targets will receive and transmit digital data from the range operations center. The captured data are then compiled and available to the unit during the AAR. Standard facilities associated with this complex are listed in TC 25-8. Count and report the number of lanes (LN).

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these complexes in acres (AC) while developing their requirements as the number of LNs for the units intended to use them.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = LN
- FAC UM = AC

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003: lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a

particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit divided by annual LN-hours available. Annual LN-hours available = 14 hours/day times 242 training days/year.

Number of LN allowed = sum of unit LN utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires a footprint that is approximately 2,400 m wide at the baseline by 4,000 m deep, in addition to impact areas on both sides and the rear. Follow FM 3-20.13, FM 3-20.8, FM 3-21.9, and FM 3-21.11 in planning these ranges.

Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.



## D. Programmable Increments

### 1. Standard Facilities

The BAX range includes:

Programming UM:

- LN

- 2 lanes (2 course roads in 1 LN, no course roads in the free maneuver lane)
- 43 stationary armor targets
- 6 moving armor targets
- 14 moving infantry targets
- 4 facades with breach walls
- 4 breaching obstacles
- 2 portable shoot houses
- 8 hasty battle positions
- 3 landing zones
- 222 stationary infantry targets (SITs) (25 clusters at 7 SIT emplacements each, 35 single and 3 per façade)
- 2 urban clusters (live-fire villages) (1 with 7 buildings the other with 5 buildings)
- 2 trench lines with machinegun bunkers
- 18 mortar simulations devices (RGSS)
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for specific guidance relative to the mission and topographic constraints in planning a range for this type.

### 2. Exceptions

None.

### 3. References

FM 3-20.13 Tank Gunnery (Abrams) Volume 2	19-MAR-93
FM 3-20.8 Scout Gunnery	15-AUG-05 23-JAN-03
FM 3-21.11 The SBCT Infantry Rifle Company	02-DEC-02
FM 3-21.9 The SBCT Infantry Rifle Platoon and Squad	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-49	

### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers
14970	Loading/Unloading Docks and Ramps
17720	Maneuver/Training Area, Heavy Forces
85212	Staging/Marshaling Area

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	After Action Review (AAR) Building, Instrumented Ranges
17122	Ammo Breakdown Building
17139	Covered Mess
17971	Range Tower, Instrumented
73075	Latrine
75061	Bleacher Enclosure
14970	Ammo Loading Dock
14970	Vehicle Instrumentation Dock
17720	Bivouac Area
85212	Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF / Non-Instrumented	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		1,800 SF, Large	No lower limit		CATCD 17122
Mission	After Action Review	B		1,064 SF, Small / 960 SF Enclosed	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Loading Dock	B		283 SF	No lower limit		CATCD 14970
Mission	Bivouac Area	C		AC / As Required	No lower limit		CATCD 17720
Mission	Unit Staging Area	C		SY / As Required	No lower limit		CATCD 85212
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010 Flagpole, is required for display of range “hot” safety flag (may be located A, B, or C)			

### 1. DA Pam 415-28 Description / Definition

A range designed to support training requirements of air defense artillery (ADA) units and other forward area units. This range is used to train small-arms air defense by rifle platoons and tank platoons against aerial targets. No automation is required for this facility. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17872, Air Defense Missile Firing Range.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training and qualification requirements of air defense artillery units. This range is used to train and test crews on the skills necessary to employ ground-to-air antiaircraft missiles against ballistic aerial target systems. No automation is required for this facility. Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in the number of firing points (FP) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3).

#### Planning UM:

- FP

This trapezoid-shaped range includes four firing positions along the 500 m baseline. From the baseline, the range widens by 60 degrees to each side for a distance of 500 m in depth.

Land area requirement: 5,039 AC = 2,040 HA, plus safety area.

Follow FM 3-01.11, FM 44-43, FM 44-44, and FM 44-18-1 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 4 shoulder/vehicle launch firing positions
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.



### 3. References

FM 3-01.11 Air Defense Artillery Reference Handbook	23-OCT-07
	31-DEC-84
FM 44-18-1 Stinger Team Operations	03-OCT-95
FM 44-43 Bradley Stinger Fighting Vehicle Platoon And Squad Operations	03-OCT-95
FM 44-44 Avenger Platoon, Section, And Squad Operations	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-51	

### 4. See Also

17122	Range Operations And Storage Building
17971	Observation Tower
73075	Separate Toilet / Shower Building
75061	Grandstand / Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17122	Ammo Breakdown Building
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Observation Tower	A		657 SF	No lower limit	
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Bleacher Enclosure	B		726 / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 17971 (Range Tower)  CATCD 73075  CATCD 75061  CATCD 17139  CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A facility consisting of five separate stations designed for small-unit training in urban operations. This range is used to train and test individuals, teams, squads, and/or platoons on individual and collective tasks associated with military operations in urban terrain (MOUT). All targets are fully automated, computer-driven, and scored from the range operations center. Report this category in acres (AC) within the course boundary, and in firing points (FP) where each station represents one FP regardless of the number of places to fire at each station. Standard stations that count as one FP each within this category are the individual/team trainer, squad/platoon trainer, grenadier gunnery station, urban offense/defense building, and an underground trainer. TC 25-8 lists the standard facilities and typical stations associated with an urban assault course. Report the following associated facilities separately with their own CATCDs if included in this complex: breach facility, shoothouse, and AAR building.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program assault courses as an each (EA) while developing their requirements in the number of FPs for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Follow FM 3-0, FM 3-06, FM 3-06.11, ARTEP 7-8-MTP, 7-3 / 4-1110, and TC 90-1 in planning these ranges. Table 17878-1 lists the target requirements based on number of trainees for each station.

Planning UM:

- FP

Table 17878-1 - Target Requirements Based on Trainees		
Station Number	Trainees or Situation	Targets
1 See Note 2.	Individuals and Team	6 interior precision human urban targets (HUTs)
2 See Note 2.	Squad and Platoon	10 interior precision HUTs
3 See Note 3.	Grenadier Gunnery	6 non-precision exterior SITs and 7 non-precision facade targets
4 See Notes 2, 4.	Urban Offense / Defense	10 interior precision targets
5 See Note 5.	Underground	No instrumentation required
1. All targets are fully automated and event specific scenario computer driven		
2. Targets in Stations 1, 2 and 4 are precision HUTs with reconfigurable "plug and play" capability		
3. 40mm HE grenades will not be used		
4. No live fire training at this station		
5. No smoke or pyrotechnics are authorized for this station		

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

A Urban assault Course must include:

Programming UM:

- EA

Table 17878-1 - Target Requirements Based on Trainees		
Station Number	Trainees or Situation	Targets
1 See Note 2 and 4.	Individuals and Team	6 interior precision human urban targets (HUTs)
2 See Note 2 and 4.	Squad and Platoon	10 interior precision HUTs
3 See Note 3.	Grenadier Gunnery	10 nonprecision exterior SITs and 7 nonprecision facade targets
4 See Notes 2 and 4.	Urban Offense / Defense	10 interior precision HUTs
5 See Note 4 and 5.	Underground	No instrumentation required
1. All targets are fully automated and event specific scenario computer driven		
2. Targets in Stations 1, 2 and 4 are precision HUTs with reconfigurable “plug and play” capability		
3. 40 mm HE grenades will not be used		
4. No live-fire training at this station		
5. No smoke or pyrotechnics are authorized for this station		

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

This range includes five stages that require site adaptation to topography. Retain existing vegetation as much as possible and build berms between stages to control visual focus of the trainees.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-8-MTP Mission Training Plan for Infantry Rifle Platoon and Squad	03-MAR-00
	22-FEB-11
FM 3-0 Operations	28-FEB-02
FM 3-06 Urban Operations	28-FEB-02
FM 3-06.11 Combined Arms Operations In Urban Terrain	20-MAY-10

TC 25-8 - Training Circular: Training Ranges,  
Page D-24

19-MAY-08

TC 90-1 - Training Circular: Training for  
Urban Operations

#### **4. See Also**

17122      Range Operations and Storage Building  
73075      Separate Toilet/Shower Building

#### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122      Ammo Breakdown Building  
17122      Operations Storage  
73075      Latrine





## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A facility designed for training building-clearing tasks associated with urban areas. This range is used to train and test individuals, teams, sections, or squads on the skills necessary to conduct individual and collective tasks of clearing/occupying buildings. All targets are fully automated, and the event-specific target scenario will be computer-driven and scored from the range operations center. Standard facilities associated with this range are listed in TC 25-8. Report this category in acres (AC) within the facility boundary, and in firing points (FP) where each room in a standard nine-room shoothouse represents one FP.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report shoothouses as an each (EA) as one shoothouse is defined as supporting a platoon-size element. Program ranges in AC while developing their requirements in number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in

numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Follow TC 90-1 in planning this specialized facility.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 8 separate rooms
- 2 corridors of a minimum net training area of 1,400 GSF; includes 20 target/camera outlets
- 13 precision human urban targets (HUTs)
- Catwalks and overhead crane (optional)
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report shoothouses in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones. Plan the location of this facility in coordination with safety zones for other ranges. It requires troop access and a 360-degree SDZ.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

The roof does not reduce the 360-degree SDZ. It reduces uncontrolled light, provides weather protection, enhances realism, and supports the overhead crane.

### 2. Exceptions

None.

### 3. References

TC 25-8 - Training Circular: Training Ranges, Page D-55	20-MAY-10
	19-MAY-08
TC 90-1 - Training Circular: Training for Urban Operations	

### 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
73075	Separate Toilet / Shower Building

### 5. Notes

TC 25-8 uses different Facility Category Code name:

73075	Latrine
17122	Operations Storage
17122	Ammo Breakdown Building
17123	After Action Review (AAR) Building, Small

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Operations Storage	BA		800 SF	No lower limit		CATCD 17122
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit		CATCD 73075
Mission	After Action Review	B		1,064 SF / (960-SF Enclosed)	No lower limit		CATCD 17123 (Range Support Building)
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B or C).			

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A facility designed for training breaching tasks associated with urban areas. This facility is used to train soldiers and squads on the skills necessary to employ breaching techniques against hardened structures. No automation is required for this facility. No standard facilities are associated with this range. Report this category in acres (AC) within the facility boundary, and number of firing points (FP) where each station (for example, door breach, window breach, or wall breach) counts as one FP.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None

#### Complex:

- None

### 4. Units of Measure

Report and program Live Fire Exercise Breach ranges as an each (EA) while developing their requirements in number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC, before developing programming documents.

#### Units of Measure:

- Area UM = EA
- Other UM = AC
- FAC UM = EA

### 5. Functional Areas

None

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003:

firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular

type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Follow TC 90-1 in planning this specialized facility.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation Range Manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[(No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

Primary Live Fire Exercise Breach facility structures include:

Station 1 – Door-breaching structure(s)

Station 2 – Window-breaching structure(s)

Programming UM:

- FP

### Station 3 – Wall-breaching structure(s)

A collocated retaining wall at each station serves as a safety barrier between the blast and Soldiers. An observation bunker may be included within the range development, as required.

## **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report breach facilities in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones. This facility requires a SDZ. It should be located near similar training facilities.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

Observation Bunker(s), CATCD 17972, may be built as required to provide protection for Soldiers not participating in the execution of a breach.

Range Operations and Storage Building(s), CATCD 17122, may be built as required to serve as an ammunition breakdown building to provide overhead protection for Soldiers during the construction of breaching charges.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.



## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. Reference

TC 25-8 - Training Circular: Training Ranges, 20-MAY-10  
Page D-57

19-MAY-08

TC 90-1 - Training Circular: Training for  
Urban Operations

### 4. See Also

73075 Separate Toilet/Shower Building

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

73075 Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C). A CATCD, 17972 Observation Bunker(s), may be built, as required.						
						CATCD 73075

### 1. DA Pam 415-28 Description / Definition

This range is used to train Soldiers on the basic skills necessary to employ hand grenade-throwing techniques using practice (inert) grenades. These techniques are executed against prescribed training objectives. No automation is required for this facility. Count each throwing location as one firing point (FP). Standard facilities associated with this range are the same as those listed in TC 25-8 for 17882, Hand Grenade Qualification Course (Nonfiring).

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

This range is used to train and qualify Soldiers on the basic skills necessary to employ hand grenades (using practice-fused grenades). These techniques are evaluated against prescribed training objectives. No automation is required for this facility. Count each throwing location as one firing point (FP). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these courses in acres (AC) while developing their requirements in the number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by  
throughput analysis overseen by the range manager and validated  
by the installation Directorate of Plans, Training and Mobilization  
(DPTM / G-3).

Planning UM:

- FP

Land area requirement: 0.7 AC = 0.3 HA.

Follow FM 3-23.30 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is  
responsible for operation, management, scheduling, control, and  
maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per  
year for active components. National Guard Bureau plans for 173  
training days per year.

## D. Programmable Increments

### 1. Standard Facilities

Table 17882-1 lists the stations of this facility.

Programming UM:

- FP

Table 17882-1 - Hand Grenade Stations		
Station Number	Description	Activity
1	2-person foxhole	Engage group of F-type silhouettes from 35 m
2	Bunker with 2 firing portholes	Engage and overcome
3	Logs below 82-mm mortar position	Engage from 20 m
4	Logs near 4 - 5 silhouettes	Engage groups of targets behind cover from 20 m
5	Stumps near a zigzag trench	Clear entry point and cover 25 m
6	Stumps near a wheeled-vehicle target on a track	Engage troops in halted, open wheeled vehicle from 25 m
7	Table	ID hand grenades by shape, coloring, markings and capabilities

No automation is required for this facility, and all targets/facades are fixed at required distances.

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones. Plan this training facility to fit the available topography, and make the trail a loop ending near where it started, but not so close that a

concluding class would interfere with a class starting to follow it around the course.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-23.30 Grenades And Pyrotechnic Signals (With Change 1) 15-OCT-09

20-MAY-10

TC 25-8 - Training Circular: Training Ranges, Page D-58

### 4. See Also

17139 Covered Training Area  
73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17139 Covered Mess  
73075 Latrine  
75061 Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit	
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 73075 CATCD 75061 CATCD 17139						
This is a Non-Live Fire range, although practice-fused grenades are used. A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B, or C).						



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to satisfy the training requirement of throwing live fragmentation hand grenades. This range familiarizes soldiers with the effects of live fragmentation grenades. No automation is required for this facility. Count each throwing location as one firing point (FP). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in the number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC, before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995: firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by  
throughput analysis overseen by the range manager and validated  
by the installation Directorate of Plans, Training and Mobilization  
(DPTM / G-3).

Planning UM:

- FP

Land area requirement: 5.8 AC = 2.4 HA, plus applicable safety  
area.

Follow FM 3-23.30 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is  
responsible for operation, management, scheduling, control, and  
maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per  
year for active components. National Guard Bureau plans for 173  
training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 4 throwing bays (approximately 50 m long berms)
- Sand-filled drums as “aiming points” (approximately 30 m from the “throw pits”)
- Observation pits
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

Ranges should boarder one another and share impact zones

### 2. Site Planning Considerations

Ranges should border one another and share impact zones. Steel, concrete, wooden revetments, or earthen berms 1.8 m high should separate the bays from one another and extend out 50 m. This permits practice to continue if a dud occurs within one of the bays.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-23.30 Grenades And Pyrotechnic Signals (With Change 1) 15-OCT-09

TC 25-8 - Training Circular: Training Ranges, Page D-60 20-MAY-10

### 4. See Also

17122 Range Operations And Storage Building  
17139 Covered Training Area  
73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122 Ammo Breakdown Building  
17139 Covered Mess  
73075 Latrine  
75061 Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit	
Mission	Bleacher Enclosure	B		726 / 1,078 SF (TRADOC)	No lower limit	
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit	
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit	
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<b>ASSIGN RATING / NOTES</b> CATCD 73075 CATCD 75061 CATCD 17139 CATCD 17122						

A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B or C).

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to meet training and qualification requirements of the 40 mm grenade launcher. This range is used to train and test Soldiers on the skills necessary to engage and defeat stationary target emplacements with the 40 mm grenade launcher. No automation is required for this facility. Count each prepared firing location as one firing point (FP). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program GLR ranges in acres (AC) while developing their requirements in number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires reasonably flat, open area for visual observation by those taking turns at the four FPs.

#### Planning UM:

- FP

Land area requirement: 4.94 AC = 2 HA.

Follow FM 3-23.31 and STP 21-1 SMCT in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The Army standard design for this range is shown in TC 25-8.

Table 17884-1 lists the targets at each station on this range.

Programming UM:

- FP

Table 17884-1 - Targets per Station				
	Station 1	Station 2	Station 3	Station 4
FP Name	Zero	Close Range - Kneeling	Mid Range - Standing	Long Range - Prone
FP Description	Sandbags for prone	Log wall, 4 feet high	Standard foxhole	Sandbags for prone
Nearest target	“Zero” target	Window facade	2-person bunker	“Zero” target
Target distance	200m	100 m	175 m	200 m
Middle target	“Zero” target	Small bunker	2-person bunker	Troops standing
Target distance	200m	125 m	175 m	250 m
Farthest target	N/A	N/A	Automatic weapon position	Troops in open
Target distance	N/A	N/A	200 m	350 m

No automation is required for this facility and all targets/facades are fixed at required distances

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for



the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-23.31 40MM Grenade Launchers M203 and M79	13-FEB-03
	18-JUNE-09
STP 21-1 SMCT Soldier's Manual of Common Tasks Skill Level 1	
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-62	

### 4. See Also

17122 Range Operations And Storage Building  
17123 Range Support Building  
17139 Covered Training Area  
17971 Observation Tower  
73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122 Ammo Breakdown Building  
17123 Range Operations Center, Small and Small AAR Building  
17139 Covered Mess  
73075 Latrine  
75061 Bleacher Enclosure  
17971 Range Tower

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit		CATCD 73075
Mission	Bleacher Enclosure	B		726 / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range “hot” safety flag (may be located A, B or C).			

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for the training and qualification of Soldiers to employ explosives and demolition charges. This range is used to train soldiers on the proper techniques of wire, minefield, and concrete obstacle breaching; timber and steel cutting; and road cratering. No automation is required for this facility. Count each prepared station as one firing point (FP). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges in acres (AC) while developing their requirements in number of FP for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into AC before developing programming documents.

#### Units of Measure:

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are

summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan a 100 m safety distance beyond the pentagonal training road, with an additional 500 m buffer zone. The three missile-proof shelters and the Class V issue storage bunker belong in the buffer zone. The land area requirement will depend on the above constraints and topography. Follow FM 5-250, FM 5-34, FM 5-102, and FM 20-32 in planning these ranges.

Planning UM:

- FP

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

Table 17885-1 lists the demolition stations of this range.

Programming UM:

- FP

Table 17885-1 - Light Demolition Stations		
Station Number	Width x Length	Description
1	10m x 20m	Minefield – surface or buried mines
2	See Note 1.	Steel cutting chamber
3	10m x 35m	Timber cutting – See Note 2.
4	10m x 30m	Concrete obstacle – use cubes or tetrahedrons
5	N/A	Road crater – refill after each use
6	7m x 20m	Wire – use one Bangalore kit
1. Provide overhead ledge to mount steel and concrete beams of varying widths and lengths		
2. Provide 8 concrete base supports (4 on each side of road) to support poles not larger than 36 cm = 14.2 inches nor longer than 10m = 32.8 feet		

This range requires no automation and no associated range operations/control facilities.

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and

vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 20-32 Mine/Countermining Operations (includes Changes 1-4)	02- FEB-04
	14-MAR-85
FM 5-102 Countermobility	15-JUN-92
FM 5-250 Explosives And Demolitions	11-JULY-07
FM 3-34.214 Engineer Field Data (includes Changes 1 and 2)	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-64	

### 4. See Also

17972 Observation Bunker (missile proof shelter)  
73075 Separate Toilet / Shower building  
17122 Range Operations and Storage Building

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

73075 Latrine  
17122 Ammo Breakdown building

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit	CATCD 73075
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<p>A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C). A CATCD, 17972 Observation Bunker(s), may be built, as required.</p>						

|

### 1. DA Pam 415-28 Description / Definition

A range designed for the destruction of dud ammunition and/or the testing of new types or quantities of explosives. This range is used by research, development, testing, and evaluation (RDT&E) or explosive ordnance disposal (EOD) personnel for testing, or to destroy dud ammunition by using additional high explosives or demolitions. No automation is required for this facility. Count each prepared station as one firing point (FP); if none, count one. No standard facilities are associated with this range.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in the RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training requirements for flash or flame-throwing weapons. This range is used to train Soldiers on the skills necessary to employ flash or flame-throwing weapons against stationary targets. No automation is required for this facility. Count each firing location as one FP. No standard facilities are associated with this range. This category is for existing and closed ranges only.

**Proponent:**

- DCS, G3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

**Units of Measure**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A range designed to meet the training and qualification requirements of combat engineer crews. This range is used to train and test engineer crews on the skills necessary to zero and/or boresight weapons systems, and to identify, classify, and reduce obstacles. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Count each firing position (FP) on the stationary firing line as one FP. Standard facilities associated with this range are the same as those listed in TC 25-8 for 17889, Engineer Qualification Range, Automated/Standardized.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### **1. DA Pam 415-28 Description / Definition**

A range designed to meet the training and qualification requirements of combat engineer crews. This range is used to train and test engineer crews on the skills necessary to zero and/or boresight weapons systems, and to identify, classify, and reduce obstacles. All targets are fully automated, and the event-specific target scenario is computer-driven and -scored from the range operations center. Count each firing position on the stationary firing line as one FP. Standard facilities associated with this range are listed in TC 25-8.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = FP
- Secondary UM = AC
- FAC UM = FP

**Planning Level:**

- Other-than-unit

### **2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

### **3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### **4. See Also**

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training individual infiltration and combat movement techniques, and then executing them while subject to live fire. No automation is required for this facility. Count each path or trail for a single Soldier as one lane (LN). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these courses as an each (EA) while developing their requirements as the number of LN for the units intended to use them.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range requires a footprint of approximately 50 m by 150 m, in addition to impact areas at the rear. Consult the Center of Standardization noted below for specific guidance relative to the mission and topographic constraints in planning a range for this type training.

Planning UM:

- LN

Land area requirement: 7 AC = 2.8 HA, plus applicable safety area.

Follow FM 7-93, FM 7-92, and AR / DA Pam 385-63 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 8 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

Programming UM:

- LN

- 3 live-fire machine gun (MG) positions with safety measures installed (to limit minimum and maximum vertical and horizontal fire)
- Array of barbed wire obstacles (2 minimum), demolition pits (9 minimum), craters, log obstacles (2 minimum), and foxholes with dummies
- Witness panel boots, light poles, telephones, tower, 2 butane MG simulators
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

Open range and conduct test firing of MGs before use to ensure that limiting stops are engaged.

### 2. Exceptions

None.

### 3. References

FM 7-92 The Infantry Reconnaissance Platoon And Squad (Airborne, Air Assault, Light Infantry)	23-DEC-02
	23-JUNE-09
FM 3-55.93 Long-Range Surveillance Unit Operations	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-66	

### 4. See Also

17122	Range Operations And Storage Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training individual and buddy/team fire and movement techniques. The team negotiates maneuver using cover and concealment techniques. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Count each path or trail for fire and movement as one lane (LN). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges in acres (AC) while developing their requirements as the number of LNs for the units intended to use them.

#### Units of Measure:

- Primary UM = LN
- Secondary UM = AC
- FAC UM = LN

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of February 1995, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.



Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
8 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by  
throughput analysis overseen by the range manager and validated  
by the installation Directorate of Plans, Training, and Mobilization  
(DPTM/G-3). This range requires a footprint that is approximately  
200 m wide by 150 m deep, in addition to an impact area. Follow  
FM 7-8 and TC 7-9 in planning these ranges.

Planning UM = LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is  
responsible for operation, management, scheduling, control, and  
maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. of daily training cycles)  
multiplied by (training days/year) ]

Note: WebRPLANS assumes 8 hours per day for 242 training days  
per year for active components. The National Guard bureau plans  
for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 4 lanes (53 m by 150 m), including natural  
vegetation and other forms of concealment

- 6 stationary infantry targets per lane
- 3-meter-high berms along each side of each lane
- Observer path meandering through the middle of each lane
- Adequate safety fan for impact zone per reference cited below
- Other facilities (as listed below under “See Also”)

## **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the U.S. Army Engineering and Support Center in Huntsville, Ala., for specific guidance relative to the mission and topographic constraints in planning a range of this type.

### **2. Exceptions**

None.

### 3. References

FM 3-21.8 Infantry Rifle Platoon And Squad	28-MAR-07
TC 25-8 - Training Circular: Training Ranges, Page D-68	20-MAY-10
TC 7-9 - Training Circular: Infantry Live-Fire Training	30-SEP-93

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

### 5. Notes

TC 25-8 uses different Facility Category Code names, as follows:

17122	Operations Storage
17122	Ammo Breakdown Building
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for training individuals and squads on defensive engagement techniques and mutually supporting fires. This range is used to train Soldiers on the skills necessary to designate sectors of fire, and to identify and provide suppressive fire on stationary infantry targets. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. Count each foxhole or firing point (FP) as one FP and one squad size range area as an each (EA). Standard facilities associated with this range are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3).

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program ranges as an EA while developing their requirements in the number of FPs for the units intended to use them. Before developing programming documents, convert the total area of the FPs plus target area plus impact area into acres (AC).

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA
- Other UM = FP
- FAC UM = EA
- Planning UM = FP
- Programming UM = FP

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available

FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit divided by annual FP-hours available. Annual FP-hours available = 12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). The references cited below do not include dimensional information. Follow FM 7-8 and TC 7-9 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## **D. Programmable Increments**

### **1. Standard Facilities**

The range includes:

- 5 (2-person) foxholes
- 31 stationary infantry targets
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

### **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report ranges in AC to make cost comparisons among projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Place only in Range land use.

### **2. Site Planning Considerations**

Ranges should border one another and share impact zones.

### **3. Other Facilities**

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the U.S. Army Engineering and Support Center in Huntsville, Ala., for additional guidance.

## 2. Exceptions

None.

## 3. References

FM 3-21.8 Infantry Rifle Platoon And Squad	28-MAR-07
TC 25-8 - Training Circular: Training Ranges, Page D-70	20-MAY-10
TC 7-9 - Training Circular: Infantry Live-Fire Training	30-SEP-93

## 4. See Also

17122	Range Operations and Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

## 5. Notes

TC 25-8 uses different facility category code names as follows:

17122	Operations Storage
17122	Ammo Breakdown Building
17123	Classroom Facility
17139	Covered Mess
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure



APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A complex designed for the training and qualification requirements of teams and squads on individual and collective tactics, techniques, procedures, and employment in tactical situations. This complex is used to train and test teams and squads on the skills necessary to conduct tactical movement techniques and to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Count each path or trail as one lane (LN). Standard facilities associated with this complex are the same as those listed in TC 25-8 for 17895, Automated Infantry Squad Battle Course.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. . This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A complex designed for the training and qualification requirements of teams and squads on individual and collective tactics, techniques, procedures, and employment in tactical situations. This complex is used to train and test teams and squads on the skills necessary to conduct tactical movement techniques, and to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer driven and scored from the range operations center. Count each path or trail as one lane (LN). Standard facilities associated with this complex are listed in TC 25-8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these courses as an EA while developing their requirements as the number of LNs for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from Standards in Training Commission (STRAC), and output from the Army Range Requirements Model (ARRM).

## 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). This range covers a trapezoidal shape 500 m across the “front” baseline and 1,000 m across the “back,” with a depth of from 1,000 m to 1,500 m, depending on topography. It requires substantial topographic features and natural vegetation that might require several years for development. The area includes five exercise areas, each with its own design, combination of targets, obstacles, etc.; and different training missions. A control tower supervises all activities and operates the fully automated scenarios across the range. Exercises include helicopter flight paths, so this range’s location must include considerations to avoid aircraft flying over the impact areas of other ranges.

Planning UM:

- LN

Land area requirement: 18.5 AC = 7.5 HA.

Follow FM 7-8, ARTEP 7-8-MTP, ARTEP 7-8 Drill, and TC 7-9 in planning these ranges.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- 1 moving armor target
- 6 moving infantry targets
- 6 stationary armor targets
- 20 stationary infantry targets
- 5 machine gun / observation bunkers (with sound effects simulators)
- 2 trench obstacles
- Helicopter landing areas
- Other facilities (as listed below under “See Also”)
- Adequate impact zone per reference cited below

Programming UM:

- EA

### 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

## 2. Site Planning Considerations

Ranges should border one another and share impact zones.

## 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-8 Drill Battle Drills for the Infantry Rifle Platoon and Squad	03-MAR-00
	03-MAR-00
ARTEP 7-8 MTP Mission Training Plan for the Infantry Rifle Platoon and Squad	28-MAR-07
FM 3-21.8 Infantry Rifle Platoon And Squad	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-71	30-SEP-93
TC 7-9 - Training Circular: Infantry Live-Fire Training	

**4. See Also**

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower
73075	Separate Toilet/Shower Building
75061	Grandstand/Bleachers

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122	Operations Storage
17123	Classroom Facility
17139	Covered Mess
17122	Ammo Breakdown Building
17971	Range Tower
73075	Latrine
75061	Bleacher Enclosure

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Observation Tower	A		657 SF	No lower limit		CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF, Small	No lower limit		CATCD 17122
Mission	Classroom Facility	B		800 SF	No lower limit		CATCD 17123 (Range Support Building)
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit		CATCD 75061
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
Mission	Ammo Breakdown	B		185 SF / (120 SF Enclosed)	No lower limit		CATCD 17122
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			



### 1. DA Pam 415-28 Description / Definition

A complex designed for the training and qualification requirements of infantry platoons, either mounted or dismounted, on movement techniques and operations. This complex is used to train and test platoons on the skills necessary to conduct tactical movement techniques, and to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. The standard range has four firing points counted as the four objective areas: intermediate, final, counterattack-1, and counterattack-2. Standard facilities associated with this complex are the same as those listed in TC 25-8 for 17897, Automated Infantry Platoon Battle Course.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A complex designed for the training and qualification requirements of infantry platoons, either mounted or dismounted, on movement techniques and operations. This complex is used to train and test platoons on the skills necessary to conduct tactical movement techniques and to detect, identify, engage, and defeat stationary and moving armor and infantry targets in a tactical array. All targets are fully automated, and the event-specific target scenario is computer-driven and scored from the range operations center. The standard range has four firing points (FP) counted as the four objective areas: intermediate, final, counterattack-1. and counterattack-2. Standard facilities associated with this complex are listed in TC 25–8.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these courses as an EA while developing their requirements as the number of LNs for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing programming documents.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

## 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
12 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The number of ranges planned for a base is determined by throughput analysis overseen by the range manager and validated by the installation Directorate of Plans, Training and Mobilization (DPTM / G-3). Plan this range as a wedge 500 m on the “front” baseline and 1,500 m on the “back,” with a depth of 4,000 m. At the “front,” include a helicopter landing zone, administrative area, control tower, and supporting facilities. Allow circulation, observation, and safety fan, per regulations. This range includes six areas, each with specific targets, features, and training assignments. They are spaced out across the highly varying topography, and include natural vegetation, clear landing zones, trench obstacles, mortar simulators, etc.

Planning UM:

- FP

Follow FM 7-8, ARTEP 7-8 Drill, ARTEP 7-8 MTP, FM 23-1, FM 3-20.8, and TC 7-9 in planning these ranges.

## 3. Assigning Space

### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

**b. Facility Utilization Metrics**

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 12 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

**D. Programmable Increments****1. Standard Facilities**

The range includes:

- 1 moving armor target
- 6 stationary armor targets
- 14 moving infantry targets
- 43 stationary infantry targets
- 9 machine gun bunkers (with sound effects simulators)
- 1 trench obstacle
- 1 assault/defend house
- 2 landing zones
- Other facilities (as listed below under “See Also”)
- Adequate safety fan for impact zone per reference cited below

Programming UM:

- FP

**2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report courses in AC to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Place only in Range land use.

**2. Site Planning Considerations**

Ranges should border one another and share impact zones.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-8 Drill Battle Drills for the Infantry Rifle Platoon and Squad	03-MAR-00
	03-MAR-00
ARTEP 7-8 MTP Mission Training Plan for the Infantry Rifle Platoon and Squad	28-NOV-03
FM 23-1 Bradley Gunnery	15-AUG-05
FM 3-20.8 Scout Gunnery	28-MAR-07
FM 3-21.8 Infantry Rifle Platoon And Squad	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-73	30-SEP-93
TC 7-9 - Training Circular: Infantry Live-Fire Training	

### 4. See Also

17122	Range Operations And Storage Building
17123	Range Support Building
17139	Covered Training Area
17971	Observation Tower

73075 Separate Toilet/Shower Building  
75061 Grandstand/Bleachers

### **5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
17123 Classroom Facility  
17139 Covered Mess  
17122 Ammo Breakdown Building  
17971 Range Tower  
73075 Latrine  
75061 Bleacher Enclosure



### 1. DA Pam 415-28 Description / Definition

A facility for low-level collective training using live fire or the Multiple Integrated Laser Engagement System (MILES). This facility is used for training specific tasks before training on unit proficiency MOUT sites (in other words, CATCDs 17878/79/80, and 17901). Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. Count each station as one firing point (FP). Standard facilities associated with this facility are the same as those listed in TC 25-8 for 17878, Urban Assault Course.

**Proponent:**

- DCS, G3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in WebRPLANS. This facility category code is not used if an installation has a standard range.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A facility designed for training up to a battalion-size element in an urban area. This facility allows the user to develop the skills and unit cohesiveness necessary to conduct clearing, breaching, and offensive and defensive operations in an urban setting. All targets are fully automated, using event-specific, computer-driven target scenarios and scoring. Targets will receive and transmit digital data from the range operations center. The captured data are then compiled and available to the unit during the AAR. Standard facilities associated with this range are listed in TC 25–8. Report this category in AC and EA, where 1 EA represents the entire CACTF. Live fire is prohibited.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in square feet (SF) for the total amount of buildings space, and in acres (AC) for the total amount of area one each (EA) CACTF represents..

#### Units of Measure:

- Primary UM = SF
- Secondary UM = AC
- FAC UM = SF

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The existence of a division or maneuver brigade stationed at an installation forms the basis of this allowance.

### 2. Programmatic Application

As of April 2003, RPLANS generates an allowance of one Military Operations on Urban Terrain (MOUT)-type facility if a division or a maneuver brigade is stationed at an installation.

The number of ranges allowed = 0 or 1, depending on units stationed at the installation. One is the maximum allowance.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

This range includes a footprint of 1,500 m by 1,500 m plus support facilities. No live-fire exercises are allowed, so no safety zone or impact zone is required. Helicopter flight paths must not cross the safety zones of other ranges.

Planning UM:

- EA

Follow TC 90-1 and FM 3-22.9 in planning this specialized facility.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

Programming UM:

- EA

Facilities include (one each):

- School (two stories with soccer field, parking lots, etc.)
- Church with cemetery
- Police station with jail
- Hotel
- Townhouse
- Bank
- Government building

- Office building (one story)
- Office building (three stories)
- Service station

Multiple facilities include:

- 2 warehouses
- 4 businesses
- 9 residences
- A tunnel and sewer system

Other features include:

- Town “shanty”
- Farmhouse
- Clinic
- Radio Station
- Mock Power Station
- Military/POW Compound
- Breachable walls, fences, “loopholes,” “mouse holes”
- Street network of one- and two-lane primary, secondary, local, and service roads and alleyways
- Training buildings of one, two or three stories, some with basements, with sloped and flat roofs of different shingle materials
- Open areas for:
  - Mock airfield and facilities
  - city dump or junkyard
  - open-air market
  - city park

Targets (all recommended radio frequency controlled and reconfigurable). include:

- 30 precision human urban targets
- 15 stationary infantry targets
- 9 stationary armor targets

Support facilities (as listed below under “See Also”).

## **2. Programming Units**

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report these facilities in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use. This facility should be located with other training facilities that do not require safety fans.

### 2. Site Planning Considerations

This range includes extensive construction, including functioning power and water utilities (not sewer - several 73075 Separate Toilet/Shower Building(s) are required at designated locations throughout the range).

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.9 Rifle Marksmanship M16A1, 10-FEB-11  
M16A2 / 3, M16A4, and M4 Carbine  
(Including C-1 thru C-4)

TC 25-8 - Training Circular: Training Ranges, 20-MAY-10  
Page D-75

TC 90-1 - Training Circular: Training for 19-MAY-08  
Urban Operations

**4. See Also**

17122 Range Operations And Storage Building  
17123 Range Support Building  
17139 Covered Training Area  
73075 Separate Toilet/Shower Building

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
17123 After Action Review (AAR) Building, CACTF, 4,176 SF  
17139 Covered Mess  
73075 Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX							
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	After Action Review	A		4,176 SF / CACTF RPC/AAR	No lower limit		CATCD 17123 (Range Support Building)
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF	No lower limit		CATCD 17122
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A structure that holds water and is used to conduct proficiency training for divers under controlled conditions before training in open water. This structure differs from a swimming pool because it is typically aboveground, is much deeper, has a smaller surface area, is made of metal, and has no possibility for recreational use. Count each structure as 1 EA.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A nonfiring range that is used to teach soldiers how to detect personnel on the battlefield under varying degrees of concealment and visibility. No automation is required for this range. No standard facilities are associated with this range. This category is for existing and closed ranges only.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed for boresight, calibration, and verification of the 30 mm cannon on the AH-64 Apache. No automation is required for this range. No standard facilities are associated with this range. This category is for existing and closed ranges only.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of firing points (FPs) for the units intended to use them. Then convert the total area of the FPs plus target area plus impact area into acres (AC), before developing programming documents. An EA is defined as one range.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, firing point utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual FP-hours. The number of FP-hours required annually by a particular type of unit is divided by average available FP-hours to determine an FP utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of FPs allowed at the installation.

Unit FP utilization factor = annual FP-hours required by unit  
divided by annual FP-hours available. Annual FP-hours available =  
14 hours/day times 242 training days/year.

Number of FP allowed = sum of unit FP utilization factors.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Plan this range with a footprint per lane (LN) of approximately 100 m wide by 1,500 m deep. A LN has areas for both a vehicle (synch ramp) and a helicopter (hover point)

Planning UM:

- LN

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual FP-hours required by all units ]  
divided by  
[ (No. of FPs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

- Each LN has 1 vehicle synch ramp and 1 hover point
- 8 stationary infantry targets (SITs)
- 8 Stationary armor targets (SATs)
- 8 boresight panels
- Other facilities (as listed below under “See Also”)

Programming UM:

- LN

## 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

This range does not require a safety fan.

### 3. Other Facilities

This range uses the standard armor range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery	03-SEP-09
FM 3-22.3 STRYKER Gunnery	09-MAR-06
FM 3-04.140 Helicopter Gunnery	17-APR-06
TC 25-8 - Training Circular: Training Ranges, Page D-82	20-MAY-10

**4. See Also**

17139 Covered Training Area  
17971 Observation Tower  
73075 Separate Toilet / Shower Building

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17139 Covered Mess  
17971 Range Tower  
73075 Latrine

APPENDIX F – SUPPORTING FACILITY MATRIX						
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	
Mission	Observation Tower	A		657 SF	No lower limit	CATCD 17971 (Range Tower)
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit	CATCD 73075
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

A CATCD 69010, Flagpole, is required for display of range "hot" safety flag (may be located A, B or C).

### 1. DA Pam 415-28 Description / Definition

A range designed to support the training and qualification requirements of helicopter gunnery. This range is used to train and test helicopter crews on the skills necessary to detect, identify, engage, and hit stationary armor and infantry targets in a tactical array. This range does not require automation, but does require video surveillance of the target area. Standard facilities are not required for this range. This category is for existing and closed ranges only.

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This facility category code is not used if an installation has a standard range.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A range designed to support the training and qualification requirements of helicopter gunnery. This range is used to train and test helicopter crews on the skills necessary to detect, identify, engage, and hit stationary armor and infantry targets in a tactical array. All targets support the Aerial Weapons Scoring System (AWSS). Standard facilities are not required for this range.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None

Complex:

- None

### 4. Units of Measure

Report and program these ranges as an each (EA) while developing their requirements as the number of lanes (LN) for the units intended to use them. Then convert the total area of the LNs plus target area plus impact area into acres (AC) before developing programming documents.

Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

The allowance is based on the presence and number of units that need to qualify on this range, plus input from the Army Training Support Center (ATSC).

### 2. Programmatic Application

As of April 2003, lane utilization requirements for specific types of units are provided by the ATSC and are expressed in numbers of annual LN-hours. The number of LN-hours required annually by a particular type of unit is divided by average available LN-hours to determine an LN utilization factor for that unit. The utilization factors for all units stationed at an installation are summed to determine the total number of LNs allowed at the installation.

Unit LN utilization factor = annual LN-hours required by unit  
divided by annual LN-hours available. Annual LN-hours available  
= 14 hours/day times 242 training days/year.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

This range complex requires a minimum area of 4,000 m (4 km) wide (baseline) by 6,000 m (6 km) deep. An additional alternate (objective) area depth of 3,000 m (3 km) is allowed, expanding out to a width of 6,000 m (6 km). The total range footprint (in addition to space in front of the baseline) falls between 24 square km and a larger area of 54 square km.

Planning UM:

- EA

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

[ Sum of annual LN-hours required by all units ]  
divided by  
[ (No. of LNs) multiplied by (No. daily training cycles) multiplied  
by (training days/year) ]

Note: RPLANS assumes 14 hours per day for 242 training days per year for active components. National Guard Bureau plans for 173 training days per year.

## D. Programmable Increments

### 1. Standard Facilities

The minimum training standard area of 4 km by 6 km includes:

- 2 course roads with midpoint crossover capability
- 50 stationary armor targets (SATs)
- 8 moving armor targets
- 246 stationary infantry targets (SITs) (35 clusters at 6 SITs each and 3 SITs per facade)

Programming UM:

- EA



- 35 moving infantry targets (one per SIT cluster)
- 12 facades
- 4 stationary 3-D diving fire targets (may be located in objective areas, if available)
- 1 convoy live fire lane (extends into objective area A, if available)
- 12 aerial firing positions (some may be placed in the objective area)
- 1 Air/Ground Integration Village (13 structures – standard mix of multistory modular construction [nonlive-fire village] surrounded by modular structures to enable live-fire engagement by aviation assets)
- If range depth extends beyond 6 km, an **alternative (objective) area** of 1 km lateral extension on both sides of threshold, and a 3 km extension in depth (total depth 9 km). Alternate objective area includes:
  - 15 SATs
  - 2 moving armor targets
  - 60 SITs (10 clusters with 6 SITs each)
  - 10 moving infantry targets (one per SIT cluster)
  - 1 urban cluster (5-7 buildings; live fire within the facility by aviation assets). May be placed in main area if no area is available because of terrain limitations.
  - Static targets (to support indirect fire/close air support [CAS] engagements)

## 2. Programming Units

Programming documents report complexes in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use.

### 2. Site Planning Considerations

Ranges should boarder one another and share impact zones.

### 3. Other Facilities

This range uses the standard aviation range operations and control area facilities.

These ranges use thermal targets, muzzle flash simulators, and hostile-fire/target-kill simulators. The location of the boresight target and weapon harmonization target must be coordinated with the trainer.

Gunnery tasks requiring the use of dud-producing ammunition cannot be fired on this complex.

Target emplacement must enable protection and resilience from training munitions fired from diving-fire angles of 15 to 30 degrees.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

ARTEP 7-20 MTP Mission Training Plan for the Infantry Battalion	27-NOV-01
ARTEP 71-2 Mission Training Plan for the Tank and Mechanized Infantry Battalion Task Force	03-MAR-00
ARTEP 1-111 Mission Training Plan for the Aviation Brigades	27-OCT-05
ARTEP 1-113 Mission Training Plan for the Assault Helicopter Battalion	29-DEC-05
ARTEP 1-118 Mission Training Plan for the General Support aviation Battalion	17-JAN-06

ARTEP 1-126 Mission Training Plan for the Attack Reconnaissance Helicopter Battalion/Squadron 8-MAR-06 FM 3-04.111 Aviation Brigades	07-DEC-07
FM 3-04.140 Helicopter Gunnery	14-JUL-03
FM 3-20.21 Heavy Brigade Combat Team (HBCT) Gunnery 03-SEP-09	15-AUG-05
TC 25-8 - Training Circular: Training Ranges, Page D-84	20-MAY-10

#### 4. See Also

17122 Range Operations and Storage Building  
17123 Range Support Building  
17139 Covered Training Area  
17971 Observation Tower  
73075 Separate Toilet / Shower Building  
75061 Grandstand / Bleachers  
17720 Maneuver/Training Area, Heavy Forces  
85212 Staging/Marshaling Area

#### 5. Notes

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
17123 After Action Review (AAR) Building  
17139 Covered Mess  
17971 Range Tower  
73075 Latrine  
75061 Bleacher Enclosure  
17720 Bivouac Area  
85212 Unit Staging Area

APPENDIX F – SUPPORTING FACILITY MATRIX								
SUPPORTING FACILITY		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY				ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS		
Mission	Observation Tower	A		657 SF / Non-Instrumented	No lower limit			
Mission	Latrine	B		330 SF (aerated) 550 SF (water)	No lower limit			
Mission	Operations Storage	B		800 SF	No lower limit			
Mission	After Action Review	B		1,064 SF, Small / 960 SF Enclosed	No lower limit			
Mission	Bleacher Enclosure	B		726 SF / 1,078 SF (TRADOC)	No lower limit			
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit			
Mission	Ammo Loading Dock	B		283 SF	No lower limit			
Mission	Bivouac Area	C		AC / As Required	No lower limit			
Mission	Unit Staging Area	C		SY / As Required	No lower limit			
Presence Requirements for Adequacy:								
A - Required, Collocated								
B - Required, Adjacent								
C - Required, Vicinity								
D - Not required, if present collocated								
E - Not required, if present: adjacent or vicinity								
F - Occupant Dependent								
A CATCD 69010 Flagpole, is required for display of range “hot” safety flag (may be located A, B, or C)								

### 1. DA Pam 415-28 Description / Definition

A range designed to support the training and qualification requirements of close air support-type aircraft. This range is used to train and test aircraft crews on the skills necessary to provide air support to ground forces under varying conditions. This range does not require automation, but does require video surveillance of the target area. Standard facilities are not required for this range.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. Contact the Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A range designed to support the training and qualification requirements for fixed-wing aircraft dropping their ordnance. This range is used to train and test aircraft crews on the skills necessary to detect and suppress enemy targets in a tactical array. This range does not require automation, but does require video surveillance of the target area. Standard facilities are not required for this range.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. Contact the Army Training Support Center (ATSC) for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure containing a circle of sand or sawdust for training in hand-to-hand fighting. It can be located close to or in the cantonment area, or in the training area.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure, typically fenced in with barbed wire, and with guard towers, used for training personnel in the handling of prisoners of war (POW). The facility may also be used for training personnel in a simulated POW environment. It can be located close to or in the cantonment area.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A structure designed for developing individual soldier confidence and strength through a series of obstacles. No automation is required for this facility. A Separate Toilet/Shower Building (73075) and a Range Operations and Storage Building (17122) are associated with the facility. Count each complete course as 1 EA.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility designed for developing leadership, teamwork, and confidence through a series of obstacles. No automation is required for this facility. A Separate Toilet/Shower Building (73075) and a Range Operations and Storage Building (17122) are associated with the facility. Count each complete course as 1 EA.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A cleared area for training soldiers in the placement, arming, disarming, and detection of vehicle and antipersonnel mines using nonexplosive training materials. Any open area with soil suitable for digging shallow holes for the placement of the mines would be satisfactory.

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

**1. DA Pam 415-28 Description / Definition**

An area for teaching basic driving skills, and for practice in four-wheel drive situations, parking, and backing up.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

**4. See Also**

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

An area used for teaching the basic driving skills of steering and gear shifting on a level course. The facility may also contain a hilly course for developing advanced tracked vehicle driving skills, such as turning on slopes and negotiating steep grades.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

**1. DA Pam 415-28 Description / Definition**

An area containing sand, or areas close to a beach for training military personnel on the special driving, technical, and tactical tasks associated with amphibious operations.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

**4. See Also**

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A mockup of a ship used for training personnel in ship loading and unloading. Training can include negotiating cargo nets used during amphibious operations, and operations at dockside.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A ramp and platform structure used to simulate varying types of fixed and rotary-wing cargo-carrying aircraft. The structure allows for the loading, securing, and unloading of vehicles, equipment, and personnel.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.



**1. DA Pam 415-28 Description / Definition**

A structure consisting of low platforms built above a sandy landing area for practicing parachute landing falls.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**4. See Also**

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure that simulates the deceleration experienced when a parachute opens during a jump. It consists of a canopy area and a platform.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure with a mockup of an aircraft door that is used to train future paratroopers in the proper techniques for exiting aircraft.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An area consisting of a fording site in which a vehicle can be submerged under 10 to 12 feet of water. Generally, the vehicles drive into slow-moving water on steel or other hard-surface mats, and are supported by telescoping snorkels for air intake and vehicle exhaust. The site is used to test fording kits, and to train personnel in their use.

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A training site used for various types of proficiency and sustainment training by rotation through different stations in a round-robin scenario. Types of training can include nuclear, biological, and chemical (NBC), and common task training. This site is separate from other sites.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A training area that includes at least one structure used by soldiers to practice rappelling (rope descent). The training area may also include modified towers for training in helicopter rappels.

#### Proponent:

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

An area for training soldiers in the placement, clearing, compaction, repair, and grading of fill, and the construction of drainage structures for roads and Army airfields capable of handling C-130 aircraft. Steel mats or other nonbituminous mats may be used. If the road is an actual portion of the installation's network of training area roads, it should be inventoried as a Training Area Roads, Unpaved (85715). If the airfield is actually used by aircraft, it should be inventoried as an unpaved airfield facility using appropriate 100-series (Airfield Pavements) CATCDs.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure designed to provide an unobstructed view of a target area from above ground level. Towers are used to spot impacts from rounds. This structure does not require automation. Standard facilities are not required for this structure. This category also should be used for the tower supporting a Range Operations and Storage Building (17122).

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A structure designed to provide a protected view of a target area from ground level. Bunkers are used for close observation of artillery impacts. This structure does not require automation. Standard facilities are not required for this structure.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A cleared area beside a ditch or ravine where engineer units practice building timber bridges.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A cleared area beside a creek or ravine where engineer units practice building panel bridges. Panel bridges include Bailey bridges and medium girder bridges.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A cleared area beside a creek or ravine used for erecting and retrieving armored vehicle launch bridges (AVLBs).

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A cleared riverbank area where engineer units practice fording water obstacles, and practice erecting and retrieving floating bridge equipment.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An unimproved area for training engineer units in pipeline construction around obstacles such as rivers, creeks, and ravines.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

An area that provides open space for military ceremonies, outdoor training, and conducting physical tests and exercises.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

**4. See Also**

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a mockup of a multistory building for training in fire containment, ladder use, and escape and rescue from buildings.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.





### 1. DA Pam 415-28 Description / Definition

A partially improved area for performing water purification and storage operations. It should be located on a flowing stream with firm banks, and be accessible via all-weather roads.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A cleared area used to train soldiers in the fundamentals of selecting and securing a site suitable for takeoffs and parking of rotary-wing aircraft.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An unimproved area for training in the placement, compaction, and grading of fill, and for training in the construction of drainage structures. Training in the use and maintenance of rock crushers is also conducted at this facility.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

An area consisting of a pit filled with rock, with an attached rock-filled sump to a drain bed. This structure is used primarily for vehicle decontamination training.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A materials-handling area for training personnel in the proper handling of petroleum, oils, and lubricants.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. .

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

**1. DA Pam 415-28 Description / Definition**

An area consisting of a concrete drying pad with sump, clothesline posts, and drying lines.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. . The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**4. See Also**

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A large, flat, cleared area where personnel land after a parachute jump, and where equipment is dropped from aircraft.

**Proponent:**

- DCS, G-3

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

**Planning Level:**

- Other-than-unit

**4. See Also**

See 178xx and 179xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

An area used as physical education training facilities at the United States Military Academy (USMA) at West Point. These facilities are used for the fitness development program of instruction at the Academy. This CATCD is for use only by the USMA.

**Proponent:**

- DCS, G-1

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A training area consisting of erect telephone poles for teaching proper pole climbing and descending techniques.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility containing numerous obstacles designed for developing and measuring individual soldier speed, agility, and coordination using various obstacles in an effort to reach the objective. No automation is required for this facility. No standard facilities are associated with this facility.

**Proponent:**

- DCS, G-3

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A nonstandard training facility that typically includes the buildings, roads, and sidewalks normally found in an urban environment, and that is used to train and sustain unit proficiency in an urban environment. This facility is used to train urban-type operations when a standard CACTF is not available. No automation is required for this facility. No standard facilities are associated with this facility.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = AC
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. Based on similar facility category codes, RPLANS allows one Military Operations On Urban Terrain (MOUT) facility per installation, if the installation hosts a division or maneuver brigade.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A training range designed to meet the training requirements of an infantry company-size unit in an urban environment. This structure contains 24 buildings or fewer, and is used to train unit collective tasks associated with urban terrain. Targets are not fully automated and/or the scenarios are not computer-driven or -scored. No standard facilities are associated with this facility.

### 2. Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in square feet (SF) for the total amount of building space in acres (AC) for the total amount of area one each (EA) CTF represents. One EA CTF consists of 16 buildings occupying approximately 1.5 AC in an urban sprawl scenario.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = AC
- FAC UM = SF

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

This facility is allowance equals assets.

### 2. Programmatic Application

As of April 2003, RPLANS generates an allowance of one Military Operations on Urban Terrain (MOUT)-type facility if a division or a maneuver brigade is stationed at an installation.

Number of ranges allowed = 0 or 1, depending on units stationed at the installation. One is the maximum allowance.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

This range includes a footprint of 1,500 m by 1,500 m, plus support facilities. No live-fire exercises are allowed, so no safety zone or impact zone is required. Helicopter flight paths must not cross safety zones of other ranges.

Planning UM:

- EA

Follow TC 90-1 and FM 3-22.9 in planning this specialized facility.

### 3. Assigning Space

#### a. Guidance

Ranges are assigned to the installation range manager, who is responsible for operation, management, scheduling, control, and maintenance.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

The range includes:

Programming UM:

- EA

Facilities include (one each):

- School (two stories with soccer field, parking lots, etc.)
- Church with cemetery
- Police station with jail
- Hotel
- Townhouse
- Bank
- Warehouse
- Government building
- Office building (one story)
- Office building (three stories)

- Service station

Multiple facilities include:

- 3 businesses
- 3 residences
- A tunnel and sewer system

Other features may include:

- Town “shanty”
- Farmhouse
- Clinic
- Radio Station
- Mock Power Station
- Residence/Office Building Rubble (battle damage, optional)
- Military/POW Compound
- Breachable walls, fences, “loopholes,” “mouse holes”
- Street network with one- and two-lane primary and secondary local, service roads and alleyways
- Buildings (one, two or three stories), some with basements, with mix of sloped and flat roofs of different shingle materials
- Open areas for:
  - Mock airfield and facilities
  - City dump or junkyard
  - Open-air market
  - City park

Targets (all recommended radio frequency controlled and reconfigurable). include:

- 20 precision human urban targets
- 10 stationary infantry targets
- 9 stationary armor targets

Support facilities (as listed below under “See Also”)

## 2. Programming Units

Bases or installations program complete ranges in increments noted under standard facilities. Programming documents report these facilities in AC to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Place only in Range land use. This facility should be located with other training facilities that do not require safety fans.

### 2. Site Planning Considerations

This range includes extensive construction, including functioning power and water utilities (not sewer). Several 73075 Separate Toilet/Shower Building(s) are required at designated locations throughout the range.

### 3. Other Facilities

This range uses the standard small-arms range operations and control area facilities.

CATCD 85211, Organizational Vehicle Parking, Unpaved, is required at most training ranges as on-site parking for military vehicles, ambulances, troop transports, ammunition carriers, and vehicle-mounted weapon systems. Range managers are to plan for the appropriate level of military parking required to support range activities based on the size of the largest unit utilizing the range.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

### 2. Exceptions

None.

### 3. References

FM 3-22.9 Rifle Marksmanship M16A1, M16A2 / 3, M16A4, AND M4 Carbine (Including C-1 thru C-4)	10-FEB-11
	20-MAY-10
TC 25-8 - Training Circular: Training Ranges, Page D-78	
	19-MAY-08
TC 90-1 - Training Circular: Training for Urban Operations	



**4. See Also**

17122 Range Operations and Storage Building  
17139 Covered Training Area  
73075 Separate Toilet/Shower Building

**5. Notes**

TC 25-8 uses different Facility Category Code names as follows:

17122 Operations Storage  
17123 After Action Review (AAR) Building, CACTF, 4,176 SF  
17139 Covered Mess  
73075 Latrine

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	After Action Review	A		4,176 SF / CACTF RPC/AAR	No lower limit		CATCD 17123, Range Support Building
Mission	Latrine	B		330 SF (aerated) 550 SF (Water)	No lower limit		CATCD 73075
Mission	Operations Storage	B		800 SF	No lower limit		CATCD 17122
Mission	Covered Mess	C		800 SF / 1,413 SF (TRADOC)	No lower limit		CATCD 17139
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
				A CATCD 69010, Flagpole is required for display of range "hot" safety flag (maybe located A, B or C).			

### 1. DA Pam 415-28 Description / Definition

A training range designed to meet the training requirements of an infantry battalion-size unit in an urban environment. This structure contains more than 24 buildings, and is used to train unit collective tasks associated with urban terrain. Targets are not fully automated, and/or the scenarios are not computer-driven or -scored. No standard facilities are associated with this facility.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category code. Based on similar facility category codes, RPLANS allows one MOUT facility per installation if: the installation hosts a division or maneuver brigade.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = AC
- FAC UM = SF

### 4. See Also

See 178xx and 179xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An area located within the training complex that is scheduled and used primarily for mounted and/or dismounted map reading, terrain association, and navigational training.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

**Planning Level:**

- Other-than-unit

### 4. See Also

See 178xx and 179xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A specific area intended for the training of personnel or animals in a field environment. Training conducted in the area may include medical, K-9, or communications equipment. Maneuver land should not be included in this category; separately classify maneuver in the 177 basic series.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 178xx and 179xx for related facility category codes.

## A. Reporting

### 1. DA PAM 415-28 Description/Definition

A building that provides consolidated multipurpose space for the maintenance, repair, and major overhaul of military aircraft; it may include maintenance bays, tech supply, production control, and quality control areas directly related to the maintenance and supervision of aircraft; component and assembly rebuilding; and quality control of aviation maintenance.

Use this category for organizational, installation-level, or depot-level maintenance, including aviation unit maintenance and aviation intermediate maintenance. Also use this category for the Reserve Component Army aviation support facility, and for the maintenance hangar in an Aviation Classification and Repair Depot.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Mobile District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- Mobile

### 3. Complex

The Aircraft Maintenance Hangar is part of the Aviation Unit Complex.

#### Complex:

- Aviation Unit

Refer to Chapter 4 for more information on the Aviation Unit Complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Planning: VE

#### Units of Measure:

Primary UM = SF  
Secondary UM = None  
FAC UM = SF  
Planning UM = VE

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3.

### 5. Functional Areas

See subsection F.2 on page 21110-14 for a discussion of facility categories related to this CATCD.

Required functional areas for aircraft maintenance hangars depend upon the type of BN. Three separate tables describe these differing requirements. A fourth table describes the functional areas common to all aircraft maintenance hangars.

See the three functional adequacy matrices following this facility category discussion for the three different types of BN. Not all functional areas apply to all battalions. Table 21110-1 shows all functional areas by major hangar area, and indicates with an “X” which functional areas apply to each battalion.

AAC – Attack, Assault, or Cavalry BN

ASB – Aviation Support BN

GSAB – Ground Support Aviation BN

Table 21110-1: Hangar Functional Areas				
Functional Area	Type	AAC	GSAB	ASB
<b>AIRCRAFT MAINTENANCE BAY</b>				
AH-64D	Mission	N/A	N/A	X
CH-47 Module	Mission	N/A	X	X
Interior Tow Lane & Hangar Doors	Mission	X	X	N/A
OH-58 Module	Mission	N/A	N/A	X
Perimeter 5'W Safety Lane	Mission	X	X	X
UH/HH- 60 Module	Mission	X	X	X
<b>AIRCRAFT MAINTENANCE SHOP SPACE</b>				
Aircraft Component Repair Platoon HQ	General	X	X	N/A
Aircraft Maintenance Platoon HQ	General	X	X	X
Armament Subsystem	Mission	N/A	X	X
Avionics/Electrical Repair	Mission	X	X	X
Avionics Float Equipment/COMSEC Storage	Mission	N/A	N/A	X
Battery Room	Mission	N/A	N/A	X
CH-47 Repair Section	Mission	N/A	X	N/A
EEFT/EOTF	Mission	N/A	N/A	X
Electrical	Mission	N/A	X	X
Fuel Service and POL	Mission	N/A	X	X
Machine Shop	Mission	N/A	N/A	X
Night Vision Device	Mission	N/A	N/A	X
Non-Destructive Inspection	Mission	N/A	N/A	X

Table 21110-1: Hangar Functional Areas

Functional Area	Type	AAC	GSAB	ASB
Pneudraulics Repair	Mission	X	X	X
Power Plant	Mission	X	X	X
Power Train	Mission	X	X	X
Production Control	Mission	X	X	X
Quality Control, Quality Assurance	General	X	X	X
Structural Repair (Airframe)	Mission	X	X	X
Technical Assistance Rep (LARS/CLS)	General	X	X	X
Technical Library	Mission	X	X	X
UH-60 Repair Section	Mission	X	X	N/A
Welding	Mission	N/A	N/A	X
<b>AIRCRAFT MAINENANCE SUPPORT SPACE</b>				
Accessory Equipment Storage	Mission	N/A	N/A	X
Arms Vault (Aircraft Mounted)	Mission	N/A	N/A	X
Bench Stock	Mission	N/A	N/A	X
Break Room	General	X	X	N/A
Bulk POL Storage	Mission	N/A	N/A	X
Contractor Logistical Support	General	X	X	X
Controlled Waste Facility	Mission	N/A	N/A	X
Exterior Covered Storage	Mission	X	X	N/A
Hangar Parts Storage	Mission	X	X	X
Hazardous/Flammable/Oil Storage	Mission	X	X	X
Hazardous Waste Storage	Mission	X	X	N/A
Non-Sensitive Secure Storage (Aircraft Systems)	Mission	N/A	N/A	X
S-280 Aircraft Maintenance Shelter	Mission	X	X	N/A
Special Tool Room	Mission	X	X	X
<b>ADMINISTRATIVE CORE</b>				
Aviation Life Support Equipment Shop	Mission	X	X	X
Aviation Ops Break Room	General	X	X	N/A
Briefing Room	Mission	X	X	N/A
Crew Chief Work Room	General	X	X	N/A
Flight Operations	General	X	X	N/A
Flight Planning	Mission	X	X	N/A
Maintenance Test Pilots	Mission	X	N/A	X
Pilot Work Room	General	N/A	X	N/A
Secure Planning Room	Mission	X	X	N/A
<b>COMPANY ADMIN/READINESS AREA</b>				
1st Sergeant	General	X	X	N/A



Table 21110-1: Hangar Functional Areas

Functional Area	Type	AAC	GSAB	ASB
ADP Support Activities	Mission	N/A	N/A	X
Arms Vault, Aircraft Mounted Weapons	Mission	X	X	N/A
Arms Vault, Individual Weapons	Mission	X	X	N/A
Aviation Safety Officer	General	X	X	X
Aviation Standardization Officer	General	X	X	N/A
Aviation TAC Ops Officer	General	X	X	N/A
Commander	General	X	X	N/A
Common ADP Space	Mission	N/A	N/A	X
Company Readiness Storage	Mission	X	X	N/A
Distributed Computer Based Training Room	General	X	X	X
Medical Equipment and Supplies	Mission	N/A	X	N/A
Multipurpose/Break/conference	General	X	X	X
Orderly Room Air Ambulance Co	General	N/A	X	N/A
Orderly Room Aviation Support Co	General	X	X	N/A
Orderly Room Command Aviation Co	General	N/A	X	N/A
Orderly Room Each Flying Company	General	X		N/A
Orderly Room Heavy Helicopter Co	General	N/A	X	N/A
Printer Copier Area	General	N/A	N/A	X
Secure Storage/NBC /COMM Equip/Consumables	Mission	X	X	N/A
<b>SUPPORT SPACES</b>				
Facility Maintenance and Storage	Mission	X	X	X
Locker Room	Support	N/A	N/A	X
Restrooms and Showers	Support	X	X	X

See the functional adequacy matrices following this facility category discussion.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow aircraft maintenance hangars for battalions of aviation brigades with fixed wing or rotary wing aircraft by BN type. The criteria allow one hangar per aviation BN that has both aircraft and maintenance personnel. The criteria also allow this building to units or organizations having the mission and capability to perform aviation intermediate or higher levels of maintenance and repair. The size of the hangar is a function of the number of supported aircraft and the number of companies using the building.

## 2. Programmatic Application

RPLANS calculates allowances based on the number and type of aircraft assigned.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The calculation for facility category code 21110 is the sum of the calculations for the functional areas. The calculation depends on the number and type of supported aircraft, the number and work locations of personnel, whether the unit performs aviation unit maintenance (AVUM), aviation intermediate maintenance (AVIM), or both.

#### a. Calculations for Hangar Floor Space

Hangar floor space is based on providing structural bay modules for 25 percent of authorized aircraft for aviation battalions, and 10 percent of supported aircraft for aviation support battalions. Separate aviation companies are allowed structural bays for 10 percent of each type of airframe.

Table 21110-2 shows the floor footprint required in the hangar bay for the different aircraft. The module provides space for the aircraft rotors to remain in the normal position (i.e., not folded) with a safety buffer of 5 feet beyond the tips of rotors, and a 10-foot separation along the perimeter of the hangar floor work area.

Table 21110-2 Aircraft Module Size			
Aircraft Type	Module Length (FT)	Module Width (FT)	Module Area (NSF)
UH-60, AH-64, OH-58	84	64	5,376
CH-47	110	70	7,700

Determine the hangar floor space by multiplying the authorized number of aircraft-maintenance spaces by the quantity of the aircraft module area, or “footprint,” for each type of aircraft.

#### b. Functional Area Calculations

Table 21110-3 lists the NSF for each functional area in an aircraft maintenance hangar by battalion type. The areas represented are

for standardized facilities and new construction. For other-than-CAB battalions, use the smallest area greater than zero indicated for each functional area as an upper limit in evaluating requirements for other units. When calculating requirements for other-than-CAB units, calculate space requirements only for functional areas where the requesting unit can demonstrate a MTOE/TDA/contractor support capability to perform the functions associated with each area.

Table 21110-3: Hangar Net Space Allocations by Unit Type			
Space	AAC	GSAB	ASB
<b>01 - AIRCRAFT MAINTENANCE BAY</b>	<b>71,660</b>	<b>77,993</b>	<b>77,430</b>
AH-64D	0	0	16,128
CH-47 Module	0	30,880	15,400
Interior Tow Lane & Hangar Doors	22,692	13,263	0
OH-58 Module	0	0	10,752
Perimeter 5'W Safety Lane	5,960	6,970	8,270
UH/HH- 60 Module	43,008	26,880	26,880
<b>02 - AIRCRAFT MAINTENANCE SHOP SPACE</b>	<b>8,470</b>	<b>12,630</b>	<b>16,190</b>
Aircraft Component Repair Platoon HQ	450	450	0
Aircraft Maintenance Platoon HQ	450	450	900
Armament Subsystem	0	600	2,000
Avionics/Electrical Repair	750	900	800
Avionics Float Equipment/COMSEC Storage	0	0	300
Battery Room	0	0	200
CH-47 Repair Section	0	2,360	0
EEFT/EOTF	0	0	1,000
Electrical	0	350	600
Fuel Service and POL	0	1,000	150
Machine Shop	0	0	400
Night Vision Device	0	0	200
Non-Destructive Inspection	0	0	800
Pneudraulics Repair	400	700	1,000
Power Plant	900	1,000	1,200
Power Train	750	900	1,200
Production Control	600	600	900
Quality Control, Quality Assurance	800	600	900
Structural Repair (Airframe)	1,400	1,200	2,400
Technical Assistance Rep (LARS/CLS)	420	420	420
Technical Library	300	300	420
UH-60 Repair Section	1,250	800	0

Table 21110-3: Hangar Net Space Allocations by Unit Type

Space	AAC	GSAB	ASB
Welding	0	0	400
<b>03 - AIRCRAFT MAINENANCE SUPPORT SPACE</b>	<b>6,600</b>	<b>7,620</b>	<b>11,860</b>
Accessory Equipment Storage	0	0	2,500
Arms Vault (Aircraft Mounted)	0	0	300
Bench Stock	0	0	120
Break Room	400	400	0
Bulk POL Storage	0	0	240
Contractor Logistical Support	1,200	1,200	2,200
Controlled Waste Facility	0	0	300
Exterior Covered Storage	2,500	2,500	0
Hangar Parts Storage	600	1,620	4,000
Hazardous/Flammable/Oil Storage	400	400	400
Hazardous Waste Storage	300	300	0
Non-Sensitive Secure Storage (Aircraft Mounted Systems)	0	0	300
S-280 Aircraft Maintenance Shelter	700	700	0
Special Tool Room	500	500	1,500
<b>04 - ADMINISTRATIVE CORE</b>	<b>8,740</b>	<b>9,544</b>	<b>1,090</b>
Aviation Life Support Equipment Shop	1,800	2,000	610
Aviation Ops Break Room	200	200	0
Briefing Room	1,950	1,050	0
Crew Chief Work Room	1,250	2,000	0
Flight Operations	800	800	0
Flight Planning	1,800	1,200	0
Maintenance Test Pilots	640	0	480
Pilot Work Room	0	1,994	0
Secure Planning Room	300	300	0
<b>05 - COMPANY ADMIN/READINESS AREA</b>	<b>14,380</b>	<b>16,896</b>	<b>1,476</b>
1st Sergeant	400	400	0
ADP Support Activities	0	0	100
Arms Vault, Aircraft Mounted Weapons	300	300	0
Arms Vault, Individual Weapons	1,920	1,920	0
Aviation Safety Officer	360	360	120
Aviation Standardization Officer	360	360	0
Aviation TAC Ops Officer	360	720	0
Commander	600	600	0
Common ADP Space	0	0	480
Company Readiness Storage	4,800	4,800	0

Table 21110-3: Hangar Net Space Allocations by Unit Type

Space	AAC	GSAB	ASB
Distributed Computer Based Training Room	572	572	572
Medical Equipment and Supplies	0	1,600	0
Multipurpose/Break/conference	600	600	108
Orderly Room Air Ambulance Co	0	1,148	0
Orderly Room Aviation Support Co	562	202	0
Orderly Room Command Aviation Co	0	622	0
Orderly Room Each Flying Company	1,686		0
Orderly Room Heavy Helicopter Co	0	832	0
Printer Copier Area	0	0	96
Secure Storage/NBC/COMM Equip/Consumables	1,860	1,860	0
<b>06 - SUPPORT SPACES</b>	<b>4,526</b>	<b>4,526</b>	<b>3,800</b>
Facility Maintenance and Storage	2,026	2,026	1,900
Locker Room	0	0	1,100
Restrooms and Showers	2,500	2,500	800
<b>Grand Total</b>	<b>114,376</b>	<b>129,209</b>	<b>111,846</b>

### c. Ready Room Calculations

Calculate 3,500 NSF for air ambulance companies to provide 24-hour standby needs of the flight crew, which consist of:

- An open bay sleeping area for up to eight individuals, configured in a 60-to-40 ratio for male-to-female crewmembers
- A kitchenette/dining area for nine persons, complete with normal kitchen appliances
- A dispatch and flight-following office for desk, flight prep table, and radio equipment

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

The aircraft maintenance hangar encompasses all aspects of aviation battalion operations, including aircraft repair, company operations, and aviation unit operations. Assign facilities by battalion or by company.

Ideally, all of the functional areas listed above will be located within the same building. If this is not possible, locate in adjacent facilities.

*i. Aircraft Maintenance Bay*

This is the area within the hangar to park aircraft for maintenance.

Assign hangar size based on the number of supported aircraft. Provide battalion-size organizations, except the aviation support battalion, hangar bay modules for 25 percent of the total number of assigned aircraft for each aircraft type. Provide all aviation support battalions 10 percent of the total number of aircraft supported for each aircraft type. Provide all separate aviation companies a minimum of one module for each airframe type, and up to 20 percent of the total number of assigned aircraft for each airframe type.

Hangar bays require direct access to the ramp, free of intermediate support columns. All repair bays require power, compressed air, and data connectivity. Provide limited wash capability in one maintenance bay for each type of aircraft supported, with drainage into the interior bay trench drain and through an oil-water separator. Provide a 5-foot wide safety corridor around the entire perimeter of the bay, free of any storage or equipment, other than life safety equipment.

Provide an overhead crane with access to all repair bays. The crane must have a capacity of either 10 or 35 tons. Units with CH-47 aircraft and ASBs require the 35-ton capacity crane; however, provide no more than two hangars with 35-ton cranes per combat aviation brigade.

*ii. Aircraft Maintenance Shop Space*

This area provides space to work on components of aircraft that have been removed for maintenance, calibration, or repair, and provides office space for personnel directly involved in supervising and conducting the maintenance operations.

Provide the power train, power plant, and structural repair shops direct access to the hangar bay through double doors or overhead coiling doors. Additionally, provide the power train and power plant shops a 2-ton bridge crane. Provide the power plant shop space for engine repair stands. Provide the power train shop space for rotor head repair stands.

*iii. Aircraft Maintenance Support Space*

This area provides a variety of support functions for maintenance, but is not directly involved in maintenance. It includes special tools, tech supply, and hazardous materials and hazardous waste storage. Tech supply and special tools require direct access to the hangar bays.

*iv. Administrative Core*

Provide this space within the administrative core or the hangar complex only when housing “flying” companies in the complex. These units use this space for flight planning, flight dispatch, training, ALSE service and repair, and other flight-mission needs. This eliminates the need for an allowance for facility category code 14112, Aviation Unit Operations Building, for these units.

Locate crew chief workrooms on the first floor, with access to the maintenance shops and hangar bays.

If assigning the building to a battalion, provide space to accommodate the entire battalion’s needs for aviation unit operations area. Provide the aviation unit operations area direct access to the flightline. Locate the ALSE storage, repair shop, and night-vision goggle storage adjacent to the aviation unit ops area.

Provide the flight planning, flight operations, and briefing rooms with walls long enough to mount whiteboards, maps, or projector screens.

Provide the Secure Planning Room SIPR access.

Provide the briefing room for an AAC battalion a seating capacity of 120. A GSAB requires seating for 150.

*v. Company Administration and Readiness*

The current standard for an aviation hangar provides a company headquarters inside the hangar complex for the flying units, or line companies, of the aviation battalion, as well as the aviation support company – that is, companies assigned aircraft and the organic company that maintains them.

Provide the Headquarters and Headquarters Company (HHC) of the battalions and the combat aviation brigade (CAB), the forward support companies, the air traffic control companies, and all the companies of the aviation support battalions headquarters space, as shown in Chapter 4, subsection V.A.3 (Aviation Unit Complex) and Table 4-3: Typical Combat Aviation Brigade.

Facility category code 21110 does not provide a readiness module for the aviation company in the configuration of facility category code 14185, but does provide 32 NSF of equipment storage space per soldier assigned to the “flying” company. Provide secure storage for individual and crew-served weapons not mounted on aircraft in a separate arms room when consolidating aviation line companies in the hangar.

Provide line/flying companies their company headquarters and readiness modules within the aircraft maintenance hangar. Provide space for three flying companies and an aviation support company.

Provide the HHC and forward support company their company headquarters in buildings other than the aircraft maintenance hangar.

Provide platoon offices adjacent to the aviation unit operations area for flying companies. Provide the aviation support company its platoon offices next to the maintenance shops.

Provide the required arms vault for the storage of individual weapons and ammunition. Review the vault requirements and comply with AR 190-11 Appendix G. Alternatively, an option exists for the use of a prefabricated, modular vault conforming to Federal Specification AA-V-2737.

Provide a room for secure storage of nonsensitive items. Provide secure storage room in accordance with AR 190-51 and AR 190-13.

Provide required TA-50 lockers for company personnel.

*vi. Support Space*

Provide fixtures and equipment based on unit strength, with a ratio of 80 percent male-to-20 percent female.

Provide restrooms on the ground floor and on the second floor. Provide a minimum of one water closet and two showers for women, and two water closets and four showers for men on the first floor. Provide a minimum of one water closet for women and two water closets for men on the second floor.



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*vii. Administration Area Guidance*

Review Appendix A for general functional area administrative requirements.

*viii. Ready Room*

Provide ready room space for air ambulance companies to provide 24-hour standby needs of the flight crew, which consist of:

- An open bay sleeping area for up to eight individuals, configured in a 60-to-40 ratio for male-to-female crewmembers
- A kitchenette/dining area for nine persons, complete with normal kitchen appliances
- A dispatch and flight-following office for desk, flight prep table, and radio equipment

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

Army standards and standard designs are available for this facility category. See the websites listed below:

<http://mrsi.usace.army.mil/cos/mobile/SitePages/AAC.aspx> for the Attack Assault floor plans

<http://mrsi.usace.army.mil/cos/mobile/SitePages/ASB.aspx> for Aviation Support Battalion floor plans

<http://mrsi.usace.army.mil/cos/mobile/SitePages/GSAB.aspx> for General Support Aviation Battalion floor plans

## 2. Programming Units

Table 21110-4 lists the total building size in GSF of standardized Aircraft Maintenance Hangars. The numbers listed are for new construction.

Table 21110-4 Standard Building Size (GSF)	
Hangar Type	Maximum GSF
AAC	136,468
ASB	157,500
GSAB	163,301
Separate AVN Co	29,725

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The hangar complex represents an Airfield land use. Hangars are particularly incompatible with family housing, elementary schools, and child/youth services facilities because military equipment can present an attractive nuisance to children and teens, as well as noise issues.

### 2. Site Planning Considerations

Site the hangar complex immediately adjacent to the aircraft mass parking apron on Army airfields (AAF) or Army heliports (AHP), without physical penetration of controlled airspace or obstruction clearances.

Provide hover/taxi lanes whenever direct access to the mass parking apron is required for power-on operations.

Site operational control systems for unmanned aircraft systems (UAS) operations based on AAF/AHP spectrum and obstruction clearance analysis.

Separate hangars from runways by the presence of aircraft parking. Plan space providing the UAS hangar door a 90-degree angle to the flightline, with restricted access to rotary wing aircraft in operation. This is to prevent lightweight UAVs potentially being blown over by rotor wash.

All operational areas of an AAF/AHP constitute a restricted area. The hangar complex serves as an outer boundary for this restricted area. Entry into the complex is limited to authorized personnel and confined to specific areas. Provide a physical barrier (fence) with

controlled access to the adjacent aircraft parking apron to preclude unauthorized pedestrian and vehicular traffic to the flightline.

Provide a security line with a continuous physical barrier to the parking apron, circulation taxiways, hover/taxi lanes and all landing surfaces. Provide fences with a 12-foot wide-vehicle gate and a separate pedestrian gate, as stipulated in the AAF/AHP Master Plan.

Locate brigade, battalion, and company headquarters associated with the aviation maintenance hangar complex near the complex, but normally not directly adjacent to the airfield. The ideal flow should be from the barracks through the battalion and company area, to the aviation maintenance hangar complex.

Establish a security line around the complex and organizational parking. Note that flying companies and the aviation support company have their company headquarters located within the aircraft maintenance hangar.

Locate parking for nonassigned organizational vehicles, facility category code 85210, and for privately owned vehicles (POVs), adjacent to the complex.

Provide a petroleum, oils, and lubricants (POL) storage building, facility category code 21470, adjacent to the complex for the storage of oils, lubricants, and flammable solvents for daily use.

Provide a separate POL storage building, facility category code 21470 for hazardous waste storage with a solid roof and walls.

Provide an organizational storage building, facility category code 44224, on the site.

For units with Class III and IV UAV missions, facility category code 21115 (UAV Hangar) applies.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Mobile District.

Inventory the company HQ included in the hangar as facility category code 21110, and NOT as 14185, because the company HQ for the flying/line companies is not facility category code

14185. Facility category code 21110 provides offices for the CO, the XO, and the 1st sergeant, as well as other administrative space. It also provides a unit supply, communications, and NBC room.

## 2. Exceptions

The Mobile District Center for Standardization lists three separate facility category codes for CAB hangars: CATCD 21110 for the AAC BN, CATCD 21111 for the ASB, and CATCD 21112 for the GSAB. CATCD 21111 and CATCD 21112 are not included in the FY13 Update to DA Pam 415-28. Use CATCD 21110 for all buildings that are able to function as an aviation hangar, except for standalone buildings that can be classified with CATCD 21114, Aircraft Maintenance Bay.

## 3. References

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	23-JUN-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	30-SEP-10
UFC 3-260-1 Airfield And Heliport Planning And Design	17-NOV-08

## 4. See Also

11370	Aircraft Washing Apron, Paved
11340	Hangar Access Apron, Paved
14112	Aviation Unit Operations Building
14185	Company Headquarters Building
21114	Aircraft Maintenance Bay

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
Mission	UH/HH- 60 Module	A		43,008	25% of aircraft		Module size: 84’ x 64’
Mission	Interior Tow Lane & Hangar Doors	A		22,692			
Mission	Perimeter 5'W Safety Lane	A		5,960			
Attribute	Bridge Crane	A		2 ea 10 Ton Cranes	2 ea 10 Ton Cranes		Every aircraft module must be accessible by crane
02 - AIRCRAFT MAINTENANCE SHOP SPACE							
General	Aircraft Component Repair Platoon HQ	A		450	450		
General	Aircraft Maintenance Platoon HQ	A		450	450		
Mission	Avionics / Electrical Repair	A		750	750		
Mission	Pneudraulics Repair	A		400	400		
Mission	Power Plant	A		900	900		Requires a 2-ton bridge crane with access to the entire area, two engine repair stands; roll-up doors large enough for engine stands with access to the maintenance bay
Mission	Power Train	A		750	750		Requires a 2-ton bridge crane with access to the entire area, two rotor head repair stands; roll-up doors large enough for rotors with access to the maintenance bay
Mission	Production Control	A		600	600		
General	Quality Control, Quality Assurance	A		800	800		

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FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
Mission	Structural Repair (Airframe)	A		1,400	1,400		
General	Technical Assistance Rep (LARS/CLS)	A		420	420		
Mission	Technical Library	A		300	300		Shelf space for 24 sets of aircraft tech manuals and space for 60 binders per company. Co-locate with Quality Control.
Mission	UH-60 Repair Section	A		1,250	1,250		
03 - AIRCRAFT MAINTENANCE SUPPORT SPACE							
General	Break Room	A		400	400		
General	Contractor Logistical Support	A		1,200	1,200		
Mission	Exterior Covered Storage	A		2,500	2,500		
Mission	Hangar Parts Storage	A		600	600		
Mission	Hazardous / Flammable / Oil Storage	A		400	400		
Mission	Hazardous Waste Storage	A		300	300		
Mission	S-280 Aircraft Maintenance Shelter	A		700	700		
Mission	Special Tool Room	A		500	500		
04 - ADMINISTRATIVE CORE							
Mission	Aviation Life Support Equipment Shop	A		1,800	1,800		Requires refrigerator, washing machine, and dryer 150 lockers

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FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
General	Aviation Ops Break Room	A		200	200		
Mission	Briefing Room	A		1,950	1,950		Space for 120 PN
General	Crew Chief Work Room	A		1,250	1,250		
General	Flight Operations	A		800	800		
Mission	Flight Planning	A		1,800	1,800		
Mission	Maintenance Test Pilots	A		640	640		
Mission	Secure Planning Room	A		300	300		
05 - COMPANY ADMIN / READINESS AREA							
General	1st Sergeant	A		400	400		One per company, total 4
Mission	Arms Vault, Aircraft Mounted Weapons	A		300	300		One per flying company; total 3
Mission	Arms Vault, Individual Weapons	A		1,920	300 NSF each		One per company, total 4
General	Aviation Safety Officer	A		360	360		One per flying company; total 3
General	Aviation Standardization Officer	A		360	360		One per flying company; total 3
General	Aviation TAC Ops Officer	A		360	360		One per flying company; total 3
General	Commander	A		600	600		One per company, total 4
Mission	Company Readiness Storage	A		4,800	4,800		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
General	Distributed Computer Based Training Room	A		572	572		One per hangar; Classroom XXI enabled
General	Multipurpose / Break / conference	A		600	600		
General	Orderly Room Aviation Support Co	A		562	562		
General	Orderly Room Each Flying Company	A		1,686	1,686		
Mission	Secure Storage / NBC / COMM Equip / Consumables	A		1,860	1,860		
06 - SUPPORT SPACES							
Mission	Facility Maintenance and Storage	A		2,026			
Support	Restrooms and Showers	A		2,500			
Presence Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
Note: This Functional Adequacy Matrix is for 21110 Aircraft Maintenance Hangar – AAC only. See two separate FAMs for 21110 Aircraft Maintenance Hangar – ASB and GSAB types.							

*Note: This Functional Adequacy Matrix is for 21110 Aircraft Maintenance Hangar – AAC only. See two separate FAMs for 21110 Aircraft Maintenance Hangar – ASB and GSAB types.*



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FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
Mission	AH-64D	A		16,128	10% of supported aircraft		Module size: 84’ x 64’
Mission	CH-47 Module	A		15,400	10% of supported aircraft		Module size: 110' x 70'
Mission	OH-58 Module	A		10,752	10% of supported aircraft		Module size: 84’ x 64’
Mission	UH/HH- 60 Module	A		26,880	10% of supported aircraft		Module size: 84’ x 64’
Mission	Perimeter 5'W Safety Lane	A		8,270			
Attribute	Bridge Crane	A		2 EA 10 Ton Cranes; 1 EA 35 Ton Crane	2 EA 10 Ton Cranes; 1 EA 35 Ton Crane		Every aircraft module must be accessible by crane; ch-47 Module must be accessible by 35 Ton crane
02 - AIRCRAFT MAINTENANCE SHOP SPACE							
General	Aircraft Maintenance Platoon HQ	A		900	900		
Mission	Armament Subsystem	A		2,000	2,000		
Mission	Avionics / Electrical Repair	A		800	800		
Mission	Avionics Float Equipment / COMSEC Storage	A		300	300		
Mission	Battery Room	A		200	200		
Mission	EEFT/EOTF	A		1,000	1,000		
Mission	Electrical	A		600	600		
Mission	Fuel Service and POL	A		150	150		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Machine Shop	A		400	400		
Mission	Night Vision Device	A		200	200		Storage space for 30 night-vision goggles
Mission	Non-Destructive Inspection	A		800	800		
Mission	Pneudraulics Repair	A		1,000	1,000		
Mission	Power Plant	A		1,200	1,200		Requires a 2-ton bridge crane with access to the entire area, two engine repair stands; roll-up doors large enough for engine stands with access to the maintenance bay
Mission	Power Train	A		1,200	1,200		Requires a 2-ton bridge crane with access to the entire area, two rotor head repair stands; roll-up doors large enough for rotors with access to the maintenance bay
Mission	Production Control	A		900	900		
General	Quality Control, Quality Assurance	A		900	900		
Mission	Structural Repair (Airframe)	A		2,400	2,400		Space for prefabricated paint booth, space for repair of one rotor blade, oven
General	Technical Assistance Rep (LARS/CLS)	A		420	420		
Mission	Technical Library	A		420	420		Co-located with Quality Control
Mission	Welding	A		400	400		
03 - AIRCRAFT MAINTENANCE SUPPORT SPACE							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Accessory Equipment Storage	A		2,500	2,500		
Mission	Arms Vault (Aircraft Mounted)	A		300	300		
Mission	Bench Stock	A		120	120		
Mission	Bulk POL Storage	A		240	240		
General	Contractor Logistical Support	A		2,200	2,200		
Mission	Controlled Waste Facility	A		300	300		
Mission	Hangar Parts Storage	A		4,000	4,000		
Mission	Hazardous / Flammable / Oil Storage	A		400	400		
Mission	Non-Sensitive Secure Storage (Aircraft Mounted Systems)	A		300	300		
Mission	Special Tool Room	A		1,500	1,500		Requires secured open floor space area for large equipment and tools
04 - ADMINISTRATIVE CORE							
Mission	Aviation Life Support Equipment Shop	A		610	610		Requires refrigerator, washing machine, and dryer 5 lockers
Mission	Maintenance Test Pilots	A		480	480		
05 - COMPANY ADMIN / READINESS AREA							
Mission	ADP Support Activities	A		100	100		
General	Aviation Safety Officer	A		120	120		
Mission	Common ADP Space	A		480	480		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Distributed Computer Based Training Room	A		572	572	
General	Multipurpose / Break / conference	A		108	108	
General	Printer Copier Area	A		96	96	
06 - SUPPORT SPACES						
Mission	Facility Maintenance and Storage	A		1,900	1,900	
Support	Locker Room	A		1,100	1,100	
Support	Restrooms and Showers	A		800	800	
<b>Presence Requirements for Adequacy:</b> A - Required, Collocated B - Required, Adjacent C - Required, Vicinity D - Not required, if present collocated E - Not required, if present: adjacent or vicinity F - Occupant Dependent						
<i>Note: This Functional Adequacy Matrix is for 21110 Aircraft Maintenance Hangar – ASB only. See separate FAMs for 21110 Aircraft Maintenance Hangar – AAC and GSAB types.</i>						

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
01 - AIRCRAFT MAINTENANCE BAY							
Mission	CH-47 Module	A		30,880	25% of aircraft		Module size: 110’ x 70’
Mission	UH/HH- 60 Module	A		26,880	25% of aircraft		Module size: 84’ x 64’
Mission	Interior Tow Lane & Hangar Doors	A		13,263	13,263		
Mission	Perimeter 5'W Safety Lane	A		6,970	6,970		
Attribute	Bridge Crane	A		2 EA 10 Ton Cranes; 1 EA 35 Ton Crane	2 EA 10 Ton Cranes; 1 EA 35 Ton Crane		Every aircraft module must be accessible by crane; ch-47 Module must be accessible by 35 Ton crane
02 - AIRCRAFT MAINTENANCE SHOP SPACE							
General	Aircraft Component Repair Platoon HQ	A		450	450		
General	Aircraft Maintenance Platoon HQ	A		450	450		
Mission	Armament Subsystem	A		600	600		
Mission	Avionics / Electrical Repair	A		900	900		
Mission	CH-47 Repair Section	A		2,360	2,360		
Mission	Electrical	A		350	350		
Mission	Fuel Service and POL	A		1,000	1,000		
Mission	Pneudraulics Repair	A		700	700		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Power Plant	A		1,000	1,000		Requires a 2-ton bridge crane with access to the entire area, two engine repair stands; roll-up doors large enough for engine stands with access to the maintenance bay
Mission	Power Train	A		900	900		Requires a 2-ton bridge crane with access to the entire area, two rotor head repair stands; roll-up doors large enough for rotors with access to the maintenance bay
Mission	Production Control	A		600	600		
General	Quality Control, Quality Assurance	A		600	600		
Mission	Structural Repair (Airframe)	A		1,200	1,200		
General	Technical Assistance Rep (LARS/CLS)	A		420	420		
Mission	Technical Library	A		300	300		Shelf space for 24 sets of aircraft tech manuals and space for 60 binders per company. Co-locate with Quality Control.
Mission	UH-60 Repair Section	A		800	800		
03 - AIRCRAFT MAINTENANCE SUPPORT SPACE							
General	Break Room	A		400	400		
General	Contractor Logistical Support	A		1,200	1,200		
Mission	Exterior Covered Storage	A		2,500	2,500		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Hangar Parts Storage	A		1,620	1,620		
Mission	Hazardous / Flammable / Oil Storage	A		400	400		
Mission	Hazardous Waste Storage	A		300	300		
Mission	S-280 Aircraft Maintenance Shelter	A		700	700		
Mission	Special Tool Room	A		500	500		
04 - ADMINISTRATIVE CORE							
Mission	Aviation Life Support Equipment Shop	A		2,000	2,000		Requires refrigerator, washing machine, and dryer 150 lockers
General	Aviation Ops Break Room	A		200	200		
Mission	Briefing Room	A		1,050	1,050		
General	Crew Chief Work Room	A		2,000	2,000		
General	Flight Operations	A		800	800		
Mission	Flight Planning	A		1,200	1,200		
General	Pilot Work Room	A		1,994	1,994		
Mission	Secure Planning Room	A		300	300		
05 - COMPANY ADMIN / READINESS AREA							
General	1st Sergeant	A		400	400		One per company, total 4
Mission	Arms Vault, Aircraft Mounted Weapons	A		300	300		One per flying company; total 3

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Arms Vault, Individual Weapons	A		1,920	1,200		One per company, total 4
General	Aviation Safety Officer	A		360	360		One per flying company; total 3
General	Aviation Standardization Officer	A		360	360		One per flying company; total 3
General	Aviation TAC Ops Officer	A		720	720		Two per flying company; total 5
General	Commander	A		600	600		One per company, total 4
Mission	Company Readiness Storage	A		4,800	4,800		
General	Distributed Computer Based Training Room	A		572	572		One per hangar; Classroom XXI enabled
Mission	Medical Equipment and Supplies	A		1,600	1,600		
General	Multipurpose / Break / conference	A		600	600		
General	Orderly Room Air Ambulance Co	A		1,148	1,148		
General	Orderly Room Aviation Support Co	A		202	202		
General	Orderly Room Command Aviation Co	A		622	622		
General	Orderly Room Heavy Helicopter Co	A		832	832		
Mission	Secure Storage / NBC / COMM Equip / Consumables	A		1,860	1,860		
06 - SUPPORT SPACES							
Mission	Facility Maintenance and Storage	A		2,026			
Support	Restrooms and Showers	A		2,500			



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
				STANDARD	LOWER LIMIT	STATUS	
Presence Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							
Note: This Functional Adequacy Matrix is for 21110 Aircraft Maintenance Hangar – AAC only. See two separate FAMs for 21110 Aircraft Maintenance Hangar – ASB and GSAB types.							

*Note: This Functional Adequacy Matrix is for 21110 Aircraft Maintenance Hangar – AAC only. See two separate FAMs for 21110 Aircraft Maintenance Hangar – ASB and GSAB types.*

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides for the storage and issue of aircraft parts, and serves as a supply facility for the procurement, receipt, stocking, and distribution of controlled or expendable aircraft components. This category code should be used for standalone facilities where the parts storage is physically separate from the remainder of the maintenance activity, or to delineate functional areas within an aircraft maintenance hangar. Aircraft parts storage at production facilities is classified using 44210, Aircraft Production Parts Storage, Installation.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category code only for reporting standalone buildings of this single function.*

**Proponent:**

- DCS, G-3

**COS:**

- Mobile

### 2. Proponent and Center of Standardization

**Proponent**

Deputy Chief of Staff, G-4 (DCS, G-4)

**Center of Standardization**

Center of Standardization: Mobile District

### 3. Complex

Aircraft Parts Storage is a functional area of facility category code 21110, part of the Aviation Unit Complex. Refer to Chapter 4 for more information on this complex.

**Complex:**

- Aviation Unit

### 4. Units of Measure

Primary: SF

Secondary: None

FAC UM: SF

Volume = CF: Total cubic feet of storage space

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Volume UM = CF

Calculate the NUA and capacity for mission and general functional areas in accordance with Chapter 3.

## 5. Functional Areas

Table 21113-1 lists functional areas by type and adequacy requirements for Aircraft Parts Storage.

Table 21113-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Parts Storage	Mission	A
Open Offices	General	D
Men's Restroom	Support	D
Women's Restroom	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category code 21113 is a functional area in CATCD 21110. Use CATCD 21110 as the basis for authorization. The basis of calculation is the number of personnel in this functional area, and the amount of material stored.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit. For buildings containing all associated aviation brigade activity, aircraft parts storage is at brigade level. If the parts storage is in support of individual companies, the planning level is company.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total CF of parts authorized for storage.

### 3. Assigning Spaces

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

**b. Facility Utilization Metrics**

See facility utilization metrics for CATCD 21110.

**D. Programmable Increments****1. Standard Facilities**

This space is included in the aviation maintenance hangar Standard Designs. An aviation support BN (ASB) receives a standard of 8,000 GSF of enclosed storage, and 4,000 GSF of covered storage.

**2. Programming Units**

This building is not normally programmed as a standalone building.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

See facility category code 21110.

**2. Site Planning Considerations**

See facility category code 21110 and Aviation Unit Complexes in Chapter 4.

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Mobile District.

**2. Exceptions**

None.

**3. References**

Army Standard for Aircraft Maintenance Hangar  
Complex

13-APR-12

**4. See Also**

21110 Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A separate building or an area in a hangar (21110) where aircraft are parked while being repaired. This category code should be used for standalone facilities where the aircraft maintenance bays are physically separate buildings from the remainder of the aircraft maintenance hangar, or to provide an option to delineate functional areas within the aircraft maintenance hangar.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category only for reporting standalone buildings of this single function.*

#### Proponent:

- DCS, G-4

#### COS:

- Mobile

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Center of Standardization: Mobile District

### 3. Complex

An Aircraft Maintenance Bay is a functional area of facility category code 21110, part of the Aviation Unit Complex.

Refer to chapter 4 for more information on this complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Capacity: VE

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = VE

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21114-1 lists functional areas by type and adequacy requirements for aircraft maintenance bays.

Table 21114-1 Functional Areas and Adequacy		
Functional Area	Type	Presence
Open Offices	General	D
Repair Bay	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow units performing aviation maintenance space for aircraft maintenance bay facilities. The criteria base the allowance on the number of supported aircraft. Criteria allow hangar space for 25 percent of the supported aircraft, except for Aviation Support BN (ASB) and separate aviation companies, which receive a 10 percent allowance. This space is included in the Aviation Maintenance Hangar Standard Designs.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Each aircraft type fits into a standard repair bay, as listed in Table 21114-2.

Table 21114-2 Repair Bay Sizes	
Aircraft Type	Bay Size
Utility, Attack, and Reconnaissance (Smaller than a CH-47)	84 FT x 64 FT
Cargo Helicopter (CH-47)	110 FT x 70 FT
UAS Small Consolidated Aircraft Maintenance	130 FT x 40 FT
UAS Large Aircraft Maintenance	66 FT x 45 FT

Calculate aircraft maintenance bay space for 25 percent of supported aircraft for units other than ASBs and separate aviation companies. Calculate aircraft maintenance bay space for 10 percent of supported aircraft for ASBs and separate aviation companies.

Calculate a 5-foot-wide safety corridor around the entire perimeter of the aircraft maintenance bay.

Security and storage hangars will have NMT 18,600 GSF of space.

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

In the case of aviation brigades, assign facilities by battalion when locating a battalion's companies in the same building. Optionally, assign facilities by company.

Aircraft maintenance bays must have access to the ramp. Provide facilities large enough to accommodate the largest supported aircraft. Provide a 10-ton bridge crane within the building, with access to all repair modules. Provide units supporting CH-47s a 35-ton bridge crane.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Program the aircraft maintenance bay as part of the aviation hangar complex, not as standalone buildings.

### **2. Programming Units**

Do not program this facility category as a standalone building without approval from IMCOM.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See facility category code 21110, Aircraft Maintenance Hangar.

### **2. Site Planning Considerations**

See facility category code 21110; see also Aviation Unit Complexes in Chapter 4.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Mobile District.

### **2. Exceptions**

None.

### **3. References**

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
	23-JUN-10
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	
	30-SEP-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	

### **4. See Also**

21110      Aircraft Maintenance Hangar



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

Hangar in which to park and maintain a tactical unmanned aerial vehicle (TUAV), which is a much smaller aircraft than normally would be maintained in the standard Aircraft Maintenance Hangar (21110). Maintenance support required is such that it does not need standard aircraft maintenance hangar capabilities or size. If category 21110 is used to house TUAVs, do not convert 21110 to this category. Use the area rule to calculate the building area. Also count the number of bays and record this count as VE, where one bay can house one TUAV and counts as one VE.

**Note 1:** The Army has changed the terminology from unmanned aerial vehicles (UAV) or tactical unmanned aerial vehicle (TUAV) to unmanned aerial systems (UAS). This terminology is not yet reflected in all references, including DA PAM 415-28.

**Note 2:** The DA PAM 415-28 description for this facility category applies to Class I and Class II UAVs. Mobile District, the COS for aviation buildings, has a Standard Design for Class III & Class IV UASs. That COS associates CATCD 21115 with UAV hangars for that Standard Design.

Class I and Class II UAVs are relatively small UAVs, assigned to BCTs, selected modular brigades, and selected functional brigades, excluding combat aviation brigades. The facility category code 21115 description reflects the Class I and Class II building included in the Savannah District TEMF Complex. Savannah is the COS for TEMF. The Army Standard Design for the TEMF, dated 13 July 2013, requires 1,800 NSF (as opposed to GSF) for Class I and Class II, but now includes them in CATCD 21412.

Class I and Class II UAVs do NOT require flightline access.

Class III and Class IV are larger, assigned only to aviation brigades, and MUST have flightline access.

See subsection F.2., Exceptions.

## 2. Proponent and Center of Standardization

### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

### Center of Standardization

Mobile District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Mobile

## 3. Complex

A UAS hangar is normally a part of either a Tactical Equipment Maintenance Facility Complex within a Brigade Complex for Class I and Class II UASs, or an Aviation Unit Complex for Class III and Class IV UASs.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit

## 4. Units of Measure

Primary: SF

Secondary: VE

FAC UM: SF

#### Units of Measure:

Primary UM = SF

Secondary UM = VE

FAC UM = SF

CAP = VE

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21115-1 lists functional areas by type and adequacy requirements **for Class III and Class IV** UAS hangars **only**.

***Note:** Table 21115-1 does not apply to space intended for the maintenance and storage of Class I and Class II UASs.*

Table 21115-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	NSF
<b>HANGAR FLOOR AREA, ALLIED SHOP, AND STORAGE</b>		
Allied Shop	Mission	1,822
Bench Stock / Tech. Supply	Mission	1,108
Hangar Floor Area	Mission	26,240
Secured Storage	Mission	205
Small Tools Room	Mission	223
Crane	Attribute	0
<b>AIRCRAFT MAINTENANCE AND CONTRACTOR SUPPORT SPACES</b>		
Contractor Logistics Support (CLS/LARS)	General	402
GBO Office	General	140
GBSAA	Support	58
Maintenance Platoon	General	555
Production Control (PC)	Mission	545

Quality Control/Quality Assurance	General	500
FLIGHT PLATOON, OPERATIONS, AND PLANNING SPACE		
Flight Ops	Mission	378
Flight Planning	Mission	277
Flight Platoon	General	957
Flight Simulator	Mission	138
Small Storage Room	General	54
COMMON COMPANY SPACE		
Briefing Room	Mission	877
Conference Room	General	206
Distributed Computer Based Training Room	General	412
Safety Office	General	100
Storage	General	144
UAS Standardization Office	General	100
COMPANY OPERATIONS AREA		
1st Sergeant	General	150
Arms Vault	Mission	402
Communications Storage	Mission	150
Company Commander	General	150
Executive Officer	General	150
NBC Storage	Mission	150
Storage Room	General	72
TA 50 Gear	Mission	3,527
Unit Storage	Mission	434
COMMON AREAS		
Break Room	General	168
Circulation	Support	3,929
Restrooms, Showers, Lockers	Support	1,334
Janitors & Recycle Closets and Utility and Support Space	Support	2,441

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow UAS maintenance facilities for battalions and separate companies with organic UASs.

Brigade combat teams are generally authorized Class I or II UAS assets in the maneuver battalions, the fires battalion, and the brigade engineer battalion. Each battalion authorized Class I or II UAS is authorized a UAS building of 1,800 GSF.

Combat aviation brigades have a UAS company-authorized large UAS.

Combat aviation brigades have a criterion for a large UAS hangar to maintain Class III and IV UASs.

## 2. Programmatic Application

As of Version 30, RPLANS provides an 1,800 GSF allowance in CATCD 21115 for each battalion with Class I or II UAS authorized.

As of version 32, RPLANS does not provide allowances for units authorized Class III or IV UAS.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The Army classifies all UASs into four categories.

Class I UASs and Class II UASs are small vehicles intended for use by infantry platoons, or smaller units, for scouting missions. The Class I UAS is man portable, while the Class II UASs are those having a wingspan of approximately 12 feet. The RQ-11 Raven is an example of a Class I UAS, while the RQ-7 Shadow is an example of a Class II UAS.

Class III UASs and IV UASs are large vehicles used by aviation brigades. Currently, the MQ-1C Gray Eagle is the platform the Army is fielding.

#### a. Class I and II

Calculate 1,800 NSF, or 40 feet by 45 feet for each UAS hangar for Class I UASs and Class II UASs using TEMF requirements, facility category code 21410. Overhead lift, high-bay work areas, and dedicated administrative space are not necessary, and are not included with the 1,800 NSF allowance. Class I UASs and Class II UASs do not require the same magnitude of space as do Class III and Class IV UAS. See Exceptions in paragraph F.2, below.

#### b. Class III and IV

Calculate 48,648 NSF for large UAS hangars. Table 21115-1 shows the net space required for each functional area. The Gray Eagle requires a 40-foot-by-67-foot hangar bay for each aircraft. Additionally, provide a 5-foot-wide safety corridor around the entire perimeter of the hangar bay.

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign facilities by battalion or separate company.

Maintain and store Class I and II UASs within the UAS building with the TEMF.

Class III and IV UAS are large enough to require storage at the airfield. Provide dedicated UAS hangars to store Class III and IV UAS. A UAS hangar must have access to the ramp and flightline. Provide hangar space for the entire unit's UASs.

If using a hangar in CATCD 21110 to house UAS, do not change the CATCD to 21115 solely because of the current use.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Program Class I and Class II as part of a TEMF complex. The standard facility is included in the TEMF Standard Design. The COS is now designating the UAV hangar in the TEMF complex as CATCD 21412; however the definition of 21412 does not currently describe a Class I or II UAV building. Standard Design floor plans are available on the COS website at:

<http://mrsi.usace.army.mil/cos/savannah/SitePages/temf.aspx>.

Program Class III and Class IV UAS hangars as part of an aviation hangar complex. Standard Design floor plans for Class III and IV UAV Hangar are available on the COS website at:

<http://mrsi.usace.army.mil/cos/mobile/SitePages/UAS.aspx>.

### **2. Programming Units**

Program Class I and Class II UAS maintenance and storage in the TEMF; see facility category code 21410, with a standard size of 1,800 NSF.

Class III and IV UAS hangars have a standard size of 52,100 GSF.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

A UAS hangar for Class I and Class II UASs is typically located with the battalion's Tactical Equipment Maintenance Facility; use the same considerations as TEMF, Industrial land use. Because of airspace management concerns and other factors, some installations may place these facilities in a range and training land use.

Class III and Class IV UASs are used by combat aviation brigades. These UASs are large, requiring large hangars and access to runways; land use is Airfield.

### 2. Site Planning Considerations

Site plan a UAS hangar for Class I and Class II UASs as part of a TEMF. Class I and II UASs are relatively small and **do not** require access to a runway.

Site plan a UAS hangar for Class III and Class IV UASs as part of an aviation hangar complex. The Class III and Class IV UAS hangar **must** have access to the flightline. Main hangar doors and exterior aprons must be oriented in a manner that protects UAS systems from rotor blast.

## F. Other Considerations

### 1. Special Instructions

Consult Centers of Standardization: Mobile, Savannah Districts.

### 2. Exceptions

The Army Standard or aviation hangar does not clearly delineate how this CATCD is to be used. The Mobile Center for Standardization has designated this CATCD for use with large UASs (Class III and IV).

The Army Standard for TEMF specifically designates this CATCD for Class I and II UASs. The Savannah COS formerly designated this category code for Class I and II UAS systems based on its origins and definition. In the most current version of the TEMF

Standard Design, the COS has shifted the small UAS facility to CATCD 21412, Maintenance Storage.

As of version 30, RPLANS provides allowances for 1,800 GSF of 21115 for selected battalions in a BCT, but provides no allowance for aviation facilities of any kind to the UAS Company in the combat aviation brigade (CAB).

The Army Standard does not address organizational storage or the distribution warehouse.

As of this publication date, these items are being reviewed at the HQDA level in a series of related staff actions to change DA PAM 415-28 and/or modify Army Standards.

### 3. References

Class I and II UAS	
Army Standard for Tactical Equipment Maintenance Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters Battalion Headquarters	13-DEC-07
Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Class III and IV UAS	
Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Unmanned Aircraft System (UAS) Hangar Standard Design	JAN-14

### 4. See Also

21110 Aircraft Maintenance Hangar  
21410 Vehicle Maintenance Shop

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
	Unmanned Aerial Vehicle Maintenance and Storage Facility			1,800 NSF	1,800 NSF	
<b>Assign Rating / Notes</b>						
Overhead lift, high bay work areas, or dedicated administrative space is not necessary and not included with the 1,800 NSF allowance						
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
<i>Note: This Functional Adequacy Matrix is for 21115 Tactical Unmanned Aerial Vehicle (UAV) Hangar - Class I &amp; II only. See separate FAM for 21115 Tactical Unmanned Aerial Vehicle (UAV) Hangar - Class III &amp; IV.</i>						



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
HANGAR FLOOR AREA, ALLIED SHOP AND STORAGE							
Mission	Hangar Floor Area	A		23,240	23,240		Aircraft Maintenance Bay, Safety Lane, Transverse Corridor, and Access Lane. Requires 4 Gray Eagle Modules at 40' x 67'.
Mission	Allied Shop	A		1,822	1,822		
Mission	Bench Stock / Tech. Supply	A		1,108	1,108		
Mission	Secured Storage	A		205	205		
Mission	Small Tools Room	A		223	223		
Attribute	Crane	A		1 EA 5 Ton Bridge Crane	1 EA 5 Ton Bridge Crane		
AIRCRAFT MAINTENANCE AND CONTRACTOR SUPPORT SPACES							
Mission	Production Control (PC)	A		545	545		
General	Quality Control/Quality Assurance	A		500	500		Include Technical Library
General	Maintenance Platoon	A		555	555		
General	Contractor Logistics Support (CLS/LARS)	A		402	402		
General	GBO Office	A		140	140		
	GBSAA	A		58	58		
FLIGHT PLATOON, OPERATIONS AND PLANNING SPACE							
Mission	Flight Simulator	A		138	138		
General	Flight Platoon	A		957	957		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Flight Ops	A		378	378		
Mission	Flight Planning	A		277	277		
General	Small Storage Room	A		54	54		
COMMON COMPANY SPACE							
Mission	Briefing Room	A		877	877		
General	Distributed Computer Based Training Room	A		412	412		
General	Storage	A		144	144		
General	Conference Room	A		206	206		
General	UAV Standardization Office	A		100	100		
General	Safety Office	A		100	100		
COMPANY OPERATIONS AREA							
Mission	Unit Storage	C		434	434		
Mission	Arms Vault	C		402	402		
General	1st Sergeant	C		150	150		
General	Company Commander	C		150	150		
General	Executive Officer	C		150	150		
General	Storage Room	C		72	72		
Mission	TA 50 Gear	C		3,527	3,527		

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	NBC Storage	C		150	150	
Mission	Communications Storage	C		150	150	
COMMON AREAS						
Support	Circulation	A		3,929	3,929	
General	Break Room	A		168	168	
Support	Restrooms, Showers, Lockers	C		1,334	1,334	The first floor restrooms and showers are based on a maximum occupancy load of 128 personnel which 80% are male and 20% are female.
Support	Janitors & Recycle Closets	A				
Support	Utility and Support Space	A		2,441	2,441	
<b>Presence Requirements for Adequacy:</b> A - Required, Collocated B - Required, Adjacent C - Required, Vicinity D - Not required, if present collocated E - Not required, if present: adjacent or vicinity F - Occupant Dependent						
<i>Note: This Functional Adequacy Matrix is for 21115 Tactical Unmanned Aerial Vehicle (UAV) Hangar - Class III &amp; IV only. See separate FAM for 21115 Tactical Unmanned Aerial Vehicle (UAV) Hangar - Class I &amp; II.</i>						

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building or an area of a hangar for activities such as components repair, weapons repair, administration, and flammable storage. This category should be used for standalone facilities where the shop facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the aircraft maintenance hangar.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category only for reporting standalone buildings containing only this single function.*

#### Proponent:

- DCS, G-4

#### COS:

- Mobile

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Mobile District Center of Standardization

### 3. Complex

Hangar Shop Space is a functional area of facility category code 21110 and part of the Aviation Unit Complex. Refer to Chapter 4 for more information on this complex.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 21116-1 lists functional areas by type and adequacy that may be present in a standalone building with this CATCD. A building in this CATCD could have one or more of the listed functional areas. See the CATCD 21110 functional adequacy matrices for the battalions in a standard CAB if a separate building is used to

satisfy a portion of the requirements for hangar shop space in lieu of a Standard Design hangar.

Table 21116-1: Functional Areas	
Functional Area	
<b>Aircraft Maintenance Shop Space</b>	
Aircraft Component Repair Platoon HQ	
Aircraft Maintenance Platoon HQ	
Armament Subsystem	
Avionics / Electrical Repair	
Avionics Float Equipment / COMSEC Storage	
Battery Room	
CH-47 Repair Section	
EEFT/EOTF	
Electrical	
Fuel Service and POL	
Machine Shop	
Night Vision Device	
Non-Destructive Inspection	
Pneudraulics Repair	
Power Plant	
Power Train	
Production Control	
Quality Control, Quality Assurance	
Structural Repair (Airframe)	
Technical Library	
UH-60 Repair Section	
Welding	
<b>Aircraft Maintenance Support Space</b>	
Accessory Equipment Storage	
Arms Vault (Aircraft Mounted)	
Break Room	
Bulk POL Storage	
Contractor Logistical Support	
Controlled Waste Facility	
Exterior Covered Storage	
Hangar Parts Storage	
Hazardous / Flammable / Oil Storage	
Hazardous Waste Storage	
Non-Sensitive Secure Storage (Aircraft Mounted Systems)	
S-280 Aircraft Maintenance Shelter	
Special Tool Room	

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow hangar shop space for aviation units with organic maintenance capabilities, aviation maintenance units, and TDA organizations that have aviation maintenance missions.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

See CATCD 21110 for requirements calculations for the functional areas in this facility category, which are based on the number and type of aircraft authorized, and the levels of maintenance that units perform.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Ideally, locate hangar shop space within a larger aviation maintenance building that includes hangar bays, tools, and spare parts storage. When there is not enough space in the hangar, assign existing space adjacent to the hangar.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

The space associated with this category code is part of the Standard Designs for CATCD 21110.

## 2. Programming Units

Do not program this facility category as a standalone building without approval from IMCOM. Typically, program aircraft Hangar Shop Space in the aviation maintenance hangar.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See CATCD 21110.

### 2. Site Planning Considerations

If not included in the hangar, locate Hangar Shop Space adjacent to the supported hangar.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Mobile District.

### 2. Exceptions

None.

### 3. References

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	23-JUN-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	30-SEP-10

### 4. See Also

21110     Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the repair, storage, and testing of electronic gear used in aircraft and in aviation maintenance facilities. This CATCD should be used for standalone facilities-at all levels (except depot) where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the aircraft maintenance hangar. Depot-level avionics shops are classified using 21740, Avionics Maintenance Shop, Depot Level.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category only for reporting standalone buildings containing only this single function.*

**Proponent:**

- DCS, G-4

**COS:**

- Mobile

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Mobile District Center of Standardization

### 3. Complex

The Avionics Maintenance Shop is a functional area of facility category code 21110 and part of the Aviation Unit Complex.

Refer to Chapter 4 for more information on this complex.

**Complex:**

- Aviation Unit

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Table 21117-1 lists functional areas by type and adequacy that may be present in a standalone building with this CATCD. A building



in this CATCD could have one or more of the listed functional areas. See CATCD the 21110 functional adequacy matrices for the battalions in a standard CAB if a separate building is used to satisfy a portion of the requirements for avionics maintenance shop space in lieu of a Standard Design hangar.

Table 21117-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	D
Avionics / Electrical Repair	Mission	D
Avionics Float Equipment / COMSEC Storage	Mission	D
Public Restrooms	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow units performing aviation maintenance space for avionics maintenance. Avionics maintenance is located in the same facility as hangar maintenance bays, and parts and tools storage. This type of space is normally consolidated within facility category code 21110.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

See CATCD 21110 for applicable functional area standards.

### 3. Assigning Space

Assign facilities by battalion in the case of aviation brigades where a battalion's companies are all located in the same building.

Alternatively, assign facilities by company.

**a. Guidance**

Assign avionics maintenance shop adjacent to other aviation facilities for the same unit when using multiple legacy buildings in lieu of a Standard Design hangar complex.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

Program the avionics maintenance shop as part of an aviation hangar complex, using CATCD 21110. Avionics maintenance shops will not typically be standalone buildings.

Do not program a standalone building in this CATCD.

**2. Programming Units**

Do not program this facility category as a standalone facility without approval from IMCOM.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

See CATCD 21110.

**2. Site Planning Considerations**

An Avionics Maintenance Shop will typically be located within a larger facility; see CATCD 21110 for site planning.

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Mobile District.

**2. Exceptions**

None.

**3. References**

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	23-JUN-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	30-SEP-10

**4. See Also**

21110 Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for engine rebuild, engine and transmission repair, and weights and balances on rotor heads of rotary wing aircraft. It is normally part of the hangar shop space in 21110, Aircraft Maintenance Hangar. This category should be used for standalone facilities where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the Aircraft Maintenance Hangar.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category only for reporting standalone buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Mobile District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Mobile

### 3. Complex

The Aircraft Component Maintenance Shop is a function area of facility category code 21110; part of the Aviation Unit Complex.

Refer to Chapter 4 for more information on complexes.

#### Complex:

- Aviation Unit

### 4. Units of Measure

Primary: SF  
Secondary: None  
FACUM: SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Table 21120-1 lists functional areas by type and adequacy requirements for Aircraft Component Maintenance Shops.

Table 21120-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	D
Power Train Shop	Mission	D
Power Plant Shop	Mission	D
Public Restrooms	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow units performing aviation maintenance space for aircraft component maintenance. Aircraft component maintenance is located in the same building as hangar maintenance bays, and parts and tools storage.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD equal to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The aircraft component maintenance shop can be divided into the power train shop and the power plant shop. These two shops have different standard sizes, based upon the type of battalion.

Calculate space based on Table 21120-2 for the type of battalion.

Table 21120-2 Standard Shop Area		
Battalion Type	Power Train (NSF)	Power Plant (NSF)
AAC	750	900
ASB	1,200	1,200
GSAB	900	900

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area

Assign facilities by battalion in the case of aviation brigades where a battalion's companies are all located in the same building. Alternatively, assign facilities by company.

The shop space must have a 2-ton crane available, and either double doors or overhead roll-up doors with access to the hangar bay. Additionally, assign space for four rotor stands and a rotor head repair stand.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Program the Aircraft Component Maintenance Shop as part of the programming for an aviation hangar complex; use CATCD 21110.

### **2. Programming Units**

Do not program this facility category as a standalone facility without approval from IMCOM.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See CATCD 21110, Aircraft Maintenance Hangar.

### **2. Site Planning Considerations**

An aircraft component maintenance shop will typically be included within a larger building; see CATCD 21110 for site planning.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Mobile District.

**2. Exceptions**

None.

**3. References**

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	23-JUN-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	30-SEP-10

**4. See Also**

21110 Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space for washing, rinsing, paint stripping, corrosion removal, protective coating, chemical agent resistant coating, and painting of aircraft at maintenance facilities. This category should be used for stand-alone facilities where the shop is physically separate from the remainder of the maintenance activity or to delineate functional areas within the aircraft maintenance hangar.

***Note:** This facility category is normally a functional area in facility category code 21110. Use this category only for reporting standalone buildings containing this single function.*

***Note:** This function is normally not authorized in TOE units.*

**Proponent:**

- DCS, G-4

**COS:**

- None

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None

### 3. Complex

Refer to Chapter 4 for more information on this complex.

**Complex:**

- Aviation Unit

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 21130-1 lists functional areas by type and adequacy requirements for an aircraft paint shop.

Table 21130 - 1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	D
Structural/Paint Repair Shop	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow units performing aviation maintenance space for an aircraft paint shop.

The presence of AVUM and AVIM structural repair section is the basis for authorization for MTOE units. The basis for calculation for MTOE units is one paint booth in the structural repair shop.

A mission to provide maintenance above AVUM level and the authorization for the requisite paint equipment are the basis for authorization for a full Aircraft Paint Shop. The basis for calculation is the type and number of aircraft painted.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

## 2. Requirements Calculations

Provide space as shown in Table 21130-2 for the structural repair section of aviation maintenance companies with paint equipment in MTOE.

Table 21130-2 Standard Shop Area NSF	
Battalion Type	Structural/Paint Shop
AAC	1,400
ASB	2,400
GSAB	1,200

The space indicated for structural repair includes space for an 8-by-12-foot prefabricated modular paint booth, which is government-furnished, government-installed (GFGI) equipment.

The booth is provided for painting repaired parts. Painting entire airframes is a task performed above unit level by Army Sustainment Command.

Calculate requirements based on the type of aircraft and volume of workload. The booth must be large enough for the largest aircraft served by the facility. Provide a paint prep area adjacent to the booth that will accommodate the largest aircraft that the paint booth can support.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign facilities by battalion in the case of aviation brigades where a battalion's companies are all located in the same building. Alternatively, assign these facilities to aviation maintenance companies if the battalion is dispersed in multiple facilities.

For organizations above AVIM that paint entire aircraft, locate the aircraft paint shop within a larger aviation maintenance building that includes hangar bays, tools, and spare parts storage. The shop space must have doors opening to the Hangar Access Apron (CATCD 11340).

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

For AVUM- and AVIM-level units, this space is included in the Standard Design for the Aircraft Hangar Complex.

**2. Programming Units**

Programming an Aircraft Paint Shop requires a requirements charrette to ensure that all technical, safety, health, and environmental requirements are included in the DD 1391.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Plan facility category code 21110, Aircraft Maintenance Hangar.

**2. Site Planning Considerations**

An Aircraft Component Maintenance Shop will typically be located within a larger facility. See facility category code 21110, Aircraft Maintenance Hangar, and the Aviation Unit Complex in Chapter 4 for site planning considerations.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

Army Standard for Aircraft Maintenance Hangar Complex	13-APR-12
	23-JUN-10
Attack Or Assault Battalion, Or Cavalry Squadron (AAC) Hangar Facilities Standard Design	
	30-SEP-10
General Support Aviation Battalion (GSAB) Hangar Facilities Standard Design	
	17-NOV-08
UFC 3-260-1 Airfield And Heliport Planning And Design	
	JAN-14
Unmanned Aircraft System (UAS) Hangar Standard Design	

**4. See Also**

21110    Aircraft Maintenance Hangar

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An enclosed building that provides space to start and operate the aircraft engine while it is mounted on support equipment after its removal from the aircraft. These tests aid the diagnosis and testing operations performed during extensive engine maintenance or rebuild. This category should be used for standalone facilities where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the aircraft maintenance hangar.

**Proponent:**

- DCS, G-4

**COS:**

- None

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

### 3. Complex

None.

**Complex:**

- None

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

The primary unit of measure for this facility category is SF.

### 5. Functional Areas

Table 21140-1 lists the functional areas by type and adequacy requirements for the Aircraft Engine Test Building.

Table 21140-1 Functional Areas and Adequacy		
Functional Area	Type	Adequacy
Aircraft Engine Test Area	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis of authorization is the capability to perform major power plant repair and rebuild above the field maintenance level. CATCD 21141, Aircraft Maintenance Bay, also accommodates this function.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The tasks associated with this facility are generally performed above the Aviation Intermediate Maintenance (AVIM) level by AMC organizations or vendor contractors. Determine that the unit has the capability to operate dismounted aircraft engines. Requirements calculations require an engineering study.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

The mission requires this facility to function as a whole.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility.

### 2. Programming Units

Program to requirements.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

See CATCD 21110, Aircraft Maintenance Hangar.

**2. Site Planning Considerations**

An Engine Test Building will likely be a portion of a larger maintenance facility or complex. See facility category code 21110 for site planning.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

UFC 3-260-01 Airfield and Heliport Planning and  
Design Attachment 18

17- NOV-08

**4. See Also**

21110 Aircraft Maintenance Hangar  
21141 Aircraft Engine Test Structure

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An open-sided structure that provides space to start and operate the aircraft engine while it is mounted on support equipment after its removal from the aircraft. This operation aids in the diagnosis and testing operations performed during extensive engine maintenance. This category should be used for standalone facilities where the structure is physically separate from the remainder of the maintenance activity, or to delineate functional open areas.

**Proponent:**

- DCS, G-3

**COS:**

- None

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

### 3. Complex

None.

**Complex:**

- None

### 4. Units of Measure

Primary: EA  
Secondary: GSF  
FAC: EA

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

### 5. Functional Areas

This is a structure. By definition, only buildings measured in SF have functional areas.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis of authorization is the capability to perform major power plant repair and rebuild above the field maintenance level. CATCD 21140, fixed crane, also accommodates this function.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.



## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate the size of the structure based on the size and number of required engine stands. The tasks associated with this facility are generally performed above the Aviation Intermediate Maintenance (AVIM) level by AMC organizations or vendor contractors. Determine that the unit has the capability to operate dismounted aircraft engines. Requirements calculations require an engineering study.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing structure, assign NUA corresponding to the required NSF.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The mission requires this structure to function as a whole.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility.

### 2. Programming Units

The Army does not have a minimum programming increment for this facility. Program to requirement.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See CATCD 21110. Because it is not enclosed, this facility generates a significant level of noise. Consider the impacts on adjacent facilities when planning for this facility.

## **2. Site Planning Considerations**

Facility category code 21141 describes a structure that is physically separate from any building. Ideally, locate the structure within close proximity of the unit's primary maintenance building. Consider noise hazards associated with this facility.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization, Mobile, when planning and programming this facility category.

### **2. Exceptions**

None.

### **3. References**

UFC 3-260-01 Airfield and Heliport Planning and Design Attachment 18 17- NOV-08

### **4. See Also**

21110 Aircraft Maintenance Hangar  
21140 Aircraft Engine Test Building

### 1. DA Pam 415-28 Description / Definition

A building consisting of shops, repair bays, and associated functional areas for the depot-level maintenance and repair of guided missile systems, parts, and ground handling equipment. At levels other than depot, these functions are performed in the Vehicle Maintenance Shop (21410) or the Missile Maintenance Building (21416). This category should be used for standalone facilities not part of the vehicle maintenance shop, or to delineate functional areas within the maintenance facility.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 21220 Guided Missile Launcher Equipment Shop, Depot Level

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building consisting of shops, repair bays, and associated functional areas for the depot-level maintenance and repair of guided missile launching equipment. This equipment may include the launch tower structure, hydraulics, and electronics. This shop is generally planned and programmed as part of the Guided Missile Maintenance Building, Depot Level (21210). At levels other than depot, these functions are performed in the Vehicle Maintenance Shop (21410) or Missile Maintenance Building (21416). This category should be used for standalone facilities not part of these other maintenance facilities, or to delineate functional areas within the maintenance facility.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 21210 Guided Missile Maintenance Building, Depot Level.

**1. DA Pam 415-28 Description / Definition**

A structure to which a ship needing repairs is floated and attached by support. Then, using a lock design, the water is removed. This leaves the entire hull exposed, which facilitates maintenance and repairs on areas usually underwater.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = LF
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure consisting of a cradle of wood or steel rollers on which a ship may be hauled out of the water along a fixed, inclined track leading up the bank of a waterway. Report the area of the cradle or steel rollers and the length of the rail track. Capacity of the cradle or rollers is also important, but is currently not reported.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

### 4. See Also

See 213xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

An enclosed building used to repair components and accessories of ships and amphibious vehicles that cannot be repaired onboard the vessel. This shop may include areas for electronics repair, welding, painting, and small-item fabrication.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

For structures, use category code 21335, Ship Repair Facility.

**Planning Level:**

- Unit

**4. See Also**

None.

**1. DA Pam 415-28 Description / Definition**

A structure used to repair components and accessories of ships and amphibious vehicles that cannot be repaired onboard the vessel. This shop may include areas for electronics repair, welding, painting, and small-item fabrication.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

For buildings, see category code 21330, Ship Repair Shop.

**4. See Also**

None.

**Planning Level:**

- Unit



### 1. DA Pam 415-28 Description / Definition

A standalone real property structure (not equipment) consisting of a crane and movable boom to hoist heavy objects at a ship-repair or related facility. Do not report cranes as part of another real property facility. Report the area of the cab, and also report the lifting capacity of the fixed crane in tons as the capacity) of the crane.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 213xx for related facility category codes.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that may include both organizational and support maintenance shops for vehicle and equipment repair performed by military personnel and authorized civilians, and that is to be used by Active and Reserve Component units from other installations conducting training at a host site such as a major training area. Do not use this category if the same unit uses the facilities year-round.

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- DCS, G-4

#### COS:

- Louisville

### 3. Complex

The Transient Training (TT) Vehicle Maintenance Shop will normally be a part of an Operational Readiness Training Complex (ORTC).

#### Complex:

- ORTC

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

Primary UM = SF: Total square feet of the building  
Secondary UM None  
FAC = SF Total square feet of the building  
CAP = VE: Number of vehicles concurrently reparable in the shop

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = NUA
- CAP = VE

The primary unit of measure for this facility category is SF.

Calculate the NUA and capacity of general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 21406-1 lists functional areas by type for a TT Vehicle Maintenance Shop. See the functional adequacy matrix following this facility category discussion.

Table 21406-1 TT Vehicle Maintenance Shop Mandatory Criteria	
Functional Area	Criteria
Vehicle Maintenance	<p>Provide two 32-foot-by-64-foot drive-through service bays with minimum 24-foot-wide overhead doors. Provide one maintenance pit, minimum 48 feet by 3.5 feet.</p> <p>Provide space for maintenance workbenches within service bays that also shall be used as weapons cleaning tables</p> <p>Provide a minimum interior bay clearance and overhead door height of 20 feet.</p>
Battalion Warehouse	Provide a minimum 2,000 SF battalion warehouse with covered loading dock and forklift ramp
Air Compressor	Provide a minimum 50 NSF room for an air compressor.
Tool / POL Room	Provide a minimum 500 NSF room for tool storage, weapons cleaning supplies, and POL (Petroleum, Oil and Lubricants).
SATS	Accommodate two SATS (Standard Automotive Tool Set) outside the tool room, outside the tool room including power and data connectivity and weather protection at doors.
Private Office	Provide one private office, minimum 110 NSF.
Restrooms	Provide minimum number of toilets, sinks, and electric water coolers in accordance with the International Plumbing Code.
PROGRAMMING OPTION Overhead Crane	As an Installation's option, provide one overhead bridge crane capable of supporting 10 tons, integrated into the building structure to operate over the entire maintenance bay area. i.

## B. Criteria

### 1. Basis of Allowance

The criteria authorize this facility category at one vehicle maintenance shop per transient battalion increment at installations that support annual training or rotational training.

### 2. Programmatic Application

RPLANS calculates TT Vehicle Maintenance Shops allowances based on the RC training loads from the ASIP for each installation. RPLANS allows 2,310 GSF per 500 personnel in the training load. RPLANS allows organizational storage associated with this building in facility category code 44224. RPLANS effective date is APR-2004.

The RPLANS algorithm is not based on the ORTC Standard Design.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible strength is the number of Reserve Component or training battalions requiring facilities at one time. The TT Vehicle Maintenance Shop is normally assigned to a visiting company or battalion when in use, and to the garrison at other times.

Planning Level:

- UM = NSF

Planning Level:

- UM = VE

### 2. Requirements Calculations

For the standard building, calculate two 32-foot-by-64-foot drive-through service bays. Each bay should have 24-foot-wide overhead coiling doors at each end of the bay.

Calculate vertical space for a 10-ton crane minimum hook height of 20 feet for both bays.

Calculate space for a trench drain with oil/water separators at each entrance to the service bays.

Calculate a 120 NSF office with a window to the vehicle maintenance bays.

The warehouse has a standard NSF of 3,025 NSF.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

The ORTC is for predeployment training, annual training (AT) for National Guard and Reserve units, and major training centers such as Fort Polk or Fort Irwin. Assign to rotational units based on one per battalion. Assign to garrison or BASEOPS contractor when not in use.

Locate at least one maintenance pit with the vehicle maintenance bays. Provide access to the vehicle maintenance bays by a 10-ton bridge crane. Provide each bay with compressed air, and data and phone connections. Provide an overhead vehicle exhaust system.

Provide each company assigned to the battalion that the TT Vehicle Maintenance Shop supports a weapons cleaning area. Separate each company area by wire mesh. Provide each weapons cleaning area access to the outside of the building. Provide access to the weapons cleaning area from the exterior of the building through 10-foot-by-10-foot overhead coiling doors.

Provide boot-wash facilities at each exterior entrance to the TT Vehicle Maintenance Shop.

Warehouse space within the TT Vehicle Maintenance Shop, though ideal, is not necessary. If warehouse space is needed, provide it at a building in close proximity. The warehouse needs a minimum height of 14 feet within the building.

Provide the building with an exterior covered loading dock with minimum dimensions of 30 feet long by 8 feet wide at 4 feet above the pavement. Provide access to the loading dock by a 16-foot-by-12-foot overhead coiling door located at the loading dock.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The suggested metric is as follows:

Sum the number of weeks during the year that each building was used to obtain total weeks used ( $\Sigma W$ ).

Multiply the number of buildings by 52 to obtain total weeks possible ( $\Sigma P$ ).

Divide ( $\Sigma W$ ) by ( $\Sigma P$ ) and multiply by 100 to obtain the utilization rate of the TT Vehicle Maintenance Shop.

The definition of assigned weeks is the sum of the number of weeks an eligible unit is assigned to each building.

Available weeks is the number of adequate facilities times 52.

## D. Programmable Increments

### 1. Standard Facilities

See the Standard Design floor plans for the TT Vehicle Maintenance Shop for ORTC at <http://mrsi.usace.army.mil/cos/louisville/SitePages/ortc.aspx>. The Standard Design size TT Vehicle Maintenance Shop in an ORTC is 10,032 SF. This includes the warehouse.

Note: This facility is for transient training, and therefore has different criteria than a Tactical Equipment Maintenance Facility (TEMF).

Table 21406-2 provides a list of planning factors for each module in a TT Battalion Headquarters Building. A standard building would include six weapons cleaning rooms.

Table 21406-2 Standard Shop Area	
Area	Size (NSF)
Warehouse	3,025
Covered Loading Dock	240
Vehicle Maintenance	4,096
Tool Room	400
Office	120
Weapons Cleaning Room	300

### 2. Programming Units

The minimum construction is two 32-foot-by-64-foot drive-through bays. However, program a complete standard building unless the bays will be collocated with existing facilities that meet the requirement for the other functional areas.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Recommended land use for the ORTC is Ranges and Training. This should normally be set near the boundary between the training areas and the main cantonment area to facilitate access of training personnel to community services. The ORTC “ideal site” requires approximately 30 acres.

### 2. Site Planning Considerations

This facility category is included in an ORTC battalion set. See Chapter 4 for information on complexes. Ideally, provide a site that can accommodate six battalions.

Locate the TT Vehicle Maintenance Shop in close proximity to other facilities supporting the battalion. These facilities include barracks, COF, battalion HQ, vehicle hard stands, and a dining facility. Locate each Battalion Complex in close proximity to other Battalion Complexes in the brigade, the TT Brigade HQ, and formation fields.

Provide POV parking for 10 percent of the ORTC Battalion Complex intended occupants.

## F. Other Considerations

### 1. Special Instructions

Contact the Center of Standardization, Louisville District.

### 2. Exceptions

None.

### 3. References

Operational Readiness Training Complex (ORTC) Standard Design, Revision 4.6	24-AUG-12
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Revised Army Standard for Operational Readiness Training Complex	12-FEB-12
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**4. See Also**

14184	Battalion Headquarters Building: Transient Training
14186	Company Headquarters Building- Transient Training
14187	Brigade Headquarters Building: Transient Training
17119	Organizational Classroom
44224	Organizational Storage Building
72114	Enlisted Barracks, Transient Training
72115	Enlisted Barracks, Mobilization
72212	Dining Facility: Transient Training
72412	Transient Training Officers Quarters



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission	Vehicle Maintenance Bay	A	4,096 NSF	No lower limit	2 repair areas, one equipped with maintenance pit
Attribute	Crane	A	10-ton bridge crane	No lower limit	
General	Office	A	120 NSF	120 NSF	Access to both repair areas
Mission	Warehouse	A	3,025 NSF	3,025 NSF	
Mission	Covered Loading Dock	A	240 NSF	240 NSF	Each company in the battalion has one Weapons Cleaning Area
Mission	Tool Storage	A	400 NSF	400 NSF	
Support	Public Shower	A		No lower limit	
Mission	Weapons Cleaning Areas	A	300 NSF per company	No lower limit	
Support	Janitor's Closet	A		No lower limit	
Support	Mechanical Room	A		No lower limit	
Support	Electrical Room	A		No lower limit	
Support	Eye Wash Station	A		No lower limit	
Presence Requirements for Adequacy:					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that includes both organizational and support maintenance shops to repair combat and tactical vehicles. This category includes National Guard organizational maintenance shops (OMS), field maintenance shops (FMS), and unit training equipment sites (UTES). OMS may be collocated with a readiness center/armory, or in a central location to support several readiness centers. This category does not include the combined support maintenance shop (CSMS) or the maneuver area training equipment site (MATES), which are reported as CATCD 21419, Combined Support Maintenance Shop/Maneuver Area Training Equipment Site.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

Mechanics assigned to the building and the type of repair capability of those mechanics determine the facility requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Army National Guard Director of Installations Services and Support Program. See category codes listed below for relevant information.

### 4. References

NG PAM 415-12: Army National Guard Facilities Allowances (Construction)	01-JUN-11
Army National Guard DG 415-2, Logistics Facilities Design Guide	01-JUN-11
Army National Guard DG 415-5, General Facilities Design Guide	01-JUN-11

**5. See Also**

- 21410 Vehicle Maintenance Shop
- 21411 Repair Bays, Non-DOL/DPW
- 21412 Maintenance Storage, Non-DOL/DPW
- 21413 Administration And Shop Control, Non-DOL/DPW
- 21414 General Item Repair Shop, Non-DOL/DPW
- 21415 Compact Item Repair Shop, Non-DOL/DPW
- 21416 Missile Maintenance Building
- 21417 Vehicle Paint And Prep Shop, Non-DOL/DPW
- 21418 Area Maintenance Support Activity/Equipment  
Concentration Site
- 21419 Combined Support Maintenance Shop/Maneuver Area  
Training Equipment Site

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for cleaning vehicle engine and frame component parts. This category should be used for standalone buildings where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

**NOTE:** Use this facility category for inventory purposes for existing standalone buildings only.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This facility corresponds to an area within a repair or maintenance bay, and is a functional area of CATCD 21410, which is part of the TEMF element of a Brigade Complex. ACSIM has defined TEMF as a complex. The TEMF may also be part of an Aviation Unit Complex or the C2F Complex.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Table 21408-01 lists the functional areas by type and adequacy requirements for the component cleaning facility.

Table 21408-01: Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Work Bays	Mission	D
Public Restrooms	Support	D
Internal Wash Area	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D – Not Required, if present collocated		

## B. Criteria

### 1. Basis of Allowance

This facility category is a mission functional area in a TEMF. See CATCD 21410, Vehicle Maintenance Shop, for the basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The Army standard does not provide requirements calculations for this facility category. However, the standard does advise:

“Internal washing is permitted within the TEMF primary structure on a limited basis. Washing is limited to component parts at the discretion of the local user if sediment collection is a concern.”

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

This space is a work area within a maintenance bay or bench repair area. It is not assigned separately.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this building.

**2. Programming Units**

Do not program new facilities in this facility category.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Plan with CATCD 21410.

**2. Site Planning Considerations**

See CATCD 21410.

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Savannah District.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

**4. See Also**

21410 Vehicle Maintenance Shop

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that may include both organizational and support maintenance shops for the repair of combat and tactical vehicles that belong to the Army Reserve. The building may include storage associated with the maintenance function, and may be located with an Army Reserve Center Building (17140). This shop will also be used as a training facility for unit maintenance personnel.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

Units and personnel assigned to the building determine the facility requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Chief, Master Planning, Army Reserve Installation Management Directorate.

### 4. References

AR 140-483 Army Reserve Land and Facilities Management Appendix B page 53 24-JUL-07

### 5. See Also

21410 Vehicle Maintenance Shop  
21411 Repair Bays, Non-DOL/DPW  
21412 Maintenance Storage, Non-DOL/DPW  
21413 Administration And Shop Control, Non-DOL/DPW  
21414 General Item Repair Shop, Non-DOL/DPW  
21415 Compact Item Repair Shop, Non-DOL/DPW  
21416 Missile Maintenance Building  
21417 Vehicle Paint And Prep Shop, Non-DOL/DPW  
21418 Area Maintenance Support Activity/Equipment Concentration Site

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides space and equipment to maintain vehicles and associated equipment for all levels of maintenance below depot level for TOE/TDA equipment except DOL/DPW/installation materiel maintenance activity (IMMA)/installation materiel maintenance directorate (IMMD) equipment. Typical operations include inspection, lubrication, preventive maintenance, diagnostic analysis, welding, body work, replacement of direct exchange systems, mobile maintenance team support, replacement of major components, repair of emission control system, performance of body and frame repair, sanding, painting, and administration and scheduling of vehicle use and maintenance. For maintenance of DOL/DPW/IMMA/IMMD vehicles, see the 218-series, Maintenance: Miscellaneous Procured Items and Equipment. VE is simply a count of the vehicle capacity of the facility. A single bay is one VE, and a double bay is two VE.

**NOTE:** DA PAM 415-28 designates this facility category as the Vehicle Maintenance Shop. The USACE designates this facility category as the Tactical Equipment Maintenance Facility or TEMF, the common designation.

**NOTE:** Report facilities under facility category code 21410, TEMFs, only for facilities used for the repair and maintenance of unit tactical vehicles. If reporting installation maintenance facilities, including maintenance on garrison vehicles, report appropriately under facility category code 21885 or 21910.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

Proponent:

- DCS, G-4

COS:

- Savannah



### 3. Complex

TEMFs will normally be part of the following complexes:

- Brigade Complex (MTOE)
- Aviation Unit Complex
- C2F (MTOE)

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F (MTOE)

Additionally, ACSIM defines the TEMF as a complex itself. See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: GSF  
Secondary: VE  
FAC UM: GSF  
Planning: NSF  
Planning: VE  
Area: NUA  
Capacity: VE

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = VE
- FAC UM = GSF
- Planning UM = NSF
- Planning UM = VE
- Area UM = NUA
- CAP = VE

Use the unit of measure, VE, to report the number of vehicle work areas in a maintenance facility. A work area is nominally 16' wide by 32' deep (512 NSF). A vehicle bay in a standard TEMF consists of two work areas. Do not count space as a work area, or VE, if it is not accessible to vehicle door.

Calculate the NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21410-1 lists the functional areas by type of the tactical equipment maintenance facility. See the functional adequacy matrix following this facility category discussion.

Table 21410-1 Tactical Equipment Maintenance Facility	
Functional Area	Type
Repair Bay	Mission
Overhead Crane	Attribute
Maintenance Bay	Mission
Welding Bay	Mission
Circulation Bay	Mission
Open Office	General
Consolidated Bench Repair	Mission
Tool Room	Mission
Combat Spares	Mission
Vehicle Mounted Weapons Vault	Mission
COMSEC Vault	Mission
Non-Sensitive Secure Storage	Mission
Telecommunications Room	Support
Brigade Logistics Support Team	General
Contractor Logistics Support (Admin and Shop Control)	General
Contractor Logistics Support (Maintenance Areas)	Mission
Internal Wash Area	Mission
SIPRNET Room	Support
Training Room	Mission
Public Showers	Support
Break Training/Conference Room	General

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow this space to battalion or battalion equivalent organizations with both maintenance personnel and supervisory personnel. The intent of the Army Standard is to provide this facility when a Forward Support Company or unit with similar capability is present. Separate companies and units, without organic maintenance capabilities, are not authorized dedicated TEMFs in their assigned footprint, but may be consolidated with companies having organic maintenance capabilities.

The basis for authorization is the presence of a motor sergeant, repair parts specialists and mechanics.

The basis of calculation is the number of authorized motor pool personnel by functional area. The Savannah Center of Standardization maintains the authorized size by Standard Design for MTOE organizations.

## 2. Programmatic Application

RPLANS calculates allowances by functional areas for TOEs with an SRC and many TDA organizations that require facilities in this category. RPLANS determines the amount of space allowed for each functional area, except for the Class I and Class II UAVs (see facility category code 21412), and then rounds the total building to one of four standard sizes. Consult RPLANS to determine which functional areas the unit(s) or organization(s) require.

**NOTE:** RPLANS calculates TEMF by SRC and generates allowances for battalion-sized units. The RPLANS allowance does not justify individual company level assignments.

## C. Planning

### 1. Planning Level

The planning level is unit, and specifically battalion.

Planning Level:

- Unit / Battalion

### 2. Requirements Calculations

A TEMF is composed of the repair and maintenance areas, and core areas.

The maximum gross areas for TEMF, including space for mechanical equipment is calculated utilizing TOE information contained in RPLANS with sizing algorithms. RPLANS calculates the facility gross square footages for all areas based on the OTOE data to fit into one of the four standard sizes of TEMF facilities.

Table 21410-2 A-D lists the requirement for standard sizes by the functional area. In no case may the maximum allowable gross area for any facility be exceeded.

Table 21410-2 A SMALL TEMF Requirements Calculation				
CORE ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL			NSF
Administration & Shop Control	6			820
Training Room	0			1,020
Consolidated Bench	6			580
Combat Spares	0			500
Tool Room	0			400
Latrine	0			480
Break, Conference & Training	0			270
Weapons Vault	0			300
COMSEC Vault	0			300
Secure Storage	0			300
Telecommunications Room (NIPRNet / SIPRNet)	0			280
<b>Core Area (NSF)</b>	<b>12</b>			<b>5,250</b>
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
Repair Areas	12		6	3,072
Maintenance Areas			8	4,096
Welding Areas			2	1,024
Total Work Areas			16	8,192
Secure Tool Storage / (4) Work Benches				192
Circulation Area		1		768
<b>Total Repair Area (NSF)</b>	<b>12</b>	<b>1</b>	<b>16</b>	<b>9,152</b>
<b>SHOP TOTAL (NSF)</b>				<b>14,402</b>
SHOP TOTAL (GSF) With Non-Assignable & Utilities Factor	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
<b>SHOP TOTAL</b>	<b>24</b>	<b>1</b>	<b>16</b>	
<b>MAXIMUM ALLOWABLE GROSS AREA (GSF)</b>				<b>18,800</b>

Table 21410-2 B MEDIUM TEMF Requirements Calculation				
CORE ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL			NSF
Administration & Shop Control	16			2,830
Training Room	0			1,070
Consolidated Bench	20			1,390
Combat Spares	0			970
Tool Room	0			850
Latrine	0			1,320
Break, Conference & Training	0			650
Weapons Vault	0			300
COMSEC Vault	0			300
Secure Storage	0			300
Telecommunications Room (NIPRNet / SIPRNet)	0			400
<b>Core Area (NSF)</b>	<b>36</b>			<b>10,380</b>
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
Repair Areas	40		14	7,168
Maintenance Areas			16	8,192
Welding Areas			2	1,024
Total Work Areas			32	16,384
Secure Tool Storage / (4) Work Benches				384
Circulation Area		1		768
<b>Total Repair Area (NSF)</b>	<b>40</b>	<b>1</b>	<b>32</b>	<b>17,536</b>
<b>SHOP TOTAL (NSF)</b>				<b>27,916</b>
SHOP TOTAL (GSF) With Non-Assignable & Utilities Factor	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
<b>SHOP TOTAL</b>	<b>76</b>	<b>1</b>	<b>32</b>	
<b>MAXIMUM ALLOWABLE GROSS AREA (GSF)</b>				<b>36,000</b>

Table 21410-2 C LARGE TEMF Requirements Calculation				
CORE ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL			NSF
Administration & Shop Control	40			4,810
Training Room	0			1,100
Consolidated Bench	36			3,800
Combat Spares	0			1,200
Tool Room	0			1,500
Latrine	0			1,850
Break, Conference & Training	0			1,340
Weapons Vault	0			300
COMSEC Vault	0			300
Secure Storage	0			300
Telecommunications Room (NIPRNet / SIPRNet)	0			440
<b>Core Area (NSF)</b>	<b>76</b>			<b>16,940</b>
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
Repair Areas	85		26	13,312
Maintenance Areas			26	13,312
Welding Areas			2	1,024
Total Work Areas			54	27,648
Secure Tool Storage / (4) Work Benches				576
Circulation Area		1		768
<b>Total Repair Area (NSF)</b>	<b>85</b>	<b>1</b>	<b>54</b>	<b>28,992</b>
<b>SHOP TOTAL (NSF)</b>				<b>45,932</b>
SHOP TOTAL (GSF) With Non-Assignable & Utilities Factor	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
<b>SHOP TOTAL</b>	<b>161</b>	<b>1</b>	<b>54</b>	
<b>MAXIMUM ALLOWABLE GROSS AREA (GSF)</b>				<b>58,200</b>

Table 21410-2 D EXTRA LARGE TEMF Requirements Calculation				
CORE ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL			NSF
Administration & Shop Control	57			7,600
Training Room	0			1,190
Consolidated Bench	71			6,550
Combat Spares	0			1,400
Tool Room	0			1,720
Latrine	0			3,370
Break, Conference & Training	0			2,020
Weapons Vault	0			300
COMSEC Vault	0			300
Secure Storage	0			300
Telecommunications Room (NIPRNet / SIPRNet)	0			670
<b>Core Area (NSF)</b>	<b>128</b>			<b>25,420</b>
REPAIR AREA ANALYSIS BY FUNCTIONAL AREA	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
Repair Areas	112		30	15,360
Maintenance Areas			34	17,408
Welding Areas			2	1,024
Total Work Areas			66	33,792
Secure Tool Storage / (4) Work Benches				768
Circulation Area		1		768
<b>Total Repair Area (NSF)</b>	<b>112</b>	<b>1</b>	<b>66</b>	<b>35,328</b>
<b>SHOP TOTAL (NSF)</b>				<b>60,748</b>
SHOP TOTAL (GSF) With Non-Assignable & Utilities Factor	NUMBER OF PERSONNEL	NUMBER OF CIRCULATION AREAS	WORK AREAS (512 NSF)	NSF
<b>SHOP TOTAL</b>	<b>240</b>	<b>1</b>	<b>66</b>	
<b>MAXIMUM ALLOWABLE GROSS AREA (GSF)</b>				<b>76,200</b>

Calculate space for latrines, showers and lockers for TOE and TDA TEMF authorized personnel other than personnel in Administration and Shop Control areas as indicated in the table below. For design purposes, assume women make-up 12 percent of the TEMF personnel. Table 21410-4 lists net square feet per occupant.

Table 21410-4 Latrine Sizing Factors	
Number of Facility Occupants	Net Square Feet per Occupant
0-25	60
26-50	20
51-75	15
76-175	14
176 or more	11

Use RPLANS to identify net areas required by functional areas using the procedures demonstrated in Chapter 7.

### 3. Assigning Space

#### a. Guidance

Assign TEMFs at battalion level whenever possible. Use small, non-standard legacy buildings for separate companies when there is no reasonable battalion affiliation. The gross areas associated with the Standard Designs are not always a good indicator of whether a legacy TEMFs will satisfy operational requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area based on the authorized personnel in the unit. See Chapter 7 for an example of comparing a TOE unit to the Standard Design to determine requirements.

#### i. Core Areas

The core areas consist of the admin and shop control area, the brigade logistics support area (if present), the consolidated bench, tool room, combat spares, weapons vault, cryptology vault, and telecommunications room.

Provide offices for supervisors, production control, and clerical personnel in the administration and shop control area. Assign space to accommodate contractors based on the documented number of contractors above the number of MTOE/TDA personnel authorized if contract personnel are present. When determining adequacy use guidelines for general functional areas in Appendix A.



When present, provide the brigade logistics support team (BLST) office space within the TEMF in accordance with Appendix A based on the authorized strength of the BLST. Note that some teams operate from consolidated office space in AMC facilities.

Provide consolidated bench space for the repair of large and small components. Locate the consolidated bench area on the first floor of the building, with an overhead coiling door and at least one window with an unobstructed 800-foot view. The window supports the calibration of weapon systems. When determining adequacy, each person assigned to this functional area receives 105 NSF of space.

The tool room is for the issue and secure storage of common and supplemental tool kits shared by shop personnel, and access to containerized Standard Automotive Tool Sets (SATS), when present. Locate the tool room adjacent to docking space for SATS if docking space is available. Locate SATS near the repair areas or adjacent to an exterior door for existing facilities not designed to accommodate SATS.

Assign unit common tool sets 97 NSF per tool set; assign supplemental tool sets 43 NSF per tool set. Assign three (3) NSF per mechanic for individual tool sets. Contract maintenance personnel receive 21 NSF of space for the storage of specialized tools.

The combat spares area is for docking the Authorized Stockage List – Mobility System (ASLMS) containers if available. Provide 50 NSF per four repair and maintenance bays for combat spares. If a docking area is not available provide

Provide two vaults, one storing vehicle mounted weapons and one for cryptology equipment. When possible the vaults should be adjoining the consolidated bench area to facilitate maintenance of controlled items.

Assign non-sensitive secure storage as flexible storage space for both shop personnel and contractors.

Provide every TEMF a break, training, and conference room (BCT) and a separate training room.

Provide a telecommunication room for the dedicated operation of the communications infrastructure of the TEMF

*ii. Repair and Maintenance Areas*

Repair and Maintenance areas feature standardized repair bays intended for the repair of a unit's tactical vehicles, including wheeled vehicles, tracked vehicles, and construction equipment, among others.

Standard repair bays consist of two repair work areas per bay, which share a common 24' door. Consult RPLANS to determine the number of repair bays allowed. Plan additional bays only if the organization is augmented with repair bay maintenance personnel not included in their MTOE. Units are authorized one work area per two mechanics.

When evaluating existing facilities, compare the number of adequate repair areas available to the number of repair areas required as shown in RPLANS. For separate companies not allowed TEMF in RPLANS use the unit attributes from RPLANS as described in Chapter 7 to determine the number of bays.

An inspection pit in the central vehicle corridor portion maintenance area will be provided. It will be 40 foot long by 3.5 feet wide with a core stair access..

Provide a circulation bay with personnel doors at each outside wall for emergency egress from the repair areas.

Provide welding areas for repairs requiring welding operations. Verify that the unit has welding capability and equipment. The space allowed for the welding area is two standard repair areas (1,024 NSF).

See facility category code 21412 for units with Class I or Class II UAVs.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

For programming, use facility category code 21410 for those portions of the TEMF complex within the footprint of the primary building. See the Standard Design floor plans for the Tactical Equipment Maintenance Facility immediately following the functional adequacy matrix. See Chapter 4 Complexes.

### 2. Programming Units

Table 21410-3 lists programming units by standard sizes. The smallest the Army will program is 18,800 GSF.

Table 21410-3 TEMF Standard Sizes – NSF and GSF				
	Core Area (NSF)	Repair Area (NSF)	Total Area (NSF)	Maximum Allowable Gross Area (GSF)
Small	5,250	9,152	14,402	18,800
Medium	10,380	17,536	27,916	36,000
Large	16,940	28,992	45,932	58,200
Extra Large	25,420	35,328	60,748	76,200

When existing facilities have insufficient or inadequate VE work areas, the minimum to program is one vehicle bay for Operations & Maintenance, Army (OMA) or Unspecified Minor Military Construction, Army (UMMCA).

Ensure program addresses all facility categories in a TEMF Complex.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This building is associated with troop land use areas.

See Chapter 4, Complexes, for additional information on land use.

### 2. Site Planning Considerations

A typical battalion TEMF with all associated facilities may require a site of from 7 – 10 acres. In determining site size consider the building footprint with a 70' apron, organizational parking space, a distribution warehouse footprint plus circulation space and non-organizational parking.

When possible, align TEMFs with combat trails to provide ready access to training areas. Access to roads or trails to the deployment processing area without transiting the cantonment is a plus when feasible.

Locate TEMFs associated with Brigade Combat Team (BCT) with their associated company headquarters in one large complex. Design flow from the brigade-battalion headquarters, through the company headquarters, to the TEMF. Establish a security line around the TEMF and organizational parking. See descriptions for facility category codes 14182 and 14183 and Chapter 4 for more information on the Brigade – Battalion Headquarters Complex.

Locate parking for POL vehicles, POV vehicles, and organizational vehicles adjacent to the TEMF. Provide connections for power, NIPR / SIPR communications, and compressed air in the hardstand area for each vehicle. Provide a rigid pavement designed hardstand to support the unit's heaviest vehicle.

Provide POV parking spaces for 56 percent of total assigned personnel. Locate parking spaces as close to the core area of the TEMF as possible in accordance with antiterrorism setbacks.

Different types of storage may be associated with the TEMF. Provide tanks for waste oil (one 500-gallon tank) and fluids (one 500-gallon tank), facility category code 21470.

Distribution companies should have an 8,000 NSF warehouse classified as organizational storage, facility category code 21412.

Provide hazardous waste storage building with a solid roof and walls. Size the building at 60 SF per every group of 25 vehicles or a minimum of 120 SF. This building stores used lubricants, flammable solvents, dry sweep, and other materials associated with TEMFs.

Provide space for a POL storage building for the storage of oil, lubricants, and flammable solvents for daily use adjacent to the TEMF. The POL building requires 60 SF per 25 vehicles, or 120 SF as a minimum.

Include an organizational storage building on the site, sized as determined by the organizational structure and the number of organizational vehicles times the vehicle footprint.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

If the installation cannot meet the 145-acre requirement for the BCT complex, document and submit alternatives considered in summary, with associated limitations, in the installation Master Plan, to IMCOM (IMAH-M) for Army-wide implications assessment.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

### 4. See Also

85210	Organizational Vehicle Parking, Paved
44224	Organizational Storage Building
21411	Repair Bays, Non DOL/DPW
21414	General Item Repair Shop, Non-DOL/DPW
21416	Missile Maintenance Building
21417	Vehicle Prep and Paint Shop, Non-DOL/DPW
21470	Oil Storage Building, Non-DOL/DPW
14185	Company Headquarters Building
14183	Battalion Headquarters Building
14182	Brigade Headquarters Building
21115	Tactical Unmanned Aerial Vehicle Hangar

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Repair Bay	A		512 NSF per repair area	No lower limit		2 bays per repair area
Attribute	Overhead Crane	A		One 10-ton crane	No lower limit		MSB replace 10-ton crane with 35-ton crane
Mission	Maintenance Bay	A		512 NSF per repair area	No lower limit		Equip one bay with undercarriage inspection pit
Mission	Welding Bay	D		1,024 NSF	No lower limit		
Mission	Circulation Bay	A		768 NSF	No lower limit		Provides emergency egress from repair areas
General	Open Office	A		130 NSF per person	No lower limit		Includes circulation factors
Mission	Consolidated Bench Repair	A		105 NSF per person	No lower limit		
Mission	Tool Room	A		97 NSF per common tool set	No lower limit		For issue and secure storage of tools. Align with SATS when possible.
				43 NSF per supplemental tool set 3 NSF per mechanic 21 NSF per contact maintenance PN			
Mission	Combat Spares	E		50 NSF per four repair bays	No lower limit		For ASLMS containers
Support	Latrine	A		Male and Female per floor	No lower limit		Provide on each floor

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Support	Shower and Locker Rooms	A			176 PN: 11 NSF PN 76-175 PN: 14 NSF PN 51-75 PN: 15 NSF PN 26-50 PN: 20 NSF PN 0-25 PN: 60 NSF PN		Assume women make up 12% of TEMF personnel
Mission	Weapons Vault	A		300 NSF	No lower limit		Secure Vault
Mission	COMSEC Vault	A		300 NSF	No lower limit		Secure Vault, storage for Cryptological equipment
Mission	Non-sensitive secure storage	A		300 NSF	No lower limit		
Mission	Internal Wash Area	A		512 NSF	No lower limit		Repair Bay
Mission	Telecommunications Room	A		Extra Large-600 NSF Large-600 NSF Medium-300 NSF Small-300 NSF	Extra Large-150/150 NSF Large-150/110 NSF Medium-150/110 NSF Small-150 NSF		One room per floor except Small with just one room
Mission	SIPRNET Room	A			36 NSF		May be located in telecommunications room with NEC approval
Mission	Training Room	A		1,080 NSF	1,080 NSF		
General	Break, Training/Conference Room	A		15 NSF per PN for half the building population	200 NSF		Distinct from Training Room
Mission	Contractor Logistics Support (Maintenance Areas)	D		12% of work area personnel	No lower limit		Applies to Consolidated Bench and Repair Areas, only when contractors are present
General	Contractor Logistics Support (Admin and Shop Control)	D		12% of work area personnel	No lower limit		Applies to Admin & Shop Control only when contractors are present

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Brigade Logistics Support Team	A		1,500 NSF	Per Appendix A based on number of BLST Personnel	
Presence Requirements for Adequacy:						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						
					In BSB	



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A facility that provides enclosed space for maintenance of wheeled and tracked TOE/TDA vehicles, except DOL/DPW/IMMA/IMMD vehicles. Repair bays are designed to fit in a standard structural bay. Each group of three structural bays is separated from any adjacent bay or group of bays by a circulation area. This category should be used for standalone buildings where the repair bays are physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. VE is simply a count of the vehicle capacity of the facility. A single bay is one VE, and a double bay is two VE.

***Note:** This facility category is normally a functional area in a facility with facility category code 21410. Use this category only for reporting standalone facilities.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

Facility category code 21411 is a functional area of the Tactical Equipment Maintenance Facility (facility category code 21410, Vehicle Maintenance Shop) Complex, which may also be part of the Brigade Complex (MTOE). TEMFs may occur in an Aviation Unit Complex or a C2F Complex for MTOE organizations.

See Chapter 4 for a discussion of the complexes.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F (MTOE)

### 4. Units of Measure

Primary UM	SF	
Secondary UM	VE	
FAC	SF	
CAP =	VE:	Total number of vehicle work areas

The primary unit of measure for this facility category is SF.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- CAP = VE

Report NUA for general functional areas in accordance with Appendix A.

Report the number of vehicle work areas as VE. A work area is nominally 16 feet wide by 32 feet deep (512 NSF). A vehicle bay in a standard TEMF consists of two work areas. Do not count space as a work area if it is not accessible to the vehicle door.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21411-1 lists the functional areas by type and adequacy requirements for Repair Bay, NON-DOL/DPW.

Table 21411-1 Repair Bay, NON DOL/DPW		
Functional Area	Type	Presence
Repair Bays	Mission	A
Training Room	General	A
Public Restrooms	Support	A
Circulation Bay	Mission	A
Mechanical/Electrical	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

Facility category code 21411 is the repair and maintenance area of the Vehicle Maintenance Shop (or TEMF), facility category code 21410.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total maintenance bay requirements in accordance with the facility category code 21410 discussions.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in facility category code 21410, or as in interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standard facilities for facility category code 21411. Program buildings for facility category code 21410.

### **2. Programming Units**

When a building in facility category code 21410 is functionally inadequate based on the number of vehicle bays, program two repair bays (four work areas). Otherwise, do not program this facility category.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See facility category code 21410.

### **2. Site Planning Considerations**

See facility category code 21410.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

**3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

**4. See Also**

21410    Vehicle Maintenance Shop

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for storage of maintenance items associated with the vehicle maintenance operation for TOE/TDA equipment, except DOL/DPW/IMMA/IMMD equipment. Three distinct subareas are included in this functional area. These include warehouse area, supply administration area, and direct exchange/technical support supply area. Also included are tool box storage areas, prescribed load list (PLL), and miscellaneous storage areas. This CATCD should be used for standalone buildings where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

***Note:** This facility category is normally a functional area in a facility with facility category code 21410. Use this category only for reporting standalone buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Centers of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

Facility category code 21412 Maintenance Storage, Non DOL/DPW will normally be a functional area of a Tactical Equipment Maintenance Facility (TEMF) Complex, which may also be part of the Brigade Complex (MTOE). TEMFs may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations.

See Chapter 4 for more information on this complex.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Volume: CF      Total volume of warehouse storage

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Volume = CF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21412-1 lists the functional areas by type and adequacy requirements for maintenance storage.

Table 21412-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Supply Administration	General	B
Warehouse Area	Mission	A
Direct Exchange / Technical Supply	Mission	D
Secure Storage	Mission	D
Restrooms	Support	B
Mechanical/Electrical	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category code 21412 is the maintenance storage functional area for the TEMF, CATCD 21410. Refer to facility category code 21410 for the basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculation

Calculate cubic feet of material, or apply planning factors in Table 21412-2 for functional areas within facility category code 21412.

Do not use these factors for planning new buildings, because facility category code 21412 is a functional area of CATCD 21410 and included in the Standard Design.

Table 21412-2 Calculation Factors for Maintenance Storage	
Area	Calculation Factor
Vaults	900 NSF
Warehouse	765 NSF per material handler
Supply Administration	130 NSF per occupant
Direct Exchange and Technical Supply	1,185 NSF

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign this space when these functional areas are not present in a TEMF.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this facility.

### 2. Programming Units

Do not program this type space without approval from IMCOM.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Plan in accordance with CATCD 21410.

### 2. Site Planning Considerations

Site near the repair bays/bench repair areas for CATCD 21410 that this building will support.

## F. Other Considerations

### 1. Special Instructions

None.

## 2. Exceptions

The Savannah COS has designated this category code for three elements of the TEMF complex.

- CATCD 44224 Organizational Storage Building
- CATCD 21115 Tactical Unmanned Aerial Vehicle Hangar
- CATCD 44220 Storage Building, General Purpose, Installation

These distinctions are not included under the current DA Pam 415-28, nor are they addressed in the Army Standard, which uses CATCD 21115 for UAS storage. The Army Standard for Aviation Hangar Complexes has designated CATCD 21115 for use with Class III and IV UAV unit facilities.

The Army standard does not address organizational storage or the Storage Building, General Purpose, Installation.

As of this publication date, these items are being reviewed at the HQDA level in a series of related staff actions to change DA Pam 415-28 and/or modify Army standards.

Consult Center of Standardization: Savannah District.

## 3. References

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters Battalion Headquarters	13-DEC-07

## 4. See Also

21410 Vehicle Maintenance Shop



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used by administrative and shop control personnel assigned to the vehicle maintenance facility. This category should be used for standalone buildings where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

***Note:** This facility category is normally a functional area in a facility with facility category code 21410. Use this category only for reporting standalone facilities.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Centers of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

Facility category code 21413 Administration and Shop Control, Non-DOL/DPW, is normally a functional area of a Tactical Equipment Maintenance Facility (TEMF), which may also be part of the Brigade Complex (MTOE). TEMFs may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations, or be a complex unto itself.

See Chapter 4 for a discussion of the complexes.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

The primary unit of measure for this facility category is SF.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Table 21413-1 lists the functional areas by type and adequacy requirements of Administration and Shop Control.

Table 21413-1 Functional Areas and Adequacy		
Functional Area	Type	Presence
Private Office	General	A
Open Offices	General	A
Break Room	General	A
Training Room	General	A
Private Shower	Support	A
Lockers	Support	A
Men's Restroom	Support	A
Women's Restroom	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category code 21413 is a functional area of a TEMF. Use CATCD 21410 for basis of allowance. Basis of calculation is the number of personnel in functional area.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD. RPLANS identifies the number of personnel in Administration and Shop Control in the unit attributes report.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total functional area requirements in accordance with the facility category code 21410 discussions.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in CATCD 21410, or as an interim solution when adequate buildings are not available. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

See facility category code 21410.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Use this facility category for inventory purposes for standalone buildings only. Do not plan new buildings as facility category code 21413, which is usually a functional area of CATCD 21410.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Plan with facility category code 21410.

### **2. Site Planning Considerations**

See CATCD 21410.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities - Standard Design	5-OCT-07
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

**4. See Also**

21410      Vehicle Maintenance Shop

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building suitable for such shop work as fuel system repair, large electronic component and motor repair, chemical equipment repair, and machine shop operations. This category should be used for standalone buildings where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

***Note:** This facility category code is normally a functional area in a facility with facility category code 21410. Use this facility category code only for standalone facilities.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Centers of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

The General Item Repair Shop, facility category code 21414, corresponds to the consolidated bench functional area of facility category code 21410, which may be part of the Tactical Equipment Maintenance Facility (TEMF) Complex, which may also be part of the Brigade Complex (MTOE). TEMF may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary        SF  
Secondary:    None  
FAC UM:      SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM =GSF

The primary unit of measure for this facility category is SF.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21414-1 lists the functional areas by type and adequacy requirements of a General Item Repair Shop.

Table 21414-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Adequacy
Private Office	General	D
Open Offices	General	D
Bench Repair Area	Mission	A
Tool Room	Mission	D
Parts Storage	Mission	D
Break Area	General	D
Restrooms	Support	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category codes 21414 and 24115, Compact Item Repair Shop, now make up the consolidated bench area of a TEMF, CATCD 21410. Refer to CATCD 21410 for basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate functional area requirements IAW CATCD 21410 discussions.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in CATCD 21410, or as in interim solution when adequate buildings are not available. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this facility.

### **2. Programming Units**

Use this facility category for inventory purposes for standalone buildings only. Do not program new buildings as facility category code 21414 without prior coordination with IMCOM.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See facility category code 21410.

### **2. Site Planning Considerations**

See facility category code 21410

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah.

### **2. Exceptions**

None.

**3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

**4. See Also**

21410 Vehicle Maintenance Shop



## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building suitable for performing bench shop work such as electrical, mechanical, and hydraulic repair of missiles; weapons support radar equipment repair; communications and electronics equipment repair; and cleaning, calibrating, and storage of small arms. This category should be used for standalone buildings where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

***Note:** This facility category is normally a functional area in a facility with facility category code 21410. Use this category only for reporting standalone facilities.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This building corresponds to the consolidated bench functional area of CATCD 21410, which may be part of the Tactical Equipment Maintenance Facility (TEMF) Complex or an element of the Brigade Complex (MTOE). TEMFs may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations. Additionally, ACSIM defines the TEMF as a complex itself.

See Chapter 4 for a discussion of the complexes.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

Primary        SF  
Secondary:    None  
FAC UM:       SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

The primary unit of measure for this facility category is GSF.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21415-1 lists the functional areas by type and adequacy requirements of a Compact Item Repair Shop, Non-DOL/DPW.

Table 21415-1 Functional Area and Adequacy Requirements		
Functional Area	Type	Presence
Private Office	General	D
Open Offices	General	D
Bench Repair Area	Mission	A
Tool Room	Mission	D
Parts Storage	Mission	D
Break Area	General	D
Restrooms	Support	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis of Allowance

Facility category code 21415 and CATCD 21414, General Item Repair Shop, now make up the consolidated bench area of a TEMF, CATCD 21410. Refer to CATCD 21410 for basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total functional area requirements in accordance with the CATCD 21410 discussion.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in CATCD 21410, or as in interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

See CATCD 21410.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Use this facility category for inventory purposes for standalone buildings only. Do not plan new buildings as CATCD 21415, which is a functional area of CATCD 21410, without IMCOM approval.

## **E. Land Use and Planning Site Considerations**

### **1. Land Use Considerations**

See CATCD 21410.

### **2. Site Planning Considerations**

See CATCD 21410.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

**3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3 25-JUL-13

Army Standard for Tactical Equipment Maintenance Facilities Facility Complex 28-FEB-08

UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters 3-DEC-07

**4. See Also**

21410 Vehicle Maintenance Shop

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building consisting of shops, repair bays, and associated functional areas for the maintenance and repair of missile systems, parts, ground handling equipment, and launching equipment at levels other than depot. Missile maintenance facilities are generally planned and programmed as part of the Vehicle Maintenance Shop (21410). This category should be used for standalone buildings, or to delineate functional areas within the vehicle maintenance facility.

**Note:** Use this facility category to describe buildings that would otherwise be facility category code 21410, but have a clear height of 30 feet or more in the repair bay area to accommodate Patriot, MLRS, HIMARS, and other nonlinear-of-sight (NLOS) systems.

**Note:** This facility differs from facility category code 21410 primarily in providing greater bay height to allow raising missile systems to launch position while in the maintenance bay.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This building corresponds to some of the repair functional areas of CATCD 21410, the Tactical Equipment Maintenance Facility (TEMF), an element of the Brigade Complex (MTOE). TEMF may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations. ACSIM also defines the TEMF as a complex itself.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

SF: Total square feet of the building

NSF: Total net square feet of mission and general functional areas

UA: Total net usable area of general functional areas

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

The primary unit of measure for this facility category is SF.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21416-1 lists the functional areas by type and adequacy requirements for the missile maintenance building.

Table 21416-1 Functional Areas		
Functional Area	Type	Presence
Repair Bays	Mission	A
Rest Rooms	Support	A
Circulation Bay	Mission	A
Open Offices	General	A
Mechanical/Electrical	Support	A
Bench Repair Areas	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

CATCD 21416 consists of functional areas in common with CATCD 21410. Refer to CATCD 21410 for basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Use this facility category for inventory purposes only.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this building.

**2. Programming Units**

Program CATCD 21410. Do not program new facilities for CATCD 21416 without approval from HQIMCOM. Use this facility category for inventory purposes only.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

See CATCD 21410.

**2. Site Planning Considerations**

See CATCD 21410

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Savannah.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

**4. See Also**

21410      Vehicle Maintenance Shop

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building consisting of shops, bays, and associated functional areas for the abrasive sand blasting, preparation, and painting of vehicles. Paint and prep shops are generally planned and programmed as part of the Vehicle Maintenance Shop (21410). This category should be used for standalone facilities, or to delineate functional areas within the vehicle maintenance facility.

*Note: The Army does not normally allow this function at the MTOE unit level. Use facility category code 21855 for standalone buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-4

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary        SF  
Secondary:    None  
FAC:          SF

#### Units of Measure:

- Primary UM =
- Secondary UM =
- FAC UM = SF

The primary unit of measure for this facility category is SF.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 21416-1 lists the functional areas by type and adequacy requirements for the Vehicle Prep and Paint Shop.

Table 21416-1 Functional Areas		
Functional Area	Type	Presence
Repair Bays	Mission	A
Rest Rooms	Support	A
Circulation Bay	Mission	A
Mechanical/Electrical	Support	A
Bench Repair Areas	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The Army does not allow this function at field maintenance level.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The functions associated with this facility are no longer authorized at TOE unit level.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Verify that units requesting this space have the authority and equipment to use it for its intended purpose.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Program facility category code 21410. Program facilities for TDA organizations as facility category code 21855, Vehicle Prep and Paint Shop, DOL/DPW/IMMA/IMMD.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See facility category code 21410.

### **2. Site Planning Considerations**

See facility category code 21410.

## **F. Other Considerations**

### **1. Special Instructions**

This building has specialized requirements to comply with health and safety laws, and environmental laws and regulations.

### **2. Exceptions**

None.

### **3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex, Brigade and Battalion Headquarters	3-DEC-07

### **4. See Also**

21410      Vehicle Maintenance Shop

### 1. DA Pam 415-28 Description / Definition

The maintenance and repair building associated with the storage of vehicles and equipment of various Army Reserve units in a geographical location. An inspection area also may be included in this building. The inspection area may be in the maintenance and repair building, or it may be a separate facility. Equipment storage may be contained within the maintenance and repair building; a separate building may be provided; open storage may be provided; or a combination of storage facilities may be provided. This building is supported by a large military equipment park (MEP). Only the maintenance and repair buildings are accounted for with this CATCD.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = GSF
- Secondary UM = None
- FAC UM = GSF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The number of vehicles and personnel assigned to the facility determine the requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Chief, Master Planning, Army Reserve Installation Management Directorate.

### 4. See Also

- 21409 Army Reserve Vehicle Maintenance Shop
- 21410 Vehicle Maintenance Shop
- 21411 Repair Bays, Non-DOL/DPW
- 21412 Maintenance Storage, Non-DOL/DPW
- 21413 Administration and Shop Control, Non-DOL/DPW
- 21414 General Item Repair Shop, Non-DOL/DPW
- 21415 Compact Item Repair Shop, Non-DOL/DPW
- 21416 Missile Maintenance Building
- 21417 Vehicle Paint And Prep Shop, Non-DOL/DPW

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

The maintenance and repair building associated with the storage of vehicles and equipment of various National Guard units at either the CSMS or MATES, which maintain equipment stored in a geographical location. An inspection area may be included in this building. The inspection area may be in the maintenance and repair building, or it may be a separate facility. Equipment storage may be contained within the maintenance and repair facility; a separate building may be provided; open storage may be provided; or a combination of storage types may be provided. This building is typically supported by a large MEP. Only the maintenance and repair buildings are accounted for with this CATCD. This category does not include OMS, FMS, or UTES, which are reported as CATCD 21407, National Guard Vehicle Maintenance Shop.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

Mechanics assigned to the building and the type of repair capability of the mechanics determine the facility requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

For information and guidance, contact Army National Guard Director of Installations Services and Support Program. See category codes listed below for relevant information.

### 4. References

NG PAM 415-12: Army National Guard Facilities Allowances (Construction)	01-JUN-11
Army National Guard DG 415-2, Logistics Facilities Design Guide	01-JUN-11
Army National Guard DG 415-5, General Facilities Design Guide	01-JUN-11

**5. See Also**

- 21407 National Guard Vehicle Maintenance Shop
- 21410 Vehicle Maintenance Shop
- 21411 Repair Bays, Non-DOL/DPW
- 21412 Maintenance Storage, Non-DOL/DPW
- 21413 Administration and Shop Control, Non-DOL/DPW
- 21414 General Item Repair Shop, Non-DOL/DPW
- 21415 Compact Item Repair Shop, Non-DOL/DPW
- 21416 Missile Maintenance Building
- 21417 Vehicle Paint and Prep Shop, Non-DOL/DPW
- 21418 Area Maintenance Support Activity/Equipment  
Concentration Site

### 1. DA Pam 415-28 Description / Definition

An enclosed building for depot-level vehicle maintenance. Depot maintenance provides overall maintenance including major overhaul and complete rebuilding of equipment as an alternative to new procurement. Rebuilding is the process of restoring an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. Depot maintenance is generally provided for items that exceed the capability of organizational, direct support, or general support maintenance; or where manufacturing tolerances must be met and maintained; or when highly specialized environmental facilities are required. It may be performed on parts, subassemblies, assemblies, and end items.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building used for depot-level rebuilding of components, which is the process of restoring items such as transmissions, drive trains, engines, suspensions, and so on, to a standard as near as possible to original or new condition in appearance, performance, and life expectancy.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure for depot-level vehicle maintenance. Depot maintenance provides overall maintenance, including major overhaul and complete rebuilding of equipment as an alternative to new procurement. Rebuilding is the process of restoring an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. Depot maintenance is generally provided for items that exceed the capability of organizational, direct support, or general support maintenance; or where manufacturing tolerances must be met and maintained; or when highly specialized environmental facilities are required. It may be performed on parts, subassemblies, assemblies, and end items.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.



### 1. DA Pam 415-28 Description / Definition

A building that provides for rack, bin, and shelf storage for parts required at depot level for tank/automotive maintenance. This category should be used for standalone facilities where the storage facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for steam cleaning vehicles, engines, and parts. The building has built-in high- and low-pressure steam and hot water boilers, and ramps to clean under vehicles. This category should be used for standalone facilities at depot level where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 21462 Steam Cleaning Facility, Depot Level for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = GSF
- Secondary UM = None
- FAC UM = GSF

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A structure for steam cleaning vehicles, engines, and parts. The structure has built-in high- and low-pressure steam and hot water boilers, and ramps to clean under vehicles. This category should be used for standalone facilities at depot level where the facility is physically separate from the remainder of the maintenance activity.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

See 21458 Steam Cleaning Building, Depot Level for related building category codes.

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for reconditioning drums/containers. Operations performed include washing, removing of dents, welding, and painting.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to store a unit's or organization's allocation of oil and lubricants. This building is normally partitioned into three areas for shop stock, POL, and paint. Oil, lubricants, and flammable solvents normally required on a daily basis by vehicle mechanics are stored here. Use CATCD 21865 for storage of paint and POL products for DOL/DPW/IMMA/IMMD activities.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

CATCD 21470 is a functional element of, and a separate building of the Tactical Equipment Maintenance Facility (TEMF), facility category code 21410, part of a Brigade Complex. TEMFs may also occur in an Aviation Unit Complex or a Command and Control Facility (C2F) Complex for MTOE organizations. Additionally, ACSIM defines the TEMF as a complex itself.

#### Complex:

- TEMF
- Brigade (MTOE)
- Aviation Unit
- C2F

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Table 21470-1 lists the functional areas by type and adequacy requirements of an Oil Storage Building, Non-DOL/DPW.

Table 21470-1 Functional Area and Adequacy Requirements		
Functional Areas	Type	Presence
Oil, Lubricant, Flammable Material Storage	Mission	A
Temporary Hazardous Waste Storage	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The basis for authorization is a mission to perform field maintenance. The basis for calculation is the number of authorized vehicles.

### 2. Programmatic Application

RPLANS provides 125 GSF per 25 vehicles or fraction thereof, with a minimum allowance of 240 GSF.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate 60 GSF per every group of 25 vehicles supported with a minimum of 120 GSF for one building for the storage of oil, lubricants, and flammable solvents for daily use.

Calculate space for a separate building on the same basis for the temporary storage of waste fuels, spent solvents, cleaning compounds, and similar hazardous waste.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign this building to the unit that operates a TEMF.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

The mission requires this facility to function as a whole.

## **D. Programmable Increments**

### **1. Standard Facilities**

Program this building as a component of, and in conjunction with, a TEMF, using the Standard Design.

### **2. Programming Increments**

These are generally less than 500 GSF. Program to the requirement in accordance with the TEMF Standard Design. The minimum building size is 120 GSF.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

See CATCD 21410.

### **2. Site Planning Considerations**

See CATCD 21410.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

### **3. References**

UFC 4-214-02 Tactical Equipment Maintenance Facilities (TEMF) Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08
UFC 4-140-01 Brigade Operations Complex Brigade and Battalion Headquarters	3-DEC-07

### **4. See Also**

21410      Vehicle Maintenance Shop

### 1. DA Pam 415-28 Description / Definition

A building equipped for depot-level maintenance on weapons up to and including caliber .60, and all gauges of shotguns. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); or Compact Item Repair Shop, Non-DOL/DPW (21415).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A building used to dispose of weapons that have been damaged beyond repair, or that are no longer needed because of obsolescence. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); or Compact Item Repair Shop, Non-DOL/DPW (21415).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building that provides a space for the depot-level repair of light weapons, which are those smaller than 155 mm. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); or Compact Item Repair Shop, Non-DOL/DPW (21415).

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building that provides depot-level a space to verify and, if necessary, adjust for weapon characteristics and accuracy or safety factors. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); or Compact Item Repair Shop, Non-DOL/DPW (21415).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building that provides a space for the depot-level repair of heavy weapons, which are those larger than 155 mm. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop (21414); or the Compact Item Repair Shop, Non-DOL/DPW (21415).

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building where depot-level maintenance operations on special weapons and associated components are conducted. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop Non-DOL/DPW (21414); or Compact Item Repair Shop, Non-DOL/DPW (21415).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 215xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure where depot-level maintenance of weapons and weapons systems is performed. This structure is not enclosed and has at least one open side. For structures other than buildings, measure square footage as the area under the roof.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 215xx for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used to perform depot-level work on ammunition in order to restore it to a completely serviceable condition. This usually involves the replacement of unserviceable or outmoded parts.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to perform depot-level surveillance tests and routine inspections on ammunition, ammunition components, and explosives to determine the current degree of serviceability and rate of deterioration.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used to receive incoming shipments of ammunition, and to provide depot-level space for unpacking, servicing, and distributing the munitions to storage facilities.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used at the depot level to destroy ammunition and explosives that are obsolete or unserviceable. Ammunition is separated into component parts such as casings, explosive/powder, and shells. Explosives are usually destroyed.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Area UM = SF
- Other UM = None
- Programming UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to destroy ammunition and explosives that are obsolete or unserviceable. Ammunition is separated into component parts such as casings, explosive/powder, and shells. Explosives are usually destroyed. This structure is not enclosed, and may or may not have a roof. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 216xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building at the depot level used for making, maintaining, and storing materials (boards, planks, and blocks) used to support or secure ammunition-related supplies in storage or in transit.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used to perform routine cleaning of ammunition components at the depot level.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

See 216xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to perform quality assurance and calibration of ammunition components at the depot level.

Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

Units of Measure:

- Primary UM = SF
- Secondary UM =  
None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to perform maintenance of ammunition and/or ammunition components.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to perform maintenance of ammunition and/or ammunition components at the installation level. Specific TOE units normally perform this activity.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 216xx for related facility category codes.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used for the depot-level repair of communications electronics equipment such as radios, teletypes, telephones, and computers. At levels other than depot, this function is performed for organizational maintenance in the Vehicle Maintenance Shop (21410), General Item Repair Shop Non-DOL/DPW (21414), or the Compact Item Repair Shop, Non-DOL/DPW (21415); and for installation support in the Maintenance Shop, General Purpose (21885), or Compact Item Repair Shop, DOL/DPW/IMMA/IMMD (21887).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 217xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for the testing and calibration of electronic and communications equipment, and electronics systems at the depot level. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); Compact Item Repair Shop, Non-DOL/DPW (21415); or Maintenance Shop, General Purpose (21885).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 217xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for the routine cleaning of electronic and communications components at the depot level. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, Non-DOL/DPW (21414); Compact Item Repair Shop, Non-DOL/DPW (21415); or Maintenance Shop, General Purpose (21885).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 217xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for the depot-level repair of mobile and fixed radar systems, including antennas and other related equipment. At levels other than depot, this function is performed in the Vehicle Maintenance Shop (21410); General Item Repair Shop, DOL/DPW (21414); Compact Item Repair Shop, Non-DOL/DPW (21415); or Maintenance Shop, General Purpose (21885).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 217xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for the depot-level repair of electronic gear used in aircraft and in aviation facilities. At levels other than the depot level for aircraft maintenance, use Aircraft Maintenance Hangar (21110) or Avionics Maintenance Shop, Installation (21117).

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 217xx for related facility category codes.

**Planning Level:**

- Unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that provides enclosed space for maintenance of wheeled and tracked vehicles. Repair bays are designed to fit in a standard structural bay. Each group of three structural bays is separated from any adjacent bay or group of bays by a circulation area. This CATCD should be used for standalone facilities where the repair bays are physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. Otherwise, it is generally part of the Maintenance Shop, General Purpose (21885). Report these facilities also with unit of measure vehicles (VE). VE is simply a count of the vehicle capacity of the facility. A single bay is one VE, and a double bay is two VE.

***Note:** This facility category is normally a functional area in facility category code 21885. Use this category only for reporting standalone buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: VE  
FAC: SF  
Capacity: VE

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- CAP = VE

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21835-1 lists the functional areas by type and adequacy requirements in the Repair Bay, DOL/DPW.

Table 21835-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Admin and Shop Control	General	B
Repair Bays	Mission	A
Training Room	General	B
Rest Rooms	Support	A
Circulation Bay	Mission	A
Mechanical/Electrical	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

Refer to CATCD 21885 when determining the allowance for facility category code 21835. Maintenance Shop, General Purpose, facility category code 21885, provides allowances for the repair and maintenance area.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total functional area requirements in accordance with the facility category code 21885 discussion.

### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as in interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each general functional

area. Verify the number of workspaces corresponding to a 512 NSF work area as defined in CATCD 21885.

Provide every maintenance building a conference room, and a separate training room that can also function as a break room.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Do not program this facility category except as an addition to, or augmentation for, a shortfall in facility category code 21885. When programming for this facility, do so in increments of one structural bay (two work bays at 1,024 NSF).

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Plan with facility category code 21885.

### **2. Site Planning Considerations**

Plan with facility category code 21885.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.



**3. References**

UFC 4-214-02: Tactical Equipment Maintenance                      25-JUL-13  
Facilities Standard Design Revision 4.3

Army Standard for Tactical Equipment Maintenance                      28-FEB-08  
Facilities

**4. See Also**

21885      Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the service, maintenance, and repair of railroad rolling stock.

### Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

None.

Proponent:

- DCS, G-4

COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other = None

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Area

Table 21840-1 lists the functional areas by type and adequacy requirements in a Railroad Equipment and Engine Maintenance Shop.

Table 21840-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Large Repair Bay	Mission	A
Tool Room	Mission	A
Parts Storage Room	Mission	A
Bridge Crane	Mission	A
Open Offices	General	A
Welding Bay	Mission	A
POL Storage	Mission	A
Oil/Water/Grit Separators	Mission	A
Break Room	General	A
Men's Restroom	Support	A

Table 21840-1 Functional Areas and Adequacy Requirements		
Women's Restroom	Support	A
Janitor Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
Showers	Support	A
Locker Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one Railroad Equipment and Engine Maintenance Shop where mechanics perform maintenance on rolling railroad stock.

### 2. Programmatic Application.

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

Planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

Determine requirements with a special engineering study.

### 3. Assignment of Space

#### a. Guidance

When assigning space in an existing building, assign NUA that corresponds to the required NSF for each functional area.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this building.

Programming UM:

- SF

### 2. Programming Units

Program to requirements.

## E. Land Use and Site Considerations

### 1. Land Use Considerations

An Industrial land use is appropriate for this facility category.

### 2. Site Planning Considerations

Facility category code 21840 requires access to railroad tracks.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

None.

### 4. See Also

21835      Repair Bays, DOL/DPW  
21845      Administration and Shop Control,  
              DOL/DPW/IMMA/IMMD

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building for use by administrative and shop control personnel assigned to the maintenance facility. This CATCD should be used for standalone facilities where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. Otherwise, it is generally part of the Maintenance Shop, General Purpose (21885).

***Note:** This facility category is normally a functional area in a facility with facility category code 21885. Use this category only for reporting standalone facilities.*

### 2. Proponent and Centers of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21845-1 lists the functional areas by type and adequacy requirements in the Administration and Shop Control, Non-DOL/DPW.

Table 21845-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Administration Area	General	A
Break Room	General	B
Training Room	General	B
Public Shower Rooms	Support	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis of Allowance

See CATCDs 21885 and 21910 (Engineering/Housing Maintenance Shop) for the basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD equal to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total functional area requirements in accordance with the facility category code 21885 discussion.

### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as in interim solution when adequate buildings are not available to satisfy all requirements.

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

**b. Facility Utilization Metrics**

Refer to Section C in the entry for facility category code 21885 for facility utilization metrics.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this building.

**2. Programming Units**

Do not program this facility category code except as an addition to, or augmentation for, a shortfall in facility category code 21885.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Plan with CATCD 21885.

**2. Site Planning Considerations**

Refer to Section E in the entry for facility category code 21885.

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Savannah District.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
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Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08
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**4. See Also**

21885 Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to test, recharge, and repair conventional wet-cell lead-acid batteries. This CATCD should be used for standalone facilities where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. Otherwise, use 21410, Vehicle Maintenance Shop, or 21885, Maintenance Shop, General Purpose.

*Note: This facility category is normally a functional area in facility category code 21885.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G-4

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

The primary unit of measure for this facility category is SF.

#### Complex:

- None

Primary:	SF	Total square feet of the building
Secondary:	None	
FAC:	SF	Total Square feet of the building
Planning:	USF	
Other:	NUA	Total Net usable area of general functional areas
CAP:	PN	Office capacity of general functional areas

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = USF
- Other UM = NUA
- CAP = PN

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 21850-1 lists the functional areas by type, nonspatial features, and adequacy requirements in the Battery Shop.

Table 21850-1 Functional Areas – Features – Adequacy		
Functional Area	Type	Presence
Charging Room	Mission	A
Open Offices	General	A
New Battery Storage	Mission	A
Used Battery Storage	Mission	A
Acid Storage Room	Mission	A
Underground Waste Acid Storage Tank	Mission	A
Deluge Shower	Mission	A
<b>Nonspatial Feature Requirements for Safety</b>		
Ventilation System	Mission	A
Sprinkler System	Mission	A
Eye Wash Station	Mission	A
Explosion-Proof Lights and Receptacles	Mission	A
Anti-acid Tile and Grout on Floors and Walls	Mission	A
Access Doors to Exterior on Used Battery Storage	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on mission, equipment, and authorized personnel to perform battery testing, maintenance, and repair. These are normally sustainment-level maintenance tasks done by TDA organizations.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is unit.

### 2. Requirement Calculations

Determine requirements by a site survey and user interviews.

Calculate requirements based on the number of personnel working in the shop; the number of benches, charging areas and storage areas they maintain; and the safety fixtures that are normally associated with this function. Refer to the facility category code 21885 discussion.

### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as in interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standard facilities for facility category code 21850. Facility category code 21885 uses the standard for facility category code 21410, Vehicle Maintenance Shop.

#### Programming UM:

- GSF

### 2. Programming Units

Program facility category code 21885.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

See facility category code 21885.

### 2. Site Planning Considerations

Do not locate in close proximity to fuel tanks or other explosive materials.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

2. Exceptions

None.

3. References

UFC 4-214-02: Tactical Equipment Maintenance Facility - Standard Facility	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	13-AUG-08
UFC 4-140-01: Brigade Operations Complex, Brigade and Battalion Headquarters	25-JAN-13

4. See Also

21885 Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building consisting of shops, bays, and associated functional areas for the abrasive sand blasting, preparation, and painting of vehicles. Paint and prep shops are generally planned and programmed as part of the Maintenance Shop, General Purpose (21885). This CATCD should be used for standalone facilities, or to delineate functional areas within the vehicle maintenance facility. Otherwise, it is generally part of the Maintenance Shop, General Purpose (21885).

***Note:** This facility category is normally a functional area in a facility with facility category code 21885. Use this category only for reporting standalone facilities.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G4

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21855-1 lists the functional areas by type and adequacy requirements for the Vehicle Paint and Prep Shop. CATCD 21855 is a functional area of Maintenance Shop, General Purpose (facility category code 21885).

Table 21855-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Admin and Shop Control	General	B
Repair Bay	Mission	A
Circulation Bay	Mission	A
Training Room	General	B
Men's Restroom	Support	A
Women's Restroom	Support	A
Mechanical/Electrical	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

Maintenance Shop, General Purpose, facility category code 21885, usually provides the functional areas for the Vehicle Paint and Prep Shop. Use facility category code 21885 for basis of allowance.

### 2. Programmatic Application

RPLANS sets the allowance for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

The standard paint shop is 2,048 NSF, the equivalent of four work areas. Adjust the requirement based on the mission.

### **3. Assigning Space**

#### **a. Guidance**

Assign sufficient bay space to accommodate the paint booth and the preparation area.

Provide every maintenance facility a conference room, and a separate training room that can also function as a break room.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this facility.

### **2. Programming Units**

Program facility category code 21885.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Refer to Section E in the entry for facility category code 21885.

### **2. Site Planning Considerations**

Refer to Section E in the entry for facility category code 21885.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

This facility has special health, safety, and environmental considerations.

### **2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08

**4. See Also**

21885      Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to store the DOL/DPW/IMMA/IMMD activities' allocation of oil and lubricants. This facility is normally partitioned into three areas: shop stock, POL, and paint. Oil, lubricants, and flammable solvents normally required on a daily basis by mechanics are stored here.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

#### Proponent:

- DCS, G4

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Table 21865-1 lists the functional areas by type and adequacy requirements in the Oil Storage Building.

Table 21865-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Oil, Lubricant, Flammable Material Storage	Mission	A
Temporary Hazardous	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow oil storage space as a portion of the Maintenance Shop, General Purpose, facility category code 21885, or as a standalone building in close proximity to the facility. Criteria base the allowance on the number of vehicles supported by the maintenance facility.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD equal to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

Calculate space for a hazardous waste storage building. Calculate 60 SF per every group of 25 vehicles, or a minimum of 120 SF for the building. An Oil Storage Building associated with a maintenance facility should have, as a minimum, two 500-gallon tanks for the storage of waste oil and fluids.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing facility, assign NUA within that facility that corresponds to the required NSF for each functional area.

This facility stores used lubricants, flammable solvents, dry sweep, and other materials.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Normally, program this facility as a portion of the programming for a Maintenance Shop, General Purpose, which uses the standards for facility category code 21410, Vehicle Maintenance Shop.

### 2. Programming Units

Program this facility with CACTD 21885 when included in the building footprint.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Plan with facility category code 21885.

### 2. Site Planning Considerations

Plan with facility category code 21885.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08

### 4. See Also

21885      Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description/Definition

A building used for storage of maintenance items associated with the maintenance of miscellaneous procured items and equipment. Three distinct subareas are included in this functional area: a warehouse area, a supply administration area, and a direct exchange/technical support supply area. Also included are toolbox storage areas, PLL, and miscellaneous storage areas. This CATCD should be used for standalone facilities where the facility is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. Otherwise, it is generally part of the 21885 Maintenance Shop, General Purpose.

**Proponent:**

- DCS, G4

**COS:**

- None

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

None.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

**Complex:**

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Volume: CF

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Volume UM = CF

### 5. Functional Areas

Table 21870-1 lists the functional areas by type and adequacy requirements in the Maintenance Storage, DOL/DPW/IMMA/IMMD.

Table 21870-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Secure Storage	Mission	A
Tool Room	Mission	A
Vaults	Mission	A
Warehouse Area	Mission	A
Direct Exchange/Technical Supply	Mission	A
Restrooms	Support	A
Mechanical/Electrical	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Use CATCD 21885 for basis of allowance.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

When actual volumes are not available, use the following planning factors for the following storage functions, when required.

Calculate unit common tool sets at 97 NSF per tool set; supplemental tool sets receive 43 NSF per tool set. Each mechanic requires 3 NSF of space for individual tool sets. Calculate 21 NSF of space for the storage of specialized tools for contract maintenance personnel.

Calculate two 300 NSF vaults for storage of vehicle-mounted weapons and cryptology equipment. The requirement may be higher if the using activity also performs maintenance on weapons or cryptology/COMSEC devices in the facility.

Calculate 300 NSF of nonsensitive secure storage for flexible storage space for shop personnel and contractors.

Calculate 765 NSF of warehouse space for each materials handling specialist for TDA organizations having a technical supply mission.

Calculate 130 NSF per occupant for warehouse supply administration.

Calculate 1,185 NSF for direct exchange and technical supply. This area provides space for the turn-in and issuing of direct exchange items; it also supports storage requirements for technical supply items.

Table 21870-2 lists planning factors for functional areas within CATCD 21870. Use these factors to determine, quantitatively, facility adequacy. Do not use these factors for planning new buildings because facility category code 21870 is usually a functional area of facility category code 21885.

Include additional volume of stored items based on interview and historic records.

Table 21870-2: Lists Planning Factors for Functional Areas	
Area	Planning Factor
Vaults	900 NSF
Warehouse	765 NSF per material handler
Supply Administration	130 NSF per occupant
Direct Exchange and Technical Supply	1,185 NSF
Tool Room	97 NSF per unit common tool set, 43 NSF per supplemental tool sets, 3 NSF per mechanic, 21 NSF per contact maintenance personnel

### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as an interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

The Tool Room is for the issue and secure storage of common and supplemental tool kits shared by shop personnel, and for access to containerized standard automotive tool sets (SATS).

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

This facility category is a functional areas included under the Tactical Equipment Maintenance Facility (TEMF) Standard Design. Refer to standards or Standard Design for facility category code 21410.

**2. Programming Units**

Program facility category code 21885.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Plan with CATCD 21885.

**2. Site Planning Considerations**

Site near the repair bays/bench repair areas this building will support.

**F. Other Considerations****1. Special Instructions**

Consult Center of Standardization: Savannah District.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08

**4. See Also**

21410	Vehicle Maintenance Shop
21885	Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to inspect damaged equipment prior to repair, and to verify completeness and quality of repairs before release from maintenance to the user. Also used to determine correction factors, and to adjust, repair, and certify measurement instruments such as torque wrenches, multimeters, and micrometers. This CATCD is associated with all types of maintenance. Calibration of test, measurement, and diagnostic equipment at the installation level is conducted in this facility.

***Note:** Use this facility category for inventory purposes only. Include installation-level functions in bench repair areas in 21885. AMC-operated facilities normally are facility category code 21522.*

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

This facility category is managed by the Savannah Center of Standardization.

#### Proponent:

- DCS, G4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA for general functional areas in accordance with Chapter 3 and Appendix A.

Calculate the capacity of general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21872-1 lists the functional areas by type and adequacy requirements for the Quality Assurance/Calibration Facility, General Purpose, Installation.

Table 21872-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Bench Repair Area	Mission	A
Open Offices	General	A
Men's Restroom	Support	A
Women's Restroom	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for activities with the mission, equipment, and authorized personnel to perform testing, maintenance, and repair or calibration of measuring devices.

### 2. Programmatic Application

RPLANS sets allowances equal to assets in the associated facility category.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

Calculate total functional area requirements in accordance with the facility category code 21885 discussions.



### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as an interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area. This facility is not normally appropriate for MTOE units.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or standard designs for this building.

Programming UM:

- SF

### 2. Programming Units

Do not program this facility category unless it will be the primary facility for an activity or organization whose primary mission is QA/QC of calibration below depot level.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Plan with facility category code 21885.

### 2. Site Planning Considerations

Plan with facility category code 21885.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

None.

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### 3. References

UFC 4-214-02: Tactical Equipment Maintenance                      5-OCT-07  
Facilities Standard Design

Army Standard for Tactical Equipment    25-JUL-13  
Maintenance Facilities Facility Complex

UFC 4-140-01 Brigade Operations Complex,    3-DEC-07  
Brigade and Battalion Headquarters

### 4. See Also

21885      Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A structure for the maintenance and repair of a wide range of nonorganizational items and equipment. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, report the area on the ground.

*Note: Do not use this facility category for facilities that meet the definition of a building.*

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

This facility category is managed by the Savannah Center of Standardization.

#### Proponent:

- DCS, G4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Primary:	SF
Secondary:	None
FAC:	SF
Planning:	SF
Other:	None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other UM = None

### 5. Functional Areas

By definition, there are no functional areas in structures.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the requirements for category code 21885, Maintenance Shop, General Purpose. Use facility category code 21885 to determine the basis

of allowance for this structure. The criteria allow space based on the number of technicians that require service bays to perform their assigned duties.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Calculate total functional area requirements in accordance with facility category code 21885.

### 3. Assigning Space

#### a. Guidance

Assign buildings in this facility category to meet shortages in facility category code 21885, or as in interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing structure, assign NUA corresponding to the required NSF.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There is no standard for this facility category. Facility category code 21885 uses the standard and Standard Design for facility category code 21410.

Programming UM:

- SF

### 2. Programming Units

Use this facility category to program auxiliary structures for facility category code 21885 and related buildings. Program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate auxiliary maintenance structures in designated equipment maintenance and service areas adjacent to other logistical support activities.

### **2. Site Considerations**

Provide POV parking at 35 SY per space for 70 percent of authorized civilian personnel.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

For new facilities, contact the Tactical Equipment Maintenance Facility's Center of Standardization: Savannah District.

### **3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facility - Standard Facility 25-JUL-13

Army Standard for Tactical Equipment Maintenance Facilities 13-AUG-08

UFC 4-140-01: Brigade Operations Complex, Brigade and Battalion Headquarters 25-JAN-13

### **4. See Also**

21885 Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the drying, inspecting, repairing, packing, and storing of parachutes, material, and equipment used in airborne operations and RDT&E activities. Personnel working in these facilities may service personnel parachutes, cargo parachutes, or a combination thereof. Heavy drop rigging facilities are included in this category.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None

Proponent:

- DCS, G4

COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

The primary unit of measure for this facility category is GSF.

Primary:	SF	
Secondary:	None	
FAC:	SF	
Planning:	NSF	Total net square feet of mission and general functional areas
Other:	None	
Area:	NUA	Total net usable area of general functional areas.

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Complex:

- None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Other UM = None
- Area UM = NUA

## 5. Functional Areas

Table 21881-1 lists the functional areas by type and adequacy requirements for the Airborne Equipment/Parachute Repair Shop.

Table 21881-1 Functional Areas and Adequacy		
Functional Area	Type	Presence
Folding Room	Mission	A
Inspection Room	Mission	A
Wash Room	Mission	A
Sewing Room	Mission	A
Drying Tower	Mission	A
Parachute Storage	Mission	A
Open Offices	General	A
Men's Restroom	Support	A
Women's Restroom	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the mission, equipment, and authorized personnel to perform folding, inspection, washing, and sewing of parachutes.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is unit.

### 2. Requirement Calculations

Calculate space requirements based on the number of tables required for the parachute inspection and folding function. Determine the number of tables from the following factors and formulas.

Inspection and repacking interval (IRI). Each personnel parachute (PP) must be inspected and repacked once every

120 days. After each use, cargo parachutes (CPs) must be inspected and re-packed.

Inspection and repacking time (IRT). One hour is required to inspect and repack each personnel and cargo parachute. One PP IRI cycle includes 88 working days. At 8 hours per day – one table can be used to inspect and re-pack 704 PP per IRI cycle = 235 PP per month. At 8 hours per day, one table can be used to inspect and repack 176 CPs per month.

Document the number of cargo parachutes used per month by taking actual installation averages for a 6-month period and extrapolating to the end-position period.

No. of PP Tables = PP on installation divided by 704

No. of CP Tables = CP used per month divided by 176

Table 21881-2 shows a combination of tables for personnel (PP) and cargo (CP) parachutes, and the corresponding area necessary to house the tables.

Table 21881-2 Area Required for Parachute Tables			
Number of Tables		Area	
PP	CP	NSF	NSM
2	1	4,852	450.8
5	2	7,528	699.4
9	5	12,036	1,118.2

The shakeout area is used to clean debris from parachutes. It is a specialized building area and requires a clear height of 60 to 100 feet (18.3 to 30.5 m). The drying tower requires a height of 60 to 100 feet (18.3 to 30.5 m), but also needs special environmental controls to aid in drying parachutes.

Calculate office space in accordance with Appendix A. Interview the unit to determine the number and type of spaces required.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area. Assign space to the quartermaster or other unit responsible for parachute packing and maintenance.



**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. It is suggested to contact shop supervisors and using units to determine utilization. Items to consider for utilization include frequency of repacking for personnel parachutes and any backlog in availability of either type of parachute.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this building.

Programming UM:

- SF

**2. Programming Units**

Program to requirements.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Locate near an airfield or heliport. It is also appropriate in Industrial and Troop land uses.

**2. Site Planning Considerations**

Site keeping the response time to a minimum in moving parachutes to using units. Provide parking for 38 percent of assigned personnel at 35 SY per space.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facility - Standard Facility	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	13-AUG-08
UFC 4-140-01: Brigade Operations Complex, Brigade and Battalion Headquarters	25-JAN-13

**4. See Also**

21885      Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description/Definition

A building suitable for such shop work as fuel system repair, large electronic component and motor repair, chemical equipment repair, and machine shop operations. This CATCD should be used for standalone facilities where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility. Otherwise, it is generally part of 21885, Maintenance Shop, General Purpose.

***Note:** This facility category is normally a functional area in facility category code 21885. Use this category only for reporting standalone buildings.*

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21882-1 lists the functional areas by type and adequacy requirements of a general item repair shop.

Table 21882-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Admin and Shop Control	General	B
Bench Repair Area	Mission	A
Training Room	General	E
Restrooms	Support	A
Break Room	General	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
E - Not Required, if present: adjacent or vicinity		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category codes 21882 and 21887 (Compact Item Repair Shop) make up the consolidated bench area of CATCD 21885.

The basis for authorization is supervisors and maintenance personnel. The basis of calculation is the number of personnel with administration/shop control functions, and the number of bench personnel. While this is included as a functional area in CATCD 21885, some maintenance activities work only on components and do not, therefore, require vehicle maintenance bays.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Consolidated bench, a functional area in facility category code 21885, can correspond to facility category code 21882, and may include several distinct types of shops. These may include: locksmith shops; paint shops; NBC protective and detection equipment repair shops; tire repair shops; radiator repair shops; canvas, leather and upholstery repair shops; woodworking and

furniture repair shops; diagnostic equipment repair shops; communications equipment repair shops; electronic warfare equipment repair shops; small-arms repair shops; audio/visual equipment repair shops; fire control shops; and counter space. Most of these may occur in CATCD 21887. Calculate total functional area requirements in accordance with the consolidated bench functional area in CATCD 21885.

Identify which of the trades or functions the intended tenant activity requires. As a rule of thumb, use 105 NSF per person for each authorized position that works in the shop on a full-time basis. For shop space, consider the size/quantity of equipment needed for each trade/function, understanding that they may not have personnel assigned to that function on a full-time basis. For example, the woodworking and furniture repair shop may require a table saw, band saw, drill press, lathe, and workbenches. The space requirement for these items is not dependent upon assigned operators because tradesman will use them as needed. Provide space for each piece of equipment based on its physical dimensions, and add sufficient space around the equipment to provide safety setbacks and safe circulation lanes.

Calculate total functional area requirements in accordance with the facility category code 21885 discussions.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in facility category code 21885, to satisfy requirements for maintenance activities that do not require vehicle bays, or as an interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

If the facility mission includes calibration of weapons, locate the area on the first floor of the building, with an overhead coiling door and at least one window with an unobstructed 800-foot view. The window supports the calibration of weapons systems. Total personnel assigned may include contractors, if contractors work in this functional area.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. It is suggested that each person assigned to

this functional area receive 105 NSF of space. Total personnel assigned should include contractors, if contractors work in this functional area. See facility category code 21885.

For existing facilities, compare the net area required with the adequate net area available by functional area to determine adequacy.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

The Army typically does not program this facility as a standalone building. If programmed, program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Plan with facility category code 21885.

### **2. Site Planning Considerations**

Refer to Section E.2. of facility category code 21885.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

### **3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08

### **4. See Also**

21885 Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description/Definition

A building used for the maintenance and repair of installation equipment, including garrison-support vehicles and a wide range of equipment such as cameras, household appliances, furniture, woodworking equipment, office equipment, medical equipment, canvas and leather, railway rolling stock and parts, construction equipment, and other installation equipment without its own maintenance facility category in the basic category 218-series.

***Note:** This facility uses the same Standard Design as the Vehicle Maintenance Shop (TEMF), facility category code 21410.*

*Use facility category code 21910, Engineering/Housing Maintenance Shop, for DPW-level operations relating to installation maintenance, for the maintenance and repair of buildings, roads, grounds, and utility systems.*

### 2. Proponent and Center of Standardization

#### a. Proponent

DCS, G-4

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G4

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Capacity: VE

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = VE

## 5. Functional Areas

Table 21885-1 lists the functional areas by type of a Maintenance Shop, General Purpose. See the functional adequacy matrix following this facility category discussion.

Table 21885-1 Maintenance Shop General Purpose Facility	
Functional Area	Type
Repair Work Bays	Mission
Overhead Crane – See Note 1	Attribute
Maintenance Bay	Mission
Welding Bay – See Note 2	Mission
Circulation Bay	Mission
Open Offices	General
Consolidated Bench Repair	Mission
Tool Storage Room	Mission
Combat Spares	Mission
Vehicle Mounted Weapons Vault	Mission
Cryptology Vault	Mission
Non-Sensitive Secure Storage	Mission
Telecommunications Room	Support
Contractor Logistics Support	General
Internal Wash Area – See Note 2	Mission
SIPRNET Room	Support
Training Room	Mission
Public Showers – See Note 3	Support
Break, Training, and Conference Room	General
Warehouse	Mission
Warehouse Supply Administration	General
Direct Exchange, Technical Exchange	Mission
<b>Notes:</b>	
1-This is not a functional area but is a functional requirement	
2-This area accommodated by a repair work bay	
3- Functional area includes facilities for both men and women	



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow a Maintenance Shop, General Purpose for TDA units having both maintenance and supervisory personnel. The criteria allow space based on the number of technicians that require service bays to perform their assigned duties. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties.

### 2. Programmatic Application

RPLANS provides an allowance at base level of 35,000 SF plus 580 SF per U.S. Direct Hire DOL and contractor DOL personnel in UICs within the base.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Determine the functional areas an organization requires and use Table 21885-2 to calculate the space requirements for the areas in the maintenance shop.

Table 21885-2 Requirements Calculations for Maintenance Areas	
Area	Requirements Calculation Factor
<b>Repair and Maintenance Area</b>	
Repair Area	5,120 NSF (based on 10 occupants) basic shop space + 512 NSF per additional occupant
Maintenance Area	One 512 NSF area per each repair area, not to exceed 12 areas
Circulation Bay	One 768 NSF bay
Welding area	Two standard repair areas, 1,024 NSF
<b>Core Areas</b>	
Administration and Shop Control	130 NSF per occupant
Training Room	1,080 NSF
Consolidated Bench	Basic shop space 8,000 NSF + 105 NSF per additional occupant
Break Training and Conference	15 NSF per half of facility population, NLT 200 NSF

Table 21885-2 Requirements Calculations for Maintenance Areas	
Area	Requirements Calculation Factor
Vaults	900 NSF; Weapons, COMSEC, Nonsensitive Secure Storage
Telecommunications Room	600 NSF
Warehouse Area	
Warehouse	765 NSF per material handler, or 30 percent of the sum of administration and shop control, repair areas, and consolidated bench if calculated value below 10 percent of this sum
Supply Administration	130 NSF per occupant; if the area exceeds 33% of the warehouse it is limited to 7% of the total of administration and shop control, repair areas, and consolidated bench.
Direct Exchange and Technical Supply	1,185 NSF

Calculate space for latrines, showers, and lockers in the building for those personnel working in hot and dirty conditions. Calculate showers and lockers for 60 percent of authorized personnel other than personnel in administration and shop control areas. Calculate facilities based on the assumption of women making up 12 percent of the DOL maintenance personnel, e.g., a building sized for 50 people would have 44 men and six women. Table 21885-3 lists net square feet per occupant for latrines.

Table 21885-3: Latrine Sizing Factors	
Number of Building Occupants	NSF per Occupant
0 to 25	60
26 to 50	20
51 to 75	15
76 to 175	14
176 or more	11

#### a. Repair and Maintenance Area

To determine the total number of personnel working in the repair and maintenance areas, total the number of personnel assigned to these facilities on the TDA. Include contractors when the contract specifies that government space will be provided. The basic requirement is normally for 10 repair areas (5,120 NSF).

For calculations, assign 20 percent of the mechanics to bench repair and the remainder to maintenance and repair bay areas. The basic requirement of 5,120 NSF provides space for ten mechanics. Calculate one standard repair area for each remaining mechanic. Adjust based on interview information.

Table 21885-4 lists the default shops allowed for each TDA maintenance organization. Confirm that the organization has the capabilities and missions associated with each shop. Assign the equivalent number of repair areas to each shop.

<b>TABLE 21885-4 TDA Shops</b>		
<b>Shop Type</b>	<b>NSF</b>	<b>Repair Areas</b>
Glass Repair Shop	512	1
Front End Alignment	512	1
Body and Fender Shop	512	1
Paint Preparation Area	512	1
Paint Booth Area	512	1

The shops in Table 21885-4 account for five mechanics. Calculate space for additional repair and maintenance areas at the rate of one repair area per mechanic. Calculate maintenance bays the same size as repair bays.

Calculate 105 NSF of space for each person assigned to consolidated bench. In addition to this space, calculate up to 8,000 NSF of basic shop space to account for those consolidated bench repair duties that require space without personnel. This may include a locksmith shop; paint shop; tire repair shop; canvas, leather and upholstery repair shop; woodworking and furniture repair shop; diagnostic equipment repair shop; audio/visual, equipment repair shop; and counter.

#### **b. Core Area**

To determine the total number of personnel working in the core areas, total the number of personnel assigned to the core area on the TDA. Include 12 percent for contractor factors, or total contractors when the contract specifies government space.

Calculate a 1,080 NSF training room that is divisible into two training areas, to facilitate training missions. This space also serves as a conference and break room.

Consolidated bench provides space for the repair of large and small components. Calculate the area on the first floor of the building, with an overhead coiling door and at least one window with an

unobstructed 800-foot view. The window serves in the calibration of weapon systems.

The tool room is for the issue and secure storage of common and supplemental tool kits shared by shop personnel. Calculate 97 NSF per tool set for unit common tool sets, and 43 NSF per tool set for supplemental tool sets. Calculate space for individual tool sets at 3 NSF per mechanic. Calculate 21 NSF of space for contact maintenance personnel for the storage of specialized tools.

Calculate space for latrines, showers, and lockers in the building for those personnel working in hot and dirty conditions. Calculate space for showers and lockers per Table 21885-3.

### **c. Warehouse Area**

For TDA organizations having a technical supply mission, assign warehouse space within the repair facility. Calculate 765 NSF of warehouse space within the repair facility for each materials handling specialist. Calculate 1,185 NSF for direct exchange and technical supply. This provides space for the issue and return of direct exchange items, as well as supporting storage requirements for technical supply items.

## **3. Assigning Space**

### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Provide every maintenance building a conference room, and a separate training room that can also function as a break room.

### **i. Repair and Maintenance Areas**

Repair and maintenance areas feature standardized repair bays intended for the repair of a unit's tactical vehicles, including wheeled vehicles, tracked vehicles, construction equipment, glass repair, front-end alignments, and painting.

Provide two standard repair areas for the welding area.

### **ii. Core Areas**

The administration and shop control area provides offices for supervisors, production control, and clerical personnel. Assign space to accommodate contractors at 12 percent of personnel assigned to the building, if contract personnel are present. When

determining adequacy, each person in the administration and shop control area receives 130 NSF.

Provide a break, training, and conference room for employee breaks as well as a multipurpose space for meetings, training, and conferences. Assign 15 NSF for half the building population, but not less than 200 NSF for this room.

Provide two 300 NSF vaults for the storage of vehicle-mounted weapons and cryptology equipment. The requirement may be higher if the using activity also performs maintenance on weapons or cryptology/COMSEC devices in the facility,

Provide 300 NSF of nonsensitive secure storage for flexible storage space for shop personnel and contractors.

### *iii. Warehouse Bays*

For TDA organizations having a technical supply mission, assign warehouse space within the repair facility. Assign 765 NSF of warehouse space within the repair facility for each materials handling specialist. If this value is below 10 percent of the total of administration and shop control, repair areas, and consolidated bench, then use 30 percent of the sum of these three areas.

Assign 130 NSF per occupant for warehouse supply administration. If this area exceeds 33 percent of the warehouse space, then provide 7 percent of the sum of administration and shop control, repair areas, and consolidated bench.

Assign 1,185 NSF for direct exchange and technical supply. This provides space for the issue and return of direct exchange items, as well as supporting storage requirements for technical supply items.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Standard building sizes do not exist for these facilities. When programming a DOL maintenance building, use the sum of all technical areas required.

## 2. Programming Units

The smallest increment for programming this facility category is 18,800 GSF.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This is an Industrial facility type. A typical maintenance shop with associated facilities may require a site of from 7 to 10 acres. In determining site size, consider the building footprint with a 70-foot apron, organizational parking space, a warehouse footprint (if required), plus circulation space, and nonorganizational parking.

### 2. Site Planning Considerations

Organizational Vehicle Parking, Paved, facility category code 85210, is associated with the facility to support vehicles awaiting repair. The hardstand itself should be made of rigid pavement designed to support the heaviest vehicle the organization maintains.

Plan POV parking spaces for 56 percent of total assigned personnel. Locate parking spaces as close to the core area of the Maintenance Shop as is possible in accordance with antiterrorism setbacks.

Different types of storage may be associated with the facility. Plan for tanks for waste oil (one 500-gallon tank) and fluids (one 500-gallon tank) (facility category code 21465).

Plan a hazardous waste storage building with a solid roof and walls. The building requires 60 SF per every group of 25 vehicles, or a minimum of 120 SF. This facility stores used lubricants, flammable solvents, dry sweep, and other materials. For secure open storage, plan 20 percent of the warehouse allowance per criteria.

Plan a POL storage building for the storage of oil, lubricants, and flammable solvents for daily use adjacent to the facility. The POL building requires 60 SF per 25 vehicles, or 120 SF as a minimum.

Plan the site for secured open storage sized at 20 percent of the warehouse allowance converted to SY.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance                      25-JUL-13  
Facilities Standard Design Revision 4.3

Army Standard for Tactical Equipment                                28-FEB-08  
Maintenance Facilities

### 4. See Also

85210      Organizational Vehicle Parking, Paved  
21865      Oil Storage Building, DOL/DPW/IMMA/IMMD

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	Repair Bay	A		512 NSF per repair area	No lower limit		2 bays per repair area
Attribute	Overhead Crane	A		One 10-ton crane	No lower limit		MSB replace 10-ton crane with 35-ton crane
Mission	Maintenance Bay	A		512 NSF per repair area	No lower limit		Equip one bay with undercarriage inspection pit. Limit of 12 bays
Mission	Welding Bay	D		1,024 NSF	No lower limit		Requirement varies; not all occupants require this functional area/attribute
Mission	Circulation Bay	A		768 NSF	No lower limit		Provides emergency egress from repair areas
General	Open Office	A		130 NSF per person	No lower limit		Includes circulation factors
Mission	Consolidated Bench Repair	A		8,000 NSF + 105 NSF per person	No lower limit		
Mission	Tool Room	A		97 NSF per common tool set 43 NSF per supplemental tool set 3 NSF per mechanic 21 NSF per contact maintenance PN	No lower limit		For issue and secure storage of tools
Mission	Combat Spares	E		50 NSF per four repair bays	No lower limit		Accommodated in warehouse module
Support	Latrine	A		Male and Female per floor	No lower limit		Provide on each floor



**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Support	Shower and Locker Rooms	A			176 PN: 11 NSF PN 76-175 PN: 14 NSF PN 51-75 PN: 15 NSF PN 26-50 PN: 20 NSF PN 0-25 PN: 60 NSF PN		Assume women make up 12% of TEMF personnel
Mission	Weapons Vault	A		300 NSF	No lower limit		Secure Vault
Mission	COMSEC Vault	A		300 NSF	No lower limit		Secure Vault, storage for Cryptological equipment
Mission	Non-sensitive secure storage	A		300 NSF	No lower limit		
Mission	Internal Wash Area	A		512 NSF	No lower limit		Repair Bay
Mission	Telecommunications Room	A		600 NSF	150 NSF		One room per floor except Small with just one room
Mission	SIPRNET Room	A			36 NSF		May be located in telecommunications room with NEC approval
Mission	Training Room	A		1,080 NSF	1,080 NSF		
General	Break, Training/Conference Room	A		15 NSF per PN for half the building population	200 NSF		Distinct from Training Room
Mission	Contractor Logistics Support (Maintenance Areas)	D		12% of work area personnel	No lower limit		Applies to Consolidated Bench and Repair Areas, only when contractors are present
General	Contractor Logistics Support (Admin and Shop Control)	D		12% of work area personnel	No lower limit		Applies to Admin & Shop Control only when contractors are present
General	Brigade Logistics Support Team	A		1,500 NSF	No lower limit		In BSB

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Warehouse	E		765 NSF per material handling specialist	No lower limit		If calculated area falls below 10% of the total of admin and shop control, repair areas, and consolidated bench, then use 30% of the sum of these areas as the warehouse space.
General	Warehouse Supply Administration	E		130 NSF per warehouse admin person	No lower limit		If the area exceeds 33% of the warehouse space it is limited to 7% of the sum of admin and shop control, repair areas, and consolidated bench.
Mission	Direct Exchange, Technical Exchange	E		1,185 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building suitable for performing bench shop work such as electrical, mechanical, and hydraulic repair of missiles; weapons support radar equipment repair; optical repair; and communications and electronics equipment repair. This CATCD should be used for standalone facilities where the shop is physically separate from the maintenance activity. Otherwise, it is a functional area of 21885, Maintenance Shop, General Purpose.

### 2. Proponent and Center of Standardization

#### a. Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### b. Center of Standardization

None.

Proponent:

- DCS, G4

COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21887-1 lists the functional areas by type and adequacy requirements of a compact item repair shop.

Table 21887-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Admin and Shop Control	General	B
Bench Repair Area	Mission	A
Training Room	General	E
Restrooms	Support	B
Break Room	General	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
E - Not Required, if present: adjacent or vicinity		

## B. Criteria

### 1. Basis for Authorization and Calculation

Facility category codes 21882, General Item Repair Shop, and 21887 make up the consolidated bench area of CATCD 21885, Maintenance Shop, General Purpose.

The criteria allow compact item repair facilities for TDA units having both maintenance and supervisory personnel. The criteria allow space based on the number of technicians that required service bays to perform their assigned duties. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Consolidated bench, a functional area in facility category code 21885, can corresponds to facility category code 21887 and may include several distinct types of shops. These may include: locksmith shop; paint shop; NBC protective and detection equipment repair shop; tire repair shop; radiator repair shop;

canvas, leather and upholstery repair shop; woodworking and furniture repair shop; diagnostic equipment repair shop; communications equipment repair; electronic warfare equipment repair shop; small arms repair shop; audio/visual equipment repair shop; fire control shop; and counter space. Most of these may occur in CATCD 21887. Calculate total functional area requirements in accordance with the consolidated bench functional area in CATCD 21885.

Identify which of the trades or functions the intended tenant activity requires. As a rule of thumb, use 105 NSF per person for each authorized position that works in the shop on a full-time basis. For shop space, consider the size/quantity of equipment needed for each trade/function, understanding that they may not have personnel assigned to that function on a full-time basis. For example, the woodworking and furniture repair shop may require a table saw, band saw, drill press, lathe, and workbenches. The space requirement for these items is not dependent upon assigned operators because tradesman will use them as needed. Provide space for each piece of equipment based on its physical dimensions, and add sufficient space around the equipment to provide safety setbacks and safe circulation lanes.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in facility category code 21885, to satisfy requirements for maintenance activities that do not require vehicle bays, or as an interim solution when adequate buildings are not available to satisfy all requirements. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

If the facility mission includes calibration of weapons, locate the area on the first floor of the building, with an overhead coiling door and at least one window with an unobstructed 800-foot view. The window supports the calibration of weapon systems. Total personnel assigned may include contractors, if contractors work in this functional area.

#### **b. Facility Utilization Metrics**

When determining adequacy, each person assigned to this functional area receives 105 NSF of space. Total personnel assigned should include a 12 percent contractor factor, if

contractors work in this functional area. See facility category code 21885.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

The Army typically does not program this building as a standalone building. If programmed, program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Plan with CATCD 21885.

### **2. Site Planning Considerations**

Refer to Section E in the entry for facility category code 21885.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah District.

### **2. Exceptions**

None.

### **3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08

### **4. See Also**

21885 Maintenance Shop, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building usually operated by the DPW (or equivalent organization) for the maintenance and repair of buildings, roads, grounds, and utility systems. The facility may also contain environmental shops, and supply and storage space for maintenance and repair items. Greenhouses operated by the DPW are also included in this facility. In some cases, small DPW maintenance facilities may be located within other buildings, such as hospitals, to provide on-site maintenance.

***Note:** This building uses the same Standard Design as the Vehicle Maintenance Shop (TEMF), facility category code 21410.*

*Use facility category code 21885 for DOL-level operations relating to the maintenance and repair of installation equipment, including garrison-support vehicles and a wide range of equipment.*

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities

#### b. Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- ACSIM Facilities

#### COS:

- Savannah

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF

Secondary: None

FAC: SF

CAP = VE: Total number of vehicle repair bays

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = VE

## 5. Functional Areas

Table 21910-1 lists the functional areas by type of the Engineering and Housing Maintenance Shop.

See the functional adequacy matrix following this facility category discussion.

Table 21910-1 Maintenance Shop General Purpose Facility	
Functional Area	Type
<b>Repair and Maintenance Area</b>	
Repair Work Bays	Mission
Overhead Crane – See Note 1	Attribute
Maintenance Bay	Mission
Welding Bay – See Note 2	Mission
Circulation Bay	Mission
<b>Core Areas</b>	
Open Offices (Admin and Shop Control)	General
Training Room	Mission
Consolidated Bench Repair	Mission
Tool Storage Room	Mission
Shop Stock	Mission
Non-Sensitive Secure Storage	Mission
Telecommunications Room	Support
Internal Wash Area – See Note 2	Mission
Public Showers – See Note 2	Support
Break, Training, and Conference Room	General
POL Storage Building	Support
Hazardous Waste Storage Building	Support
Warehouse	Mission
Warehouse Supply Administration	General
<b>Notes:</b>	
1-This is not a functional area but is a functional requirement	
2-This area accommodated by a repair work bay	
3- Functional area includes facilities for both males and females	

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize Engineering/Housing Maintenance Shops for TDA units having both maintenance and supervisory personnel. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties. The criteria allow shop space based on the number and type of maintenance personnel.



## 2. Programmatic Application

RPLANS provides an allowance at base level of 17,000 GSF, plus 135 GSF per DPW U.S. Direct Hire and DPW contractor in UICs within the base.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Facility category code 21910 has a variety of factors to consider in determining requirements. Many installations have contracted these functions, which means the default calculations in FPS do not address a major component of the workforce. Typically, the DPW requires plumbing, electrical, mechanical, carpentry, glass, locksmith, grounds maintenance, paint shop, and road maintenance shops. Furthermore, in OCONUS areas, it is often necessary to duplicate some shops because of the distance between sites within the installation.

Most DPW maintenance work occurs at facilities away from the shops. The size of the shops is a function of the equipment the shop needs to prepare materials off-site for transport to a job site. In addition to equipment, and without regard to the amount of overall consolidated storage, most shops maintain some shop stock, which requires floor space in the shop.

Verify the types of shops the DPW operates. Calculate requirements based on the size of the equipment and the work, and not by the number of personnel assigned to the shop discipline. Involve installation safety personnel when developing requirements for shops to ensure factoring appropriate safety setbacks into the calculations.

The DPW staff does not normally perform vehicle maintenance, except for operator's maintenance on assigned vehicles and equipment. However, the sizing of the repair and maintenance bays is generally compatible with the shop functions listed earlier. Most shops require a vehicle door to allow for delivery of supplies and equipment. Some DPWs need interior parking spaces for a limited number of vehicles to ensure they are protected from snow and available to respond to weather- or facility-related emergencies, such as power outages or other installation infrastructure failures.

Table 21910-2 lists the planning factors for the functional areas associated with facility category code 21910.

<b>Table 21910-2 Factors for Functional Areas</b>	
<b>Area</b>	<b>Requirements Calculation Factor</b>
<b>Repair and Maintenance Area</b>	
Repair Area	5,120 NSF (based on 10 occupants) basic shop space + 512 NSF per additional occupant
Maintenance Area	One 512 NSF area per each repair area, not to exceed 12 areas
Circulation Bay	One 768 NSF bay
Welding area	Two standard repair areas, 1,024 NSF
<b>Core Areas</b>	
Administration and Shop Control	130 NSF per occupant
Training Room	1,080 NSF
Consolidated Bench	Basic shop space 8,000 NSF + 105 NSF per additional occupant
Break Training and Conference	15 NSF per half of facility population, NTE 200 NSF
Vaults	900 NSF
Telecommunications Room	600 NSF
<b>Warehouse Area</b>	
Warehouse	765 NSF per material handler, or 30 percent of the sum of administration and shop control, repair areas, and consolidated bench if calculated value below 10 percent of this sum
Supply Administration	130 NSF per occupant
Direct Exchange and Technical Supply	1,185 NSF
Secure Open Storage	20 percent of warehouse

Repair and maintenance areas feature standardized repair bays intended for the repair of a unit's tactical vehicles, including wheeled vehicles, tracked vehicles, construction equipment, glass repair, front-end alignments, and painting. There are two repair areas, which share a common 2-foot door, in each repair area.

Calculate space for two standard repair areas for the welding area.

The administration and shop control area provides offices for supervisors, production control, and clerical personnel. Calculate space to accommodate contractors at 12 percent of personnel assigned to the building, if contract personnel are present. When determining adequacy, each person in the administration and shop control area receives 130 NSF.

Calculate a 1,080 NSF training room that is divisible into two training areas, to facilitate training missions. This space also serves as a conference and break room.

Consolidated bench provides space for the repair of large and small components. Provide the area on the first floor of the building, with an overhead coiling door and at least one window with an unobstructed 800-foot view. The window serves in the calibration of weapon systems.

Calculate up to 8,000 NSF of basic shop space to account for those consolidated bench repair duties that require space without personnel. A locksmith shop; paint shop; tire repair shop; canvas, leather and upholstery repair shop; woodworking and furniture repair shop; diagnostic equipment repair shop; audio/visual equipment repair shop; and counter space are part of consolidated bench.

The tool room is for the issue and secure storage of common and supplemental tool kits shared by shop personnel. Calculate 97 NSF per tool set for unit common tool sets, and 43 NSF per tool set for supplemental tool sets. Calculate space for individual tool sets at 3 NSF per mechanic. Calculate 21 NSF of space for contact maintenance personnel for the storage of specialized tools.

For TDA organizations having a technical supply mission, calculate warehouse space within the repair facility. Calculate 765 NSF of warehouse space within the repair facility for each materials handling specialist.

Include latrines, showers, and lockers in the building. Calculate showers and lockers for personnel who work in hot and dirty conditions at the rate of 60 percent of personnel not working in administration and shop control areas. Provide these facilities at a ratio of nine men to one woman.

Table 21910-3 lists net square feet per building occupant for latrines.

<b>Table 21910-3 Latrine Sizing Factors</b>	
<b>Number of Facility Occupants</b>	<b>NSF per Occupant</b>
0 to 25	60
26 to 50	20
51 to 75	15
76 to 175	14
176 or more	11

Calculate 600 NSF for the telecommunications room, the dedicated operation of the communications infrastructure of the TEMF.

The overall requirement is the sum of the requirements for all functional areas.

### **3. Assigning Space**

#### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign CATCD 21910 to DPW for facilities in operations relating to installation maintenance. Do not assign this type of space to units or organizations unless they have both maintenance personnel and supervisory personnel. Use FPS for determining which personnel fall under the various functional areas of the engineering/housing maintenance facility.

When facilities are not available to fulfill all requirements for facility category code 21910 in a single facility, facilities of the following facility category codes, if available, may be used in place of CATCD 21910 to help satisfy requirements: 21835, 21845, 21850, 21855, 21865, 21870, 21872, 21879, 21882 and 21887.

When using multiple facilities, the overall requirement will increase because of the need to provide duplicate support functional areas.

Provide every maintenance activity with a conference room, and a separate training room that can also function as a break room. Local labor laws or union requirements may affect the amount of space required.

When determining adequacy, each person assigned to consolidated bench receives 105 NSF of space. Provide the tool room space adjacent to the docking space for SATS, and adjacent to the repair areas.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. It is suggested to contact shop supervisors regarding utilization of this building. Areas to consider in determining utilization include the average time material is in repair (throughput), and use of storage space. Compare actual use with planning factors. Consider that certain bench-mounted power

tools, such as saws, presses and lathes, are required even if they are not in use 100 percent of the time.

For general-purpose administration spaces, calculate building utilization in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

## **D. Programmable Increments**

### **1. Standard Facilities**

Standard building sizes do not exist for these facilities. When programming a DPW maintenance facility, use the sum of all technical areas, then apply a 1.2 net-to-gross conversion factor for total building size.

### **2. Programming Units**

The Army does not have a stated minimum for programming. Avoid programming small facilities unless they directly support a major facility such as a hospital. Program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate maintenance shops in areas designated for Industrial land use.

### **2. Site Planning Considerations**

DPW maintenance shops generate a large volume of work-related traffic for vehicles needing access to the shops. Parking for DPW vehicles should be in a securable area because of vehicle-mounted tool sets and equipment.

Traffic patterns can be complex; mounted equipment can obstruct the line of sight of drivers when they are backing up.

Plan POV parking spaces for 90 percent of the authorized civilian and contractor workforce. Locate parking spaces as close to the core area of the facility as is possible in accordance with antiterrorism setbacks.

Provide an organizational storage building on the site, sized as determined by the organizational structure and the number of organizational vehicles.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance                      25-JUL-13  
Facilities Standard Design Revision 4.3

Army Standard for Tactical Equipment                              28-FEB-08  
Maintenance Facilities

### 4. See Also

21865              Oil Storage Building, DOL/DPW/IMMA/IMMD  
21922              Entomology Facility  
21925              Engineer Maintenance Facility  
44224              Organizational Storage Building  
85210              Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Repair Bay	A		512 NSF per repair area	5120 NSF		2 bays per repair area
Attribute	Overhead Crane	A		One 10-ton crane	No lower limit		MSB replace 10-ton crane with 35-ton crane
Mission	Maintenance Bay	A		512 NSF per repair area	No lower limit		
Mission	Welding Bay	D		1,024 NSF	No lower limit		Requirement varies; not all occupants require this functional area/attribute
Mission	Circulation Bay	A		768 NSF	No lower limit		Provides emergency egress from repair areas
General	Open Office	A		130 NSF per person	No lower limit		Includes circulation factors
Mission	Consolidated Bench Repair	A		8,000 NSF + 105 NSF per person	No lower limit		
Mission	Tool Room	A		97 NSF per common tool set 43 NSF per supplemental tool set 3 NSF per mechanic 21 NSF per contact maintenance PN	No lower limit		For issue and secure storage of tools
Mission	Shop Stock	E			No lower limit		Accommodated in warehouse module
Support	Latrine	A		Male and Female per floor	No lower limit		Provide on each floor

**APPENDIX F – FUNCTIONAL ADEQUACY MATRIX**

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Support	Shower and Locker Rooms	A			176 PN: 11 NSF PN 76-175 PN: 14 NSF PN 51-75 PN: 15 NSF PN 26-50 PN: 20 NSF PN 0-25 PN: 60 NSF PN		Assume women make up 12% of TEMF personnel
Mission	Weapons Vault	A		300 NSF	No lower limit		Secure Vault
Mission	Cryptology Vault	A		300 NSF	No lower limit		Secure Vault, storage for Cryptological equipment
Mission	Non-sensitive secure storage	A		300 NSF	No lower limit		
Mission	Internal Wash Area	A		512 NSF	No lower limit		Repair Bay
Mission	Telecommunications Room	A		600 NSF	150 NSF		One room per floor except Small with just one room
Mission	SIPRNET Room	A			36 NSF		May be located in telecommunications room with NEC approval
Mission	Training Room	A		1,080 NSF	1,080 NSF		
General	Break, Training/Conference Room	A		15 NSF per PN for half the building population	200 NSF		Distinct from Training Room
Mission	Warehouse	E		765 NSF per material handling specialist	No lower limit		If calculated area falls below 10% of the total of admin and shop control, repair areas, and consolidated bench, then use 30% of the sum of these areas as the warehouse space.
General	Warehouse Supply Administration	E		130 NSF per warehouse admin person	No lower limit		If the area exceeds 33% of the warehouse space it is limited to 7% of the sum of admin and shop control, repair areas, and consolidated bench.



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX

FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Direct Exchange, Technical Exchange	E		1,185 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the insect and rodent control (pest management) function of the installation DPW. It provides an entomology laboratory, insectary, and administrative and records storage space, and may include insecticide storage facilities. This CATCD should be used for standalone facilities where the shop is physically separate from the remainder of the maintenance activity, or to delineate functional areas within the maintenance facility.

**Proponent:**

- ACSIM Facilities

**COS:**

- None

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities

#### b. Center of Standardization

None.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

**Complex:**

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate the NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 21922-1 lists the functional areas by type and adequacy requirements in an Entomology Facility.

Table 21922-1 Functional Areas and Adequacy		
Functional Area	Type	Presence
Laboratory	Mission	A
Open Offices	General	A
Records Office	General	A
Deluge Shower	Mission	A
Restrooms, Men	Support	A
Restrooms, Women	Support	A
Storage	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis of allowance is garrison maintenance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Calculate requirements based on interviews and surveys. This facility category requires special environmental controls because of the toxicity of the materials used. Determine the quantity of equipment and pesticides stored, and the type of laboratory space, if any, needed to perform required tests.

Local laws in some OCONUS regions require a shower room and a clothes washer/dryer in the building to meet health and safety standards. It is advisable to provide these functions in buildings used for storing and handling pesticides even when not required by law.

### **3. Assigning Space**

#### **a. Guidance**

Assign buildings in this facility category to meet shortages in facility category code 21910, Engineering/Housing Maintenance Shop. It may be also be appropriate to provide a standalone building because of the toxicity of the materials associated with this function. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

Standard building sizes do not exist for these facilities. When programming a DPW maintenance facility, use the sum of all technical areas, applying a 1.2 net-to-gross conversion factor for total building size.

### **2. Programming Units**

The Army does not usually program this building as a standalone building. The Army usually programs this building in facility category code 21910.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Plan with facility category code 21910.

### **2. Site Planning Considerations**

Plan with facility category code 21910. Because of the toxicity of the materials associated with this facility, it should be in a fenced compound, if possible.

**F. Other Considerations****1. Special Instructions**

Coordinate closely with the entomology and environmental staffs when planning or programming this building.

**2. Exceptions**

None.

**3. References**

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
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Army Standard for Tactical Equipment Maintenance Facilities	28-FEB-08
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**4. See Also**

21910      Engineering/Housing Maintenance Shop

## A. Reporting

### 1. DA PAM 415-28 Description/Definition

A structure operated by the DPW for the maintenance and repair of buildings, roads, grounds, and utility systems. In some cases, small DPW maintenance facilities may be collocated with other buildings, such as hospitals, to provide on-site maintenance. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

***Note:** The AIT and BT/OSUT designate this facility category for a Lawn Equipment Building (LEB) in the respective complexes. Use facility category code 44224 in lieu of facility category code 21925 for this if the LEB is a building, or facility category code 44222 if the LEB is a structure.*

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities

#### b. Center of Standardization

Fort Worth District Center of Standardization

#### Proponent:

- ACSIM facilities

#### COS:

- Fort Worth

### 3. Complex

This facility category generally serves installations; it may be part of either the BT/OSUT or AIT schools complexes.

#### Complex:

- BT/OSUT
- AIT

### 4. Unit of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Net square footage is measured as the area under the roof, or, if no roof, the area on the ground.

### 5. Functional Areas

This facility is a structure that normally consists of an open area under a roof, and it may be partially enclosed. By definition, structures do not have functional areas.

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow engineer maintenance facilities as needed to support DPW maintenance activities, especially road and grounds maintenance.

BT/OSUT and AIT complexes identify this CATCD with a requirement for a 2,000 GSF LEB at AIT or BT/OSUT battalion level.

### 2. Programmatic Application

RPLANS set allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirement Calculations

Calculate requirements based on proposed use of the structure. It is frequently used to store materials such as gravel, road salt, sand, mulch, and similar items. They may be dispersed throughout the installation to facilitate response time.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing structure, assign NUA corresponding to the required NSF.

Assign this structure to the DPW or the activity performing DPW maintenance.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this structure.

## 2. Programming Units

Program to requirements.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Base land use on the primary building, facility, or activity that the structure supports.

### 2. Site Planning Considerations

When supporting community facilities, avoid placing this facility where it will be visible from primary approaches. Consider the need for service vehicle access.

## F. Other Considerations

### 1. Special Instructions

AR 420-1, paragraph 7-16, requires covered storage for all chemicals used for snow or ice removal. Use this category code if the storage provided is real property and does not qualify as a building.

Do not use this category code for buildings, only for structures.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facility 5-OCT-07

AR 420-1: Army Facilities Management 12-FEB-08 w/  
Rapid Action  
Revision dated  
24-AUG-12

### 4. See Also

21910 Engineering/Housing Maintenance Shop  
44222 Storage Shed, General Purpose, Installation  
44224 Organizational Storage Building



**1. DA Pam 415-28 Description / Definition**

A building used for the production of aircraft engines.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 221xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of airframes from airframe products, components, and multicomponent systems.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 221xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to inspect the components and the final product of an aircraft assembly plant to ensure that standards and specifications are met.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. See category codes listed below for relevant information.

### 4. See Also

See 222xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production of aircraft and/or aircraft parts. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 221xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of guided missiles.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 222xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of missile handling and launcher equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 222xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to inspect the components and the final product of a guided missile assembly plant to ensure that standards and specifications are met.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 224xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production of guided missiles and/or handling/launcher equipment. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 222xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used for the production of new military combat vehicles. Types of vehicles assembled may include armored personnel carriers, tanks, and self-propelled howitzers.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 224xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for testing the performance of new engines.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 224xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for treating combat vehicle components and automotive metal components to increase their tensile strength. It consists of equipment to control heating and cooling rates.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 224xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to deposit a thin layer of metal over various automotive components using mechanical, chemical, or electrical means. The plating provides a barrier from the environment to which the part may be exposed.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 224xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of combat vehicle and automotive parts.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code. See category codes listed

**4. See Also**

See 224xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to inspect the components and final product of a combat tank and automotive assembly plant to ensure compliance with standards and specifications.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 224xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production of tank/automotive vehicles and/or their component parts. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

**Proponent:**

- DCS, G4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 224xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of weapons of caliber .60 or less.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 225xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

A building used for the production of weapons of from 50 mm to 105 mm.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 225xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production, by pressing or hammering, of high-strength metal parts for weapons.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 225xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of weapons larger than 105 mm.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

See 225xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of cast metal components for weapons. The process involves pouring molten metal into molds to produce the required components.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Area UM = GSF
- Other UM = None
- Programming UM = GSF

### 4. See Also

See 225xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for bonding various weapon components together by use of an arc, oxyacetylene, or wire welder.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 225xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of weapons parts.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 225xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the inspection of weapons components to assure compliance with standards and specifications.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 225xx for related facility category codes.

Proponent:

- DCS, G-4

Complex:

- None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production and assembly of weapons and associated components. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

### 4. See Also

See 225xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used to fill cloth bags with a propellant. The bag charges are used to propel artillery rounds from a cannon to a target.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. WebRPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of acid that is used in the manufacture of explosives.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of lead azide, a crystalline explosive compound used as a detonating agent.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of chemical compounds or mixtures into explosives.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production or demilitarization of materials in solid, liquid, or gas form that have properties lethal or toxic to living organisms. Use this category for chemical demilitarization buildings.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of ammunition cases and containers. It normally includes operations for restoring large containers and ammunition casings to their original specifications for reuse.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of pyrotechnic ordnance.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of ammunition-related metal parts.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

A building used for the production of small-caliber ammunition.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for filling bomb shells with explosives.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for filling metal ammunition parts with propellant or explosives.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of ammunition from 40 mm to 75 mm.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of metal ammunition parts by pouring molten material into a mold.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the production of medium-caliber (76 mm-120 mm) ammunition.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the inspection and testing of components and ammunition to assure compliance with standards and specifications.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of ammunition larger than 120 mm.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

A building used for the production of large-caliber rocket motors.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of medium-caliber rocket motors.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for melting solid or flake high explosives, and pouring it into containers or ammunition components.

**Proponent:**

- DCS, G4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the production of special weapons.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for washing out ammunition casings.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used to fill casings with gunpowder.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 226xx for related facility category codes.

**Proponent:**

- DCS, G4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-Unit

### 1. DA Pam 415-28 Description / Definition

A building used to produce the fuel that, when ignited, provides a projectile with the propelling force necessary to reach the target area. The fuel may be either liquid or solid.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = GSF

### 4. See Also

See 226xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production and assembly of explosives. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 226xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used to manufacture leather and woven or knitted fabric for use in clothing and equipment. It also may include the manufacture of military clothing and/or cadet uniforms.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

22845      Miscellaneous Procured Item Production Structure

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure not enclosed by walls that is used for the production of miscellaneous procured items. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

22810      Leather/Textile/Clothing Plant

#### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

A structure used for the production of asphalt for use in flexible pavement, roofing, and similar items. The asphalt product is typically a semisolid mixture of mineral deposits uniformly coated with asphalt cement, emulsified asphalt, or cutback asphalt. Attendant and support facilities are operational facilities accounted for with 14169, Production Plant Support Building, or 14170, Production Plant Support Structure.

## 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See 229xx for related facility category codes.

### Proponent:

- ACSIM facilities

### Complex:

- None

### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for the production of concrete made from crushed rock or gravel, sand, cement, and water. Attendant and support facilities are operational facilities accounted for with 14169, Production Plant Support Building, or 14170, Production Plant Support Structure.

**Proponent:**

- ACSIM facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 229xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for the production of gravel/stone for installation use. The facility is also used in some locations to crush coal for heating plants. Attendant and support facilities are operational facilities accounted for with 14169, Production Plant Support Building, or 14170, Production Plant Support Structure.

**Proponent:**

- ACSIM facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 229xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure used to produce lumber for use in repair, blocking, bracing, and other installation uses. Attendant and support facilities are operational facilities accounted for with 14169, Production Plant Support Building, or 14170, Production Plant Support Structure.

**Proponent:**

- ACSIM facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 229xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the manufacture of ice.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 229xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

#### Planning Level:

- Other-than-unit

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# IMCOM SPACE PLANNING AND CRITERIA MANUAL

**PREPARED FOR:**

**United States Army Installation Management Command**



**PREPARED BY:**

**U.S. Army Corps of Engineers Huntsville Center**



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39010 Aircraft and Flight Equipment Facility

39014 Astronautical and Geophysical Facility

39018 Chemical Equipment and Material Facility

39024 Communication Equipment Facility

39028 Detection Equipment Facility

39030 Electrical Equipment Facility

39034 Electronic Equipment Facility

39038 Ground Transport Equipment Facility

39040 Guided Missile Facility

39064 Propulsion Systems Facility

39068 Ordnance Facility

39069 RDT&E Range

39075 RDT&E Range Impact Area

39076 RDT&E Drop Zone

39080 RDT&E Range Facilities

## **400 SUPPLY FACILITIES**

### **411 BULK LIQUID FUEL STORAGE**

41110 Marine Fuel Storage, Bulk, Above Ground

41111 Marine Fuel Storage, Bulk, Underground

41120 Aviation Gas Storage, Above Ground, Bulk

41121 Jet Fuel Storage, Above Ground, Bulk

41122 Aviation Gas Storage, Underground

41123 Jet Fuel Storage, Underground, Bulk

41130 Diesel Oil / JP8 Storage, Above Ground, Bulk

41131 Diesel Oil / JP8 Storage, Underground, Bulk

41140 Gasoline Storage, Above Ground

41141 Gasoline Storage, Underground, Bulk

41150 Liquefied Gas Storage, Above Ground

41151 Liquefied Gas Storage, Underground

41160 Liquid Propellant Storage, Above Ground

41161 Liquid Propellant Storage, Underground

41170 Lubricant Storage

41180 Fuel Oil Storage, Above Ground

41181 Fuel Oil Storage, Underground

### **412 LIQUID STORAGE OTHER THAN WATER, FUEL, and PROPELLANTS**

41210 Liquid Storage Non-Propellant

### **421 DEPOT and ARSENAL AMMUNITION STORAGE**

42104 Explosive Transfer Building, Depot Level

42107 Stradley, Nonatomic Blast Resistant, Depot Level

42110 Fuse and Detonator Magazine, Depot Level

42120 High Explosive Magazine, Depot Level

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<b>421</b>	<b>DEPOT and ARSENAL AMMUNITION STORAGE (continued)</b>
42150	Smokeless Powder Magazine, Depot Level
42160	Special Weapons Magazine, Depot Level
42170	Guided Missile Magazine, Depot Level
42180	Igloo Storage, Depot Level
42181	Ammunition Storehouse, Depot Level
42182	Small Arms Ammunition Magazine, Depot Level
42183	General Purpose Magazine, Depot Level
42184	Ammunition Hut, Depot Level
42186	Ammunition Storage Structure, Depot Level
<b>422</b>	<b>INSTALLATION and READY-ISSUE AMMUNITION STORAGE</b>
42210	Fuse and Detonator Magazine, Installation
42215	High Explosive Magazine, Installation
42225	Smokedrum Storehouse, Installation
42230	Small Arms Ammunition and Pyrotechnics Magazine, Installation
42231	Ammunition Storehouse, Installation
42235	Ready Magazine, Installation
42240	Fixed Ammunition Magazine, Installation
42250	Special Weapons Magazine, Installation
42260	Guided Missile Magazine, Installation
42280	Igloo Storage, Installation
42281	Ammunition Hut, Installation
42283	General Purpose Magazine, Installation
42285	Unit Small Arms Ammunition Storage, Installation
42286	Ammunition Storage Structure, Installation
42288	Ammo Storage Other Than Depot or Unit
<b>423</b>	<b>Liquid Propellant Ammunition Storage</b>
42310	Liquid Propellant Storage, Ammunition, Building
42311	Liquid Propellant Storage, Ammunition, Facility
42312	Liquid Propellant Storage, Ammunition, Structure
<b>424</b>	<b>Weapon-Related Battery Storage</b>
42410	Battery Cold Storage Building
<b>425</b>	<b>Open Ammunition Storage Pad</b>
42510	Ammunition Storage Pad
<b>431</b>	<b>Depot and In-Transit Cold Storage</b>
43110	Cold Storage Building, Depot Level
<b>432</b>	<b>INSTALLATION and READY ISSUE COLD STORAGE</b>
43211	Cold Storage Building, Installation
43220	Meat Cutting Plant, Installation
<b>441</b>	<b>DEPOT and ARSENAL COVERED STORAGE</b>
44110	Storage Building, General Purpose, Depot Level
44130	Controlled Humidity Warehouse, Depot
44135	Hazardous Material Storage, Depot Level
44150	Flammable Material Storehouse, Depot Level
44160	Radioactive Storage Warehouse, Depot Level
44170	Underground Storage Facility, Depot Level

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### **441 DEPOT and ARSENAL COVERED STORAGE (continued)**

- 44180 Open Warehouse, Depot Level
- 44181 Vehicle Storage Facility, Depot Level
- 44182 Vehicle Storage Building, Depot Level

### **442 INSTALLATION and ORGANIZATIONAL COVERED STORAGE**

- 44210 Aircraft Production Parts Storage, Installation
- 44215 Oxygen Storage Facility, Installation
- 44216 Storage Silo
- 44217 Acetylene Storage Facility, Installation
- 44220 Storage Building, General Purpose, Installation
- 44222 Storage Shed, General Purpose, Installation
- 44223 Arms Building for Battalion And Above
- 44224 Organizational Storage Building
- 44226 Unit Supply Support Activity (SSA)
- 44227 Central Issue Facility
- 44228 Hazardous Material Storage Building, Installation
- 44230 Controlled Humidity Warehouse, Installation
- 44240 Flammable Material Storehouse, Installation
- 44250 Underground Storage Facility
- 44260 Radioactive Storage Warehouse, Installation
- 44262 Vehicle Storage Shed, Installation
- 44263 Vehicle Storage Building, Installation
- 44271 Consolidated Housing Furniture Storage
- 44288 Installation Storage Other Than Depot or Organizational

### **451 DEPOT OPEN STORAGE**

- 45110 Open Storage Area, Depot Level

### **452 INSTALLATION and ORGANIZATIONAL OPEN STORAGE**

- 45210 Open Storage Area, Installation
- 45220 Land Farm

## **500 MEDICAL FACILITIES**

### **510 MEDICAL CENTERS and HOSPITALS**

- 51010 Medical Center / Hospital

### **530 MEDICAL and MEDICAL SUPPORT FACILITIES (LABORATORIES)**

- 53020 Laboratory
- 53025 Pharmacy
- 53030 Morgue
- 53040 Veterinary Facility
- 53045 Animal Shelter
- 53060 Medical Warehouse
- 53070 Ambulance Shelter
- 53071 Ambulance Garage
- 53080 Fisher House

### **540 DENTAL CLINICS**

- 54010 Dental Clinic

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### **550      DISPENSARIES and CLINICS**

55010      Health Clinic

## **600      ADMINISTRATIVE FACILITIES**

### **610      ADMINISTRATIVE BUILDINGS**

61001      Military Entrance Processing Station (MEPS)

61002      Recruiting Station: Storefront

61050      Administrative Building General Purpose

61055      Waiting Area / In-Out Processing

61065      Technical Library

61070      Red Cross Building

61075      Courtroom

### **620      UNDERGROUND ADMINISTRATIVE STRUCTURES**

62010      Underground Administrative Facility

### **690      ADMINISTRATIVE STRUCTURES OTHER THAN BUILDINGS**

69010      Flagpole

69020      Information Stand

69030      Facility Information Sign

## **700      HOUSING AND COMMUNITY FACILITIES**

### **711      Family Housing Dwelling**

71111      Family Housing, General Officer

71112      Family Housing, Colonel

71113      Family Housing, Lt Colonel and Major

71114      Family Housing, Company Grade and Warrant Officer

71115      Family Housing, Senior NCO

71116      Family Housing, Junior NCO / Enlisted

71117      Family Housing, Other Than Military

### **712      FAMILY HOUSING: TRAILERS**

71210      Family Housing Trailers

### **713      FAMILY HOUSING: TRAILER SITES**

71310      Trailer Sites

### **714      FAMILY HOUSING SUPPORT FACILITIES**

71410      Garage, Family Housing

71411      Carport, Family Housing

71420      Storage Building, Family Housing

71450      Trailer Park Service Building

### **720      TRANSIENT HOUSING**

72010      Army Lodging

### **721      ENLISTED PERSONNEL UNACCOMPANIED PERSONNEL HOUSING**

72111      Enlisted Unaccompanied Personnel Housing

72112      UPH, Warrior Transition Unit (New – Not In DA PAM 415-28)

72114      Transient Training Enlisted Barracks

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<b>721</b>	<b>ENLISTED PERSONNEL UNACCOMPANIED PERSONNEL HOUSING</b> (continued)
72115	Mobilization Enlisted Barracks
72121	Transient UPH, Advanced Individual Trainees (AIT)
72122	Transient UPH, Advanced Skills Trainees (AST)
72170	Unaccompanied Personnel Housing, Senior NCO
72181	Trainee Barracks
<b>722</b>	<b>UNACCOMPANIED PERSONNEL HOUSING MESS FACILITIES</b>
72210	Dining Facility
72212	Transient Training Dining Facility
<b>723</b>	<b>UNACCOMPANIED PERSONNEL HOUSING DETACHED FACILITIES</b>
72310	UPH Laundry Building, Detached
72350	Garage, UPH, Detached
72351	Carport, UPH
72360	Miscellaneous Facilities, Detached
<b>724</b>	<b>OFFICERS UNACCOMPANIED PERSONNEL HOUSING</b>
72410	Unaccompanied Officers Quarters, Military
72412	Transient Training Officers Quarters
<b>725</b>	<b>EMERGENCY UNACCOMPANIED PERSONNEL HOUSING</b>
72510	Hutment
72520	Tent Pad
<b>730</b>	<b>PERSONNEL SUPPORT and SERVICE FACILITIES</b>
73010	Fire Station
73011	Detached Fire Station Support Building
73012	Fire Tower
73013	Bus Station
73015	Confinement Facility
73016	Police / MP Station
73017	Chapel
73018	Religious Education Facility
73019	Family Life Center
73021	Garrison Bread and Pastry Kitchen
73028	Drug and Alcohol Abuse Counseling Center
73030	Laundry / Dry Cleaning Facility
73032	Laundry / Dry Cleaning Pick-Up Point
73046	Dependent School
73050	Air Raid / Fallout Shelter
73056	Smoking Shelter
73070	Miscellaneous Shed
73072	Post Office Branch
73073	Post Office, Main
73074	Privately Owned Vehicle Inspection Station
73075	Separate Toilet / Shower Building
73080	Ceremonial Hall
<b>740</b>	<b>INDOOR MORALE, WELFARE, and RECREATION FACILITIES</b>
74003	Nonappropriated Fund (NAF) Sales Outlet



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### **740 INDOOR MORALE, WELFARE, and RECREATION FACILITIES (continued)**

74006	Bank
74009	Boat House
74010	Auditorium, General Purpose
74011	Bowling Center
74012	Cafeteria
74013	Canteen
74016	Child Development Center – School-Age Facility
74017	Child Development Center – Under 6 Years of Age
74018	MWR Car Wash Building
74019	MWR Car Wash
74020	Military Clothing Sales Store
74021	Commissary
74022	Skill Development Center, Nonautomotive
74023	Credit Union
74024	Automotive Skills Center
74025	Army Continuing Education System Facility
74028	Physical Fitness Center
74029	Greenhouse
74030	Sports Pro Shop
74031	Golf Course Maintenance Building
74033	Army Community Services Center
74034	Community Activities Center
74035	Conservation Building
74036	Recreational Billets
74040	Library Branch
74041	Library Main
74046	Consolidated Open Dining Facility
74047	Enlisted Open Dining Facility
74048	Officer Open Dining Facility
74049	Riding Stable
74050	Exchange Branch
74051	Exchange Cafeteria
74052	Exchange Automotive Service Station
74053	Exchange Main Retail Store
74054	Exchange Maintenance Shop
74055	Exchange Warehouse
74056	Exchange Service Outlet
74058	Exchange Concession
74059	Exchange Car Wash
74060	Break/Lunch Room
74062	Fast Food / Snack Bar
74064	Post (Installation) Restaurant
74065	Recreation Equipment Checkout
74066	Youth Center
74068	Recreation Center

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### **740 INDOOR MORALE, WELFARE, and RECREATION FACILITIES (continued)**

74069	Community Fitness Center
74070	Indoor Roller Skating Rink
74072	Indoor Swimming Pool
74075	Recreational Support Building
74076	MWR Kennel
74078	Thrift Shop
74079	Homeless Support Shelter
74080	Self Storage Rental Facility
74082	Indoor Ice Skating Rink
74085	Private / Organizational Club Building
74087	Recreation Park Service Building
74089	Outdoor Pool Service Building

### **750 MORALE, WELFARE and RECREATION FACILITIES**

75011	Court Area
75017	Outdoor Ice Skating Rink
75018	Playground, General Purpose
75020	Baseball Field
75021	Softball Fields
75022	Multipurpose Athletic Field
75024	Archery Range
75025	Skeet Field
75027	Running Track
75028	Outdoor Roller Skating Rink
75029	Skateboard Park
75030	Outdoor Swimming Pool
75031	Aquatic Center: Recreational
75033	Vehicle Race Track
75036	Riding Arena
75040	Golf Course, 18-Hole
75041	Golf Course, 9-Hole
75042	Driving Range
75043	Pitch and Putt, 18-Hole
75044	Pitch and Putt, 9-Hole
75045	Miniature Golf Course
75050	Outdoor Theater
75052	Recreational Shelter
75060	Stadium
75061	Grandstand / Bleachers
75062	Ski Lift
75065	Jogging / Fitness / Bike Trail
75070	Recreational Pier / Platform
75071	Outdoor Community Fitness Center
75080	Fish / Wildlife Management Area
75084	Marina Facilities
75085	Recreation / Picnic Area

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### **750 MORALE, WELFARE and RECREATION FACILITIES (continued)**

- 75086 Recreational Trailer Park / Campground
- 75087 Boat Ramp
- 75088 Batting Cage
- 75089 Steam Cleaning Facility, MWR

### **760 MUSEUMS and MEMORIALS**

- 76010 Museum
- 76011 Museum Operations Support Building
- 76012 Museum Operations Support Structure
- 76013 Heritage Center Facility
- 76020 Monuments / Memorials
- 76030 Post Cemetery
- 76031 National Cemetery
- 76032 National Veterans Cemetery
- 76033 Pet Cemetery
- 76035 Columbarium Boundary Wall
- 76036 Columbarium Niche

## **800 UTILITIES AND GROUND IMPROVEMENTS**

### **811 ELECTRIC POWER SOURCE**

- 81113 Electric Power, Coal Fired
- 81115 Electric Power, Oil Fired
- 81117 Electric Power, Gas Fired
- 81121 Electric Power, Nuclear
- 81122 Electric Power Plant, Photovoltaic
- 81146 Wind Turbine
- 81150 Uninterruptable Power Supply
- 81160 Standby Generator
- 81171 Electric Power, Hydro
- 81172 Electric Power, Hydroelectric, Large

### **812 ELECTRIC POWER TRANSMISSION and DISTRIBUTION LINES**

- 81230 Exterior Lighting
- 81241 Overhead Electric Lines
- 81242 Underground Electric Lines

### **813 ELECTRIC POWER SUBSTATIONS and SWITCHING STATIONS**

- 81320 Substation
- 81350 Electrical Switching Station
- 81360 Transformers

### **821 HEAT SOURCE**

- 82110 Heating Plant, Coal Fired
- 82117 Heating Plant, Dual Fuel
- 82118 Heating Plant, Wood-Fired
- 82120 Heating Plant, Oil Fired
- 82130 Heating Plant, Gas Fired
- 82140 Heating Plant, Nuclear

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<b>821</b>	<b>HEAT SOURCE (continued)</b>
82150	Heating Plant, Steam
82160	Heating Plant, Electric
82182	Heating Plant, Solar
82187	Heating Plant, Geothermal (Environmental)
<b>822</b>	<b>HEAT TRANSMISSION and DISTRIBUTION LINES</b>
82210	Steam Condensate Lines
82220	Hot Water Lines
82221	Hot/Chilled Water Lines
82240	Steam Lines
<b>823</b>	<b>HEAT, GAS SOURCE</b>
82310	Gas Generating Plant
<b>824</b>	<b>Heat, Gas Transmission</b>
82410	Gas Pipelines
<b>826</b>	<b>REFRIGERATION (AIR CONDITIONING) SOURCE</b>
82610	Air Conditioning/Refrigeration Plant
82625	Heat Pump
<b>827</b>	<b>CHILLED WATER (AIR CONDITIONING) TRANSMISSION and DISTRIBUTION</b>
82710	Chilled Water Distribution System
<b>831</b>	<b>SEWAGE and INDUSTRIAL WASTE TREATMENT and DISPOSAL</b>
83110	Primary Waste Water Treatment
83112	Secondary Waste Water Treatment
83113	Advanced Waste Water Treatment
83120	Septic Tank and Drain Field
83130	Raw Sewage Lagoon and Oxidation Pond
83140	Industrial Waste Treatment Plant
83150	Sewage Lift Station
83180	Gravity Oil and Grease Separator
83181	Water and Grit Separator
<b>832</b>	<b>SEWAGE and INDUSTRIAL WASTE COLLECTION</b>
83210	Sanitary Sewer
83220	Combined Sewer
83240	Industrial Waste Sewer
<b>833</b>	<b>REFUSE and GARBAGE</b>
83310	Incinerator Facility
83312	Refuse Collection Facility
83320	Recycling Facility
<b>834</b>	<b>LANDFILLS</b>
83410	Sanitary Landfill
83420	Hazardous Waste Landfill
<b>841</b>	<b>WATER SUPPLY, and TREATMENT, POTABLE</b>
84110	Water Treatment Plant
84125	Filter Plant Facility
84130	Water Well, Potable
84141	Pump Station, Potable

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<b>841</b>	<b>WATER SUPPLY, and TREATMENT, POTABLE (continued)</b>
84150	Chlorinator Facility
<b>842</b>	<b>WATER DISTRIBUTION SYSTEM - POTABLE</b>
84210	Water Distribution Lines, Potable
84215	Supply Main, Potable
<b>843</b>	<b>WATER FIRE PROTECTION</b>
84330	Fire Protection System, Nonpotable
<b>844</b>	<b>WATER SUPPLY, STORAGE, NONPOTABLE</b>
84450	Chlorinator Facility, Nonpotable
84470	Water Well, Nonpotable
84472	Pump Station, Nonpotable
<b>845</b>	<b>WATER DISTRIBUTION SYSTEM, NONPOTABLE</b>
84510	Water Distribution Lines, Nonpotable
<b>846</b>	<b>POTABLE WATER STORAGE</b>
84610	Water Storage Tank, Potable
84620	Reservoir, Potable
<b>847</b>	<b>NONPOTABLE WATER STORAGE</b>
84710	Water Storage Tanks, Nonpotable
84720	Reservoir, Nonpotable
84730	Fire Protection Pond
84740	Water Retaining Basin
<b>851</b>	<b>ROADS</b>
85110	Cantonment Area Roads, Paved
85120	Vehicle Bridge
85130	Cantonment Area Roads, Paved
85150	Cantonment Area Tank Trails
<b>852</b>	<b>SIDEWALKS and OTHER PAVEMENTS</b>
85210	Organizational Vehicle Parking, Paved
85211	Organizational Vehicle Parking, Unpaved
85212	Staging / Marshalling Area
85215	Nonorganizational Vehicle Parking, Paved
85216	Nonorganizational Vehicle Parking, Unpaved
85218	Nonorganizational Vehicle Parking Garage
85220	Sidewalks and Walkways, Paved
85221	Sidewalks and Walkways, Unpaved
85225	Pad
85230	Pedestrian Bridges
<b>857</b>	<b>TRAINING AREA ROADS</b>
87510	Training Area Roads, Paved
85715	Training Area Roads, Unpaved
85720	Training Area Tank Trails, Paved
85725	Training Area Tank Trails, Unpaved
85730	Training Area Bridge
<b>860</b>	<b>RAILROAD TRACKS</b>
86010	Railroad Tracks

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### **861 RAILROAD FACILITIES OTHER THAN TRACK**

- 86110 Railroad Bridge
- 86120 Crane Tracks
- 86130 Railroad Scales
- 86140 Coal Trestle

### **871 GROUNDS, DRAINAGE**

- 87110 Storm Sewer
- 87120 Drainage Ditch
- 87130 Irrigation Facility
- 87140 Dikes
- 87150 Retaining Structure
- 87171 Pollutant Drainage System

### **872 GROUNDS FENCING and GATES**

- 87210 Fencing and Walls
- 87224 Security Fence
- 87230 Mechanical Security Barricade
- 87250 Gate
- 87255 Fire Breaks

### **880 FIRE and OTHER ALARM SYSTEMS**

- 88010 Fire Alarm System
- 88020 Watch Reporting System
- 88030 Air Raid Alarm System
- 88040 Intrusion Alarm System
- 88045 Radiation Sensing Device

### **881 FIRE EXTINGUISHING SYSTEMS**

- 88110 Automatic Water Sprinkler System
- 88120 Special Fire Extinguisher System
- 88130 Standpipe System

### **881 MISCELLANEOUS UTILITIES**

- 88111 Dam
- 88121 Lock
- 88131 Revetments
- 88141 Training Dikes with Wing Dams / Pile Dikes
- 88211 Flood Control Structure
- 88221 Flood Control Levee / Wall
- 88311 Fish Facilities

### **891 MISCELLANEOUS UTILITIES MEASURED in SF**

- 89111 Power Plant Building
- 89112 Acetylene Plant
- 89113 Power Substation/Switching Station Building
- 89115 Environmental Test Laboratory
- 89117 Inert Gas Plant
- 89120 Plant/Utilities Building
- 89121 Heating Plant Building
- 89123 Compressed Air Plant
- 89126 Refrigeration/Air Conditioning Building

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### **891 MISCELLANEOUS UTILITIES MEASURED in SF (continued)**

- 89127 Combined Air-Conditioning / Heat Plant Building
- 89130 Hazardous Building
- 89131 Sewage/Waste Treatment Building
- 89132 Oxygen Plant
- 89133 Refuse and Garbage Building
- 89141 Water Supply/Treatment Building, Potable
- 89144 Water Supply Building, Nonpotable
- 89148 Water Storage Building
- 89150 Shredder Facility

### **892 MISCELLANEOUS UTILITIES MEASURED in EA**

- 89210 Monitoring Wells
- 89215 Environmental Test Facility
- 89220 Energy Management Control System
- 89225 Gas Storage Tanks
- 89226 Vaporizer Station
- 89230 Traffic Signals
- 89235 Frequency Converter
- 89240 Fire Hydrants
- 89250 Railroad Crossing Signals
- 89260 Decorative Fountain/Pond
- 89270 Dam
- 89280 Lightning Protection System
- 89285 Improved Lands
- 89286 Semi-Improved Grounds
- 89287 Unimproved Grounds

### **893 MISCELLANEOUS UTILITIES MEASURED in LF.**

- 89310 Inert Gas Lines
- 89320 Compressed Air Line
- 89330 Vacuum Line
- 89340 Utilidors

### **894 MISCELLANEOUS UTILITIES MEASURED in CUBIC FEET per MINUTE**

- 89410 Cooling Tower

### **895 MISCELLANEOUS UTILITIES MEASURED in GALLONS**

- 89510 Imhoff Tank
- 89520 Pollutant Catch Basin
- 89530 Sewage Holding Tank
- 89540 Foam Mix Tank
- 89550 Waste POL Storage Tank
- 89560 Hazardous Waste Holding Tank

## **900 REAL ESTATE**

### **911 LAND PURCHASE, CONDEMNATION, DONATION or TRANSFER**

- 91110 Land Purchases and Condemnations
- 91120 Land Donation

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### **911 LAND PURCHASE, CONDEMNATION, DONATION or TRANSFER (continued)**

- 91130 Purchased Land Transfer from Air Force or Navy
- 91131 Donation Land Transfer from Air Force or Navy
- 91140 Purchased Land Transfer from Other Federal Agencies
- 91141 Donation Land Transfer from Other Federal Agencies
- 91150 Land Set Aside

### **912 PUBLIC DOMAIN WITHDRAWAL**

- 91210 Public Domain Withdrawal

### **913 LICENSE OR PERMIT**

- 91310 Public Domain Use Permit Interior
- 91320 Public Domain Permit Air Force or Navy
- 91330 Public Domain Permit Other Agencies
- 91340 Other License or Permit Air Force or Navy
- 91350 Other License from Other Federal Agencies
- 91360 Other License from Private Ownership
- 91370 Maneuver Rights-License/Permit

### **914 PUBLIC LAND TERRITORIES and POSSESSIONS**

- 91410 Public Land Territories and Possessions

### **915 LAND PURCHASE, DONATION, or TRANSFER TO STATE (NATIONAL GUARD USE ONLY)**

- 91510 Land Purchases and Condemnation: State
- 91520 Land Donation to State
- 91530 Purchased Land Transferred From Air Force or Navy to State
- 91531 Donation Land Transferred From Air Force or Navy to State
- 91540 Purchased Land Transferred From Other Federal Agencies to State
- 91541 Donation Land Transfer from Other Federal Agencies to State
- 91550 Land Set Aside By State

### **921 EASEMENTS**

- 92110 Easement, Purchased or Condemnation
- 92111 Donation Easement
- 92112 Easements Retained During Fee Disposal
- 92120 Purchase Easement Transfer from Air Force or Navy
- 92121 Donation Easement Transfer from Air Force or Navy
- 92130 Purchase Easement Transfer from Other Federal Agencies
- 92131 Donation Easement Transfer from Other Federal Agencies

### **922 IN LEASE**

- 92210 Land in Lease
- 92212 Land in State Lease

### **923 FOREIGN RIGHTS**

- 92310 Treaty or Base Rights Agreement
- 92320 Reciprocal Aid Agreement
- 92330 Requisitioned Land

### **932 SITE IMPROVEMENTS**

- 93210 Site Clearing and Grading
- 93220 Landscape Planting
- 93230 Landscape Berms/Mounds



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<b>932</b>	<b>SITE IMPROVEMENTS (continued)</b>
93240	Grounds Maintenance
<b>933</b>	<b>DEMOLITION</b>
93310	Demolition
<b>934</b>	<b>SITE IMPROVEMENT</b>
93410	Cut and Fill
<b>940</b>	<b>CONTAMINATED LAND</b>
94010	Land Contaminated
94011	Limited Depth Transfer Land

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### 1. DA Pam 415-28 Description / Definition

A building used to house experiments on the composition, structure, and properties of substances, and the transformations they undergo.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used in the research of plant diseases.

**2. Criteria**

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 310xx for related facility category codes.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for studying the structure, properties, and uses of various metals.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for studying the reactions and structure of atomic nuclei.

**2. Criteria**

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 310xx for related facility category codes.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for studying matter and energy, and their interactions, in fields such as acoustics, optics, mechanics, thermodynamics, and electromagnetism.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for research, development, and testing in the field of ergonomics, including aspects of living and working, biology, and equipment and its effects on the human body.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit



### 1. DA Pam 415-28 Description / Definition

A specialized laboratory building for conducting medical research.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure typically collocated with the Medical Research Lab (31060) that provides areas larger than holding rooms where animals are kept for use in research, development, and testing activities. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

#### Proponent:

- ASA (ALT)

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 310xx for related facility category codes.

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A specialized laboratory building for conducting dental research. The building may include storage and administrative space relating to the function.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An enclosed building used to observe and record fish and wildlife activities. The building may include equipment such as fish ladders, a fish hatchery, and so on.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building containing climatic chambers that can duplicate environmental conditions found anywhere on earth. These chambers can test both human subjects and equipment on a long-term basis. The building also may include living quarters where scientists can conduct research in areas such as nutritional intake and sleep patterns of human subjects.

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 310xx for related facility category codes.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for clinical, diagnostic, teaching, research, or production work that is performed with indigenous or exotic agents with a potential for respiratory transmission, and which may cause serious and/or potentially lethal infection applicable to Risk Group 3 pathogenic agents as defined by the latest edition of “Biosafety in Microbiological and Biomedical Laboratories,” U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building used for clinical, diagnostic, teaching, research, or production work that is performed with indigenous or exotic agents with a close or identical antigenic relationship to BSL-4 agents as defined by the latest edition of "Biosafety in Microbiological and Biomedical Laboratories," U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. These agents pose a high individual risk of life-threatening disease, which may be transmitted via the aerosol route, for which there is no available vaccine or therapy, and require a worker's complete isolation from aerosolized infectious materials.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building used directly in theoretical or applied research, development, testing, and evaluation activities.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = None
- FAC UM = GSF

#### Planning Level:

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

A building used for the research, development, and testing of fixed and rotary wing aircraft, airframes, and related assemblies and components.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the development and testing of rockets, missiles, satellites, and other vehicles used for space flight.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

31220 Guided Missile Building

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of guided missile equipment, and associated ground handling and launching equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

31210      Astronautical and Geophysical Building

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of tank, automotive, and other ground transport equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of weapons, including small arms, machine guns, artillery, and flamethrowers.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of chemical equipment and materials such as protective suits, decontamination apparatus, and detection equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

31620      Ammunition/Explosives/Toxics Building

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of ammunition, rockets, mines, grenades, demolition materials, pyrotechnics, and their associated components. Functions performed in this category of buildings include assembly/disassembly, loading, and surveillance of all caliber of ammunition used for RDT&E activities.

**Proponent:**

- ASA (ALT)

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

31610 Chemical Equipment and Material Building

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for research, development, and testing of electronic communication equipment such as microwave, satellite, radio, television, and computer communication links.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit



### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of electronic detection equipment such as radar, sonar, laser, and thermal systems.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 31730 Electrical Equipment Building.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for research, development, and testing of electrical equipment such as power supplies, converters, and storage devices.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 31720 Detection Equipment Building

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the research, development, and testing of electronic equipment not included in 31720, Detection Equipment Building, and 31730, Electrical Equipment Building.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for the research, development, and testing of nuclear propulsion systems.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for the research, development, and testing of propulsion systems powered by other than nuclear energy.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for the research, development, and testing of nonmetallic material.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A building used for the research, development, and testing of miscellaneous materials and equipment.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

## 1. DA Pam 415-28 Description / Definition

A building used for testing munitions and equipment with vibrations to simulate extreme usage and identify areas of potential failure<sup>1</sup>.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

None.

### Proponent:

- ASA (ALT)

### Complex:

- None

### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### Planning Level:

- Unit

<sup>1</sup> This definition was modified from that in DA PAM 415-28. The words "... areas of potential failure" were added to the end of the definition to complete the thought.



**1. DA Pam 415-28 Description / Definition**

A building used for manufacturing one-of-a-kind prototypes and parts from metals, wood, plastic, and other materials.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A building that supports research, development, and testing range operations; this includes observation towers and bunkers.

Buildings in this category also include such support as test range telemetry functions, assembly of test targets, test operations and control centers, range communications facilities, and drop zone support activities. Use this category only for buildings (structures with a roof and completely enclosed by walls). Also report a count of the building as 1 EA. Report RDT&E range structures that have a roof but are not completely enclosed by walls as CATCD 37120, RDT&E Range Structures. Report RDT&E range structures that do not have a roof as CATCD 39080, RDT&E Range Facilities.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Planning Level:

- Unit

### 4. See Also

See 37120 RDT&E Range Structures, and 39080 RDT&E Range Facilities.

### 1. DA Pam 415-28 Description / Definition

An RDT&E range structure that has a roof but is not completely enclosed by walls. These structures support research, development, and testing range operations, as well as such support functions as test range telemetry, assembly of test targets, test operations and control centers, range communications facilities, and drop zone support activities. These structures are used to support range operations (for example, observation shades, covered but open observation towers, covered but open camera and instrument shelters, and so on). Also report a count of the structure(s) as 1 EA.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Other-than-unit

### 4. See Also

None.

**1. DA Pam 415-28 Description / Definition**

A structure used for testing fixed and rotary wing aircraft, airframes, and related assemblies and components.

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ASA (ALT)

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing vehicles such as rockets, missiles, or satellites for space flight. This structure category is also used to test ground-based tracking and launching equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing chemical equipment and materials such as protective suits, decontamination apparatus, and detection equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for research, development, and testing of electronic communications equipment such as microwave, satellite, radio, television, and computer communication links.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for the research, development, and testing of electronic detection equipment such as radar, sonar, laser, and thermal systems.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit



### 1. DA Pam 415-28 Description / Definition

A structure used for theoretical research of electrical components and equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for the research, development, and testing of electronic equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing ground vehicles under harsh weather and terrain conditions. The structure may include a test track with banked curves; a hill climb area with 20 percent to 60 percent grades; a water fording area; a sand pit; a mud crossing area; and test vehicle inspection ramps.

**Proponent:**

- ASA (ALT)

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing guided missiles and associated equipment.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing propellants and propulsion systems used in ammunition, rockets, missiles, and unmanned aerial vehicles.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for testing various types of weaponry, munitions, and their associated components, such as small arms, machine guns, flamethrowers, mortars, and artillery.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A range for research, development, and testing operations. Report the area of the range in acres, including the uprange, and downrange to the last line of targets between the range boundaries.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An impact area having designated boundaries within which all ordnance will detonate or impact. The primary function of the impact area is to contain weapons effects as much as possible using earthen berms or natural terrain features. This area is limited to RDT&E activities. Also report the impact area in acres (AC) as the area between the range boundaries where impacts should occur.

#### Proponent:

- ASA (ALT)

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

#### Planning Level:

- Unit

### 4. See Also

None.



## 1. DA Pam 415-28 Description / Definition

A drop zone area limited to RDT&E activities involving the research, development, testing, and evaluation of airdrop capabilities. Also report the drop zone area in acres (AC), defined by the boundaries of the drop zone.

## 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

None.

### Proponent:

- ASA (ALT)

### Complex:

- None

### Units of Measure:

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure without a roof that is used at a range for research, development, and testing operations. These facilities support range operations in the form of range flag poles, target carriers, uncovered observation towers, camera and instrument sites, and so on. Report RDT&E range buildings as category 37110, or roofed RDT&E range structures as category 37120.

#### Proponent:

- ASA (ALT)

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = EA
- FAC UM = AC

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Planning Level:

- Unit

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Tanks for bulk storage of liquid marine fuels. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41111, Marine Fuel Storage, Bulk, Underground. See the 124xx series for operational fuel storage CATCDs.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of liquid marine fuels. These tanks are located underground. For aboveground storage tanks, use 41110, Marine Fuel Storage, Bulk, Above Ground. See the 124xx series for operational fuel storage CATCDs.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

#### Units of Measure:

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

### 4. See Also

See 411xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of nonjet aircraft fuels. These tanks are the aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41122, Aviation Gas Storage, Underground. See the 124xx series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of jet aircraft fuels. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41123, Jet Fuel Storage, Underground, Bulk. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of nonjet aircraft fuels. These tanks are located underground. For aboveground storage, use 41120, Aviation Gas Storage, Above Ground, Bulk. See the 124-series for operational fuel storage.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

#### Units of Measure:

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

#### Planning Level:

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of jet aircraft fuels. These tanks are located underground. For aboveground storage, use 41121, Jet Fuel Storage, Above Ground, Bulk. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13



### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of diesel fuels and JP8. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41131, Diesel Oil/JP8 Storage, Underground, Bulk. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of diesel fuels and JP8. These tanks are located underground. For aboveground storage, use 41130, Diesel Oil/JP8 Storage, Above Ground, Bulk. See the 124-series for operational fuel storage.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks for bulk storage of gasoline fuels. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41141, Gasoline Storage, Underground, Bulk. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of gasoline fuels. These tanks are located underground. For aboveground storage, use 41140, Gasoline Storage, Above Ground. See the 124-series for operational fuel storage.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of liquefied petroleum gas fuels. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41151, Liquefied Gas Storage, Underground. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of liquefied gas fuels. These tanks are located underground. For aboveground storage, use 41150, Liquefied Gas Storage, Above Ground. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of liquid propellant. These tanks are aboveground types used for storage of propellant prior to its transfer to end-use dispensing stations. For underground storage, use 41161, Liquid Propellant Storage, Underground. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of liquid propellants. These tanks are located underground. For aboveground storage, use 41160, Liquid Propellant Storage, Above Ground. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of lubricants.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of heating fuel oil. These tanks are aboveground types used for storage of fuel prior to its transfer to end-use dispensing stations. For underground storage, use 41181, Fuel Oil Storage, Underground. See the 124-series for operational fuel storage.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**Units of Measure:**

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

**Planning Level:**

- Other-than-unit

### 4. See Also

See 411xx for related facility category codes.

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

### 1. DA Pam 415-28 Description / Definition

Tanks for the bulk storage of heating fuel oil. These tanks are located underground. For aboveground storage, use 41180, Fuel Oil Storage, Above Ground. See the 124-series for operational fuel storage.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

### 4. See Also

See 411xx for related facility category codes.  
UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10,  
Change 1 Nov 13

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = BL
- Secondary UM = None
- FAC UM = BL

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Tanks for storage of liquid nonpropellants such as linseed oil, paint, varnish, enamel, glycol, antifreeze, and so on.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to zero for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Consultation with the Defense Logistics Agency (DLA) is required prior to programming and planning for this facility.

**4. See Also**

UFC 3-460-01, Design: Petroleum Fuel Facility 16 Aug 10, Change 1 Nov 13.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to hold ammunition and explosives in transit.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An igloo-type ammunition storage building featuring a design to minimize the damage from a conventional munitions explosion.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the bulk storage of primers, primer detonators, adapters, boosters, and fuses.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

An aboveground building used for storage of explosives such as black powder, warheads, rocket heads, and bombs.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

An aboveground building used for storage of smokeless powder munitions.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the storage of special weapons.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the storage of guided missiles.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An earth-covered building constructed of concrete and used to store all types of ammunition and explosives. Igloos are preferred for explosives storage.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of small-arms ammunition such as fuse lighters, distress signals, and 20 mm ammunition without explosive projectiles.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of small-arms ammunition.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of ammunition-related commodities.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building, other than an igloo or magazine, for the temporary storage of ammunition and pyrotechnics.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A structure, not fully enclosed, used for the storage of ammunition and pyrotechnics. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the storage of primers, fuses, detonators, and boosters of all types.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of explosives such as black powder, warheads, rocket heads, and bombs.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of smoke-generating supplies.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of small-arms ammunition and pyrotechnic munitions.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of nonexplosive ammunition-related components such as machine gun links, empty cartridge cases, and packing materials.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A small aboveground building for the storage of limited amounts of boxed and belted small-arms ammunition, pyrotechnics, and similar fire-hazard materials. This building is intended to be used for the temporary storage of munitions and components awaiting transfer to individual units for use during live-fire exercises. It is generally located outside the backblast area for the weapon involved. It may also be located near a flightline where munitions and components are temporarily positioned for transfer to aircraft.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of fixed ammunition. Fixed ammunition is used by tank and artillery weapons; it consists of the cartridge case, propellant, and projectile as one package.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit



### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of special weapons.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of guided missiles.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An earth-covered building constructed of concrete and used to store all types of ammunition and explosives. It is the preferred storage medium for mass-detonating explosives.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building used for the temporary storage and ready issue of ammunition and pyrotechnics.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

An aboveground building for the storage of all types of mass-detonating explosives in support of unit training and mission requirements.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the storage of small-arms ammunition for the unit basic load. It is specifically not designated for day-to-day use.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure, not fully enclosed, that is used for the storage of ammunition and pyrotechnics. For structures other than buildings, square footage is measured as the area under the roof, or, if no roof, the area on the ground.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the storage of small-arms ammunition used in support of installation missions. It is specifically designed to support installation ammunition missions.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

See Army Range and Training Land Program Requirements Model (ARRM).

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit



**1. DA Pam 415-28 Description / Definition**

An outdoor improved surface used for the storage of ammunition.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

An enclosed building containing storage tanks for liquid propellants. Report the area of the facility in SF. Also report the combined capacity of the tanks considered to be a part of or within the building in GA. Report tanks used for this purpose that are not under a roof as CATCD 42311, Liquid Propellant Storage, Ammunition, Facility. Report tanks used for this purpose that are covered with a roof, but not within a completely enclosed structure, as CATCD 42312, Liquid Propellant Storage, Ammunition, Structure.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = GA
- Secondary UM = SF
- FAC UM = GA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A storage tank for liquid propellants that is not considered part of another facility, and that is not enclosed by a roofed structure. Report buildings that enclose such tanks as CATCD 42310, Liquid Propellant Storage, Ammunition, Building, and report such tanks within roofed structures as CATCD 42312, Liquid Propellant Storage, Ammunition, Structure.

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Storage tanks containing liquid propellants that are covered with a roof, but are not within a completely enclosed structure. Report the area of the facility under the roof in SF. Report the combined capacity of the tanks considered to be a part of, and within the structure, in GA. Tanks used for this purpose but without a roof are reported in CATCD 42311, Liquid Propellant Storage, Ammunition, Facility. Tanks used for this purpose and enclosed in buildings are reported in CATCD 42310, Liquid Propellant Storage, Ammunition, Building.

**Proponent:**

- DCS, G-4

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. See category codes listed below for relevant information.

**Planning Level:**

- Other-than-unit

### 4. See Also

See 421xx, 422xx, 423xx, and 42510 for related facility category codes.

**1. DA Pam 415-28 Description / Definition**

A building used for the storage of batteries intended for weapons systems. The building must be able to maintain a temperature below 10 degrees Fahrenheit.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

An outdoor improved surface used for the storage of ammunition.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

A special-purpose building used for the bulk storage of troop issue perishable subsistence and general supplies requiring refrigeration. Storage is generally for periods of 30 days or more. This building may also be used for the storage of medical prepositioned war reserve stocks.

**Proponent:**

- DCS, G-4

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A special-purpose building for the storage of troop issue perishable subsistence (class 1) and general supplies requiring refrigeration. The food items are supplied directly to unit dining facilities, hospitals, and open dining facilities. This warehouse also may be known as a TISA facility. Storage is usually short-term, 30 days or less. This building also may be used for the storage of medical supplies not associated with a hospital.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. The requirements are developed in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: CF  
Other: None

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = CF
- Other UM = None



## 5. Functional Areas

Table 43211-1 lists functional areas, type of space, and presence requirement for adequate facilities.

Table 43211-1 Six Major Programming Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
<b>Food / Product Storage Areas</b>		
Class A Rations Cold	Mission	A
Class A Rations Dry	Mission	A
Health and Comfort Sundry Packs	Mission	A
In-Flight Meals	Mission	A
MREs (Meals Ready to Eat)	Mission	A
UGRAs and T-Rations	Mission	A
<b>Administrative Areas</b>		
Vending	General	A
Break / Training	General	A
Conference Room	General	A
Latrines / Lockers	Support	A
General Admin	General	A
Storage	General	A
<b>Warehouse Office and Support Areas</b>		
Office	General	A
Driver Waiting Area	General	A
Inspection Room	Mission	A
Veterinary Office	General	B
Salvage Area	Mission	B
Maxi-Mart Aisle	Mission	A
Janitor's Closet	Support	A
Sprinkler Valve Room	Support	A
Service Aisle for Coolers	Mission	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis of authorization is the total number of unaccompanied enlisted soldiers (UEP) at the site, base, or AOR of Troop Issue Subsistence Activity (TISA).

### 2. Programmatic Application

RPLANS calculates the allowance by determining the total number of UEP at the site, base, or AOR of TISA, and entering a step-function table.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The requirements are based on stack height of 20 feet, 6 inches (6.3 m) for the small facility, and 25 feet, 6 inches (7.8 m) for the medium and large facilities. The requirements also take into consideration the net storage area (net usable area minus aisles); see AR 740-1. The total number of UEP is calculated as follows:

$$\text{Total UEP} = (A \times B \times C) + D$$

Where:

A = Enlisted Military Population

- Basic Trainees
- Recruits
- AIT Trainees
- OSUT Trainees
- Enlisted TDY Students
- Prison Inmates
- Rotational Unit Population
- Other Service UPH

B = Grade Factor

C = Unaccompanied Rate

D = Enlisted TDY Students

- + Basic Trainees
- + Recruits
- + AIT Trainees
- + OSUT Trainees
- + Prison Inmates
- + RC Training Load
- + Rotational Unit Population
- + Other Services' Enlisted TDY students

The DOD Prime Vendor program calls for commercial contracts at most Army CONUS sites and OCONUS installations, where feasible. Therefore, Class A Rations Cold Storage and Class A Rations Dry Storage facilities are not currently being included in Army facility programming. Use the Total UEP as the entry point (CONUS or OCONUS) in Table 43211-2.

Table 43211-2 Facility Size Based on UEP

CONUS Spaces	OCONUS Spaces	Size
2,500 to 12,499	5,000 to 14,999	Small
12,500 to 22,499	15,000 to 24,999	Medium
22,500 or more	25,000 or more	Large

Table 43211-3 lists the supported customers based on cold storage capacity.

Table 43211-3 Customers Served Based on Size

Customers	Small	Medium	Large
Barracks Capacity	5,000	15,000	25,000
Hospitals	100	400	800
Reserves (Weekend)	1,000	2,500	5,000
Reserves (14 Day)	750	2,500	5,000

Table 43211-4 lists the land area required based on facility size. These site allowances include assumptions of 25 percent expansion of the key storage areas on three sides of the facility. In addition, a 60-foot (18.3 m) separation of buildings is assumed in calculating these land areas.

Table 43211-4 – Land Use Based on Facility Size

Size	AC	HA
Small	3.7	1.5
Medium	4.3	1.7
Large	5.4	2.2

### 3. Assigning Space

#### a. Guidance

This building is normally assigned to the Food Service Officer (FSO) under the Directorate of Logistics (DOL). These functional areas may be located in one single building, multiple buildings; or they may be a part of a multicategory building or buildings, or a consolidated TISA cold/dry storage facility.

#### b. Facility Utilization Metrics

The storage utilization rate represents the efficiency of use of the volumetric or cubic storage space. The DOD standard storage utilization rate target is 75 percent.

## D. Programmable Increments

### 1. Standard Facilities

See References for drawings of the definitive design. Table 43211-5 lists the area for the three sizes of facilities.

Table 43211-5 – Facility Size		
Size	GSF	SM
Small	46,914	4,358.5
Medium	59,627	5,539.6
Large	89,519	8,316.6

### 2. Programming Units

Program this facility in one of the standard sizes noted above. Programming documents report these facilities in GSF to make cost comparisons between projects.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

As an industrial operation, this facility functions as a supply point for unit dining facilities, hospitals, veterinary clinics, etc. As such, it requires delivery access for large tractor-trailer vehicles, as well as “customer” pickup vans. Thus, its location on the base/site should be close to entrance/exit gates, but not in a prime location serving troops or the public.

### 2. Site Planning Considerations

Key considerations and relationships involved in site selection include:

- Access to site truck roadway network
- Other warehouse building types in the industrial zone
- Segregation of incoming tractor-trailers from customer pickup vehicles
- Indirect access to rail as a contingency
- Adjacency to motor pools

Circulation within the 43211 site should pay particular attention to three vehicle types:

- Delivery trucks with 18 wheels
- Customer pickup/delivery trucks and step vans
- POV parking for visitors, inspectors, and employees

Signage in keeping with TM 5-807-10, DEC-83 and the installation's design guide should be incorporated to identify the facility and vehicle access.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
TI 800-01 Design Criteria	20-JUL-98
Standard Definitive 432-11-01: Troop Issue Subsistence Activity	01-OCT-88

### **4. See Also**

43220 Meat Cutting Plant, Installation

**1. DA Pam 415-28 Description / Definition**

A building used to receive, process, distribute, and/or handle all perishable meats and meat products. This building supplies meat and meat products to installation dining halls.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**Planning Level:**

- Unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A general-purpose, depot-level storage building with a roof, side and end walls, and possibly loading docks. Cantilever support canopies over docks may be provided. This building may store medical prepositioned war reserve stocks. The greatest portion of covered storage space at the depot level is in this type of building.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Fort Worth District Center for Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Fort Worth

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: NSF  
FAC: SF  
Capacity: GSA, CF  
Area: NSA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- CAP = GSA, CF
- Area UM = NSA

Report and program these facilities in SF. Their requirements are developed in CF based on clear height of 24 feet (7.3 m).

### 5. Functional Areas

See the Functional Adequacy Matrix after this section.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a depot storage mission. The basis for calculation is the cubic feet of material and the number of lines of supply to be stored.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

There are no standard sizes for general-purpose warehouse (GPW) facilities. The standard design package (DA Standard Design Package for GPW, DEF 441-10-01 / 442-20-01) is flexible to permit adaption to all GPW construction projects. The basic GPW shown in the standard design package is a 120,000 GSF (11,148.4 SM) building. Development of GPW facilities uses a standard grid size of 33 feet by 66 feet (10 m by 20 m). The area and height of the GPW may be adjusted to accommodate site-specific conditions and requirements.

See Chapter 3 for information about calculating capacity for warehouses.

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to an activity with a depot-level storage mission.

### b. Facility Utilization Metrics

The Army established the goal of at least 75 percent as the target when dividing usage by capacity.

## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/gpw.aspx>.

Although the COS page does not list CATCD 44110, the Standard Design document address this CATCD in the general summary.



## **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

As an industrial operation, this facility functions as a receiving, storage, and supply point. As such, it requires access for large tractor-trailer vehicles as well as pickup vans.

### **2. Site Planning Considerations**

Key considerations and relationships involved in site selection include:

- Access to installation truck roadway network
- Warehouse building type in the industrial zone
- Segregation of incoming and outgoing tractor-trailers and other vehicles
- Indirect access to rail as a contingency

Circulation within the site should pay particular attention to three vehicle types:

- Trucks with 18 wheels
- Pickup delivery trucks and step vans
- POV parking for visitors, inspectors, and employees

Signage in keeping with the installation's design guide should be incorporated to identify the facility and vehicle access.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization USACE Fort Worth District for additional guidance.

### **2. Exceptions**

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-15	20-JUL-98
Standard Design: DEF 441-10-01 / 442-20-01	OCT-91
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
General Purpose Warehouse Standard Design	Undated, Posted Online: 3 JUN 11

### 4. See Also

44130	Controlled Humidity Warehouse, Depot Level
44135	Hazardous Material Storage, Depot Level
44150	Flammable Material Storehouse, Depot Level
44160	Radioactive Storage Warehouse, Depot Level
44170	Underground Storage Facility, Depot Level
44180	Open Warehouse, Depot Level
44181	Vehicle Storage Facility, Depot Level
44182	Vehicle Storage Building, Depot Level

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	Acceptance and Quality Control	A		210 NSF	210 NSF		
Mission	Order Assembly	A			No lower limit		Included in warehouse area
Mission	Parcel Post Area	A		210 NSF	210 NSF		
Mission	Packing and Crate Shop	D			No lower limit		Included in warehouse area
Mission	Box and Crate Shop	D			No lower limit		Included in warehouse area
Mission	Blocking and Banding Facility	D			No lower limit		Included in warehouse area
Mission	Special Pilferable Storage	D			No lower limit		Included in warehouse area
Mission	Humidity Controlled Area	D			No lower limit		Included in warehouse area
Mission	Warehouse/Storage Area	A		Varies	No lower limit		
General	Warehouse Supervisor's Office	A		360 NSF	360 NSF		
General	Shipping Office	A		310 NSF	310 NSF		
General	Receiving Office	A		310 NSF	310 NSF		
General	General Offices	A		380 NSF	380 NSF		
General	Training and Conference Room	D			No lower limit		Locate near offices
General	Lunch/Break Room	A		460 NSF	460 NSF		
Mission	Management Information Center	A		460 NSF	460 NSF		
Mission	Shipping Dock	A		3,840 NSF	3,840 NSF		
Mission	Receiving Dock	A		3,840 NSF	3,840 NSF		
Support	Public Restrooms	A			No lower limit		
Support	Public Showers	A			No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

### 1. DA Pam 415-28 Description / Definition

A warehouse building that provides enclosed storage space specially prepared and equipped for the control of humidity. This warehouse may include storage of medical prepositioned war reserve stocks. Almost any type of warehouse may be operated under controlled-humidity conditions if properly sealed and equipped. General-purpose warehouse is the type most frequently built for, or converted to, a controlled-humidity environment.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

#### Planning Level:

- Unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A special storage building for any material or combination of materials that may be classified as hazardous or unsafe. Safety concerns recommend that a separate building be constructed for storing hazardous materials. These facilities require special construction, fire protection systems, washing areas for decontamination, and warning and safeguard systems to prevent contamination.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

None.

#### Proponent:

- DCS, G-4

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: GSF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

### 5. Functional Areas

The storage space is a mission function, while the accompanying office area is general functional area – all classified under this facility category code.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the mission requirement to store hazardous materials.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Development of GPW facilities uses a standard grid size of 33 feet by 66 feet (10 m by 20 m). The requirements are developed in CF based on clear height of 24 feet (7.3 m). The area and height of the GPW may be adjusted to accommodate site-specific conditions and requirements.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to an activity with a depot-level storage mission.

#### b. Facility Utilization Metrics

The DOD recommends maintaining utilization at 75 percent of capacity of hazardous storage facilities. Less than this utilization can create hazards other than the nature of the materials; greater than this utilization creates hazards in movement, handling, and managing the inventory.

## D. Programmable Increments

### 1. Standard Facilities

There are no standard sizes for GPW facilities. The Standard Design package (DA Standard Design Package for GPW, DEF 441-10-01 / 442-20-01) is flexible to permit adaption to all GPW construction projects. The basic GPW shown in the Standard

#### Programming UM:

- GSF

Design package is a 120,000 GSF (11,148.4 SM) building. The design is based on a modular concept that provides flexibility to sizing HM storage facilities to meet specific mission requirements. This design package illustrates how various modules may be combined, in virtually any configuration, to form an HM storage facility. See Appendix E, pages E-74 and E-75.

## **2. Programming Units**

Program a complete Hazardous Materials Storage facility with access, security, utilities, and setbacks as required by the references listed below. Programming documents report these facilities in GSF to make cost comparisons between projects.

# **E. Land Use and Site Planning Considerations**

## **1. Land Use Considerations**

Place in Industrial land use.

## **2. Site Planning Considerations**

As an industrial operation, this facility functions as a receiving, storage, and supply point. As such, it requires access for large tractor-trailer vehicles as well as pickup vans. Key considerations and relationships involved in site selection include:

- Access to installation truck roadway network
- Warehouse building type in the industrial zone
- Segregation of incoming and outgoing tractor-trailers and other vehicles
- Indirect access to rail as a contingency

Circulation within the site should pay particular attention to three vehicle types:

- Trucks with 18 wheels
- Pickup delivery trucks and step vans
- POV parking for visitors, inspectors, and employees

Signage in keeping with the installation's design guide should be incorporated to identify the facility and vehicle access.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-15	20-JUL-98
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08

### 4. See Also

44110	Storage Building, General Purpose, Depot Level
44130	Controlled Humidity Warehouse, Depot Level
44150	Flammable Material Storehouse, Depot Level
44160	Radioactive Storage Warehouse, Depot Level
44170	Underground Storage Facility, Depot Level
44180	Open Warehouse, Depot Level
44181	Vehicle Storage Facility, Depot Level
44182	Vehicle Storage Building, Depot Level



### 1. DA Pam 415-28 Description / Definition

A special-purpose storehouse building that provides enclosed storage for flammable and combustible materials to support the bulk storage mission. Materials normally considered for storage in this facility include paints, POL products, and other combustible liquids. Enclosed storage for chemicals, acids, corrosive liquids, oxidizing materials, and other similar hazardous or flammable materials is also included under this category. This facility is designed only for materials stored in small containers or drums within buildings.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A special storage building for any material or combination of materials that spontaneously emits ionizing radiation. These materials include natural elements such as radium and accelerator-produced radio nuclides. Safety considerations recommend that a separate building be constructed for housing all stored radioactive material. These facilities require special construction, fire protection systems, washing areas for decontamination, and warning and safeguard systems to prevent contamination.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

**1. DA Pam 415-28 Description / Definition**

An underground building for depot storage of a variety of materials.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 45110 Open Storage Area, Depot Level.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A roofed structure without complete sides and/or end walls that is used to provide covered storage of palletized materials that require maximum ventilation or that do not require complete protection from the weather. Tarpaulins may be used as side walls. Some utilities may be provided.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

### 4. See Also

See 45110 Open Storage Area, Depot Level.

#### Planning Level:

- Unit

**1. DA Pam 415-28 Description / Definition**

A structure with a roof but not completely enclosed by walls that is used to provide covered storage for wheeled and tracked vehicles.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 44182 Vehicle Storage Building, Depot Level, and 45110 Open Storage Area, Depot Level.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

**1. DA Pam 415-28 Description / Definition**

An enclosed building to provide covered storage for wheeled and tracked vehicles.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

For organizational vehicles use category code 44263, Vehicle Storage Building Installation.

**4. See Also**

See 44181 Vehicle Storage Facility, Depot Level, and 45110 Open Storage Area, Depot Level.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the storage of parts associated with the maintenance, repair, and production of military aircraft at AMC installations. Buildings for aircraft parts storage at other installations should use 21113, Aircraft Parts Storage.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

None.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF

Secondary: NSF

FAC: SF

Calculate the capacity of general functional areas in accordance with Chapter 3 and Appendix A.

Calculate cubic feet in accordance with Chapter 3.

### 5. Functional Areas

Table 44210-1 lists the functional areas by type and adequacy requirements for an Aircraft Production Parts Storage facility.

Table 44210-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Open Offices	General	A
Storage Area	Mission	A
Public Restroom	Support	A
Janitor Closet	Support	A
Electrical Room	Support	A
Mechanical Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A – Required, Collocated		

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is an AMC-level aircraft maintenance mission. The basis of calculation is the volume of material stored and the number of personnel who require office space to perform administrative and management functions. The criteria allow administrative space based on the number of people that require office space to perform their assigned duties.

### 2. Programmatic Application

RPLANS sets allowances for this CATCD to zero.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Because this is an AMC-level facility, the requirement may vary widely depending on mission. Verify the number of lines of parts and the authorized stock levels. Refer to facility category code 44220, Storage Building, General Purpose, Installation.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Aircraft Production Parts Storage buildings are specifically for AMC installations; assign this facility category only to AMC-controlled activities.

#### b. Facility Utilization Metrics

The utilization rate for storage areas is the occupied cubic space divided by attainable cubic feet times 100. The target utilization is from 75 percent to 85 percent for covered storage, installation-wide.

See Chapter 3 for measuring storage space, and Chapter 5 for details on utilization metrics for storage.



## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

The Army does not have a minimum size building to program for this facility category. Program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use**

Land use is consistent with airfield or industrial areas. Storage facilities are not visually attractive, and are incompatible with land uses requiring high visual standards.

### **2. Site Planning**

Site storage facilities near roads suitable for commercial traffic, and, ideally, separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security/protection considerations are vital.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the LOGSA storage support team at Tobyhanna for assistance in determining requirements.

### **2. Exceptions**

None.

### **3. References**

TI 800-01 – Technical Instructions, Design  
Criteria

20-JUL-98

### **4. See Also**

44220 Storage Building, General Purpose, Installation

### 1. DA Pam 415-28 Description / Definition

A structure used for the storage and refilling of oxygen cylinder tanks. The typical structure is an open shed.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 441xx, 442xx, 45110, and 452xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building used for the storage of various materials for installation use. This may include items such as road salt, cinders, sand, or grit used for road treatment during inclement weather, or wood pellets used as fuel for heating plants.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

### 4. See Also

See 45110 Open Storage Area, Depot Level.

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A structure used for the storage of acetylene cylinder tanks. The typical structure is an open shed.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 441xx, 442xx, 45110, and 452xx for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

#### Planning Level:

- Unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A general-purpose, installation-level storage building for garrison support of base operations. The building is enclosed with a roof, side and end walls, and possibly includes loading docks and materials handling equipment. Cantilever support canopies over docks also may be provided. These buildings are normally used as the self-service supply center, the central issue facility, and the Defense Reutilization and Marketing Office (DRMO). This storage facility may also be used for the storage of medical supplies not associated with a hospital. Most of the installation-level enclosed storage space is in this type of building. If the storage is in support of an installation mission distinct from support of Soldiers and organizations on the installation, use Installation Storage Other than Depot or Organizational (44288).

***Note:** Use this category for facilities appropriate for logistics-type missions.*

***Note:** Do not use this facility category for portions of buildings that store organizational items.*

***Note:** Do not use this facility category for buildings with a gross area of less than 1,000.*

***Note:** Do not use this facility category for buildings with a clear height of less than 10 feet.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Fort Worth District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Fort Worth

### 3. Complex

None.

#### Complex:

- None

#### 4. Units of Measure

Primary: SF  
 Secondary: CF  
 FAC: SF  
 Capacity: GSA, CF  
 Area: NSA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = NSF
- Planning UM = CF
- CAP = GSA
- Area UM = NSA
- CAP = PN
- Area UM = NUA

Calculate GSA, CF, and NSA in accordance with Chapter 3.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

#### 5. Functional Areas

At a minimum, the storage building requires a logistics/administrative core, a shipping and receiving area, and the storage area in order to qualify as a GPW. See the functional adequacy matrix following this facility category discussion for a detailed list of functional areas and evaluation metrics.

Table 44220-1 lists the functional areas by type of the Storage Building, General Purpose, Installation.

Table 44220-1 General Purpose Storage	
Functional Area	Type
Acceptance and Quality Control	General
Order Assembly	Mission
Material Information Center	Mission
Parcel Post Area	Mission
Box and Crate Shop	Mission
Care and Preservation Shop	Mission
Blocking and Banding Facility	Mission
Special Pilferable Storage	Mission
Humidity Controlled Area	Mission
Warehouse/Storage Areas	Mission
Warehouse Supervisor's Office - See Appendix A	General
Shipping/Receiving Offices	General
General Offices	General
Training and Conference Room	General
Lunch/Break Room	General
Shipping Dock	Mission
Receiving Dock	Mission
Men's Restroom	Support
Women's Restroom	Support
Locker Area	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for calculation is the sum of the NSF based on the CF of materials being stored.

### 2. Programmatic Application

RPLANS associates the supply material groupings in Table 44220-2 with organizations or activities that generate a demand for material in each grouping (generators) by RPLANS command code. Each storage requirement generator has an initial program value generated in cubic feet (CF), days of supply (DOS) and cycle of replacement.

Table 44220-2 Major Groupings of Supply Materials	
Item	Major Group
1	UPH Furniture
2	Personal Clothing (BT and OST)
3	Publications and Forms
4	Family Housing Furniture
5	Installation Furniture
6	Linen
7	Dining Facilities
8	Self Service Supply Center
9	Unit/Organization CTA-50 Issue
10	Projects Construction Material
11	TOE Major End Items
12	MATES
13	ECS
14	TOE Medical Logistics Units
15	DOL Supply Division
16	Community Activities Support
17	Non-Army Support
18	DRMO

RPLANS provides an installation allowance as the sum of allowances required to support all installation active Army TOEs, TDAs, and student UICs. The installation allowance is the sum of the allowances required to support all installation, active Army TOEs, TDAs and student UICs as depicted in Table 44220-2.

RPLANS calculates allowances in detail for all TOE units.

RPLANS calculates allowances for most TDA organizations and student UICs in detail, and provides them to RPLANS as a look-up table in terms of per capita allowance for these TDAs and student UICs. RPLANS calculates TDA allowances by multiplying the TDA strength of a parent UIC and any derivative UICs by the per

capita allowance. In cases where a TDA is not in the RPLANS database, such as other service tenant activities, RPLANS assigns the UIC a TDA-type identifier. RPLANS calculates allowances by multiplying the UIC strength by the weighted average per capita allowance for the assigned TDA-type identifier.

## C. Planning

### 1. Planning Level

The planning level for is other-than-unit.

Planning Level:

- Other-than-Unit

***Note:** Effective October 2012, DOL maintenance and logistics responsibilities transferred from IMCOM to AMC. The U.S. Army Sustainment Command (ASC) is now the mission commander for the functions historically associated with DOL. Coordinate facilities planning and requirements analysis with the responsible Army Field Sustainment Brigade (AFSB), or with the AFSC DOL Directorate for installations not served by an AFSB.*

### 2. Requirements Calculations

Calculate the storage requirement of an organization or activity with a logistics mission by determining in CF the quantity of material it stores. Identify special requirements such as controlled humidity, cold storage, or physical security that will influence the type or configuration of the storage building. Identify attainable stacking heights.

For new requirements, use the following procedure to convert CF of material with storage requirements to NSF storage footprint.

- Aggregate the CF of material requiring storage for each requirement generator from Table 44220-2.
- Calculate the NSF storage footprint for each grouping.
- Divide the CF of material to be stored by the DOD storage utilization rate of 75 percent.
- Divide the result by initial stack-height program values of either 8 or 21 feet.
- Sum the results of NSF for all groupings to determine storage area required.
- Determine the total building size by summing up all separate functional areas.



### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Conduct a survey of inventories to determine acceptable and available storage heights. To avoid establishing stacking heights for each item, group the supply inventory into categories and determine a stacking height for each category grouping. Results of the survey will indicate an overall potential and adjusted storage height for each grouping. Verify frequently the storage heights and items in each group against the actual storage required.

Carefully consider the nature of the materials when evaluating the selection of storage facilities. The characteristics of the storage facilities influence the heights to which material may be stored. Even with such standard facilities as SSSC, and DRMO, the composition of the inventory will vary from installation to installation. The composition influences the stack height of materials.

Externally, provide separate shipping and receiving truck docks with ample hardstand paving and vehicle maneuvering area. The dock area requires access ramps at the front and side for vehicle and forklift access. Loading docks must be capable of accommodating vehicles up to the semi tractor-trailer type, as well as smaller vehicles, such as flatbed trucks and box trucks.

#### b. Facility Utilization Metrics

See Chapter 3 for measuring storage space, and Chapter 5 for details on utilization metrics for storage.

The utilization rate for storage areas is the occupied cubic space divided by attainable cubic feet times 100. The target utilization is from 75 percent to 85 percent for covered storage, installation-wide.

## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/gpw.aspx>.

## **2. Programming Units**

The 120,000 SF GPW with a baseline clearance of 24 feet may be increased or decreased to suit installation requirements. However, do not exceed 40,000 SF per separated area, and complete all separations using four-hour firewalls.

Contact the Center of Standardization, Fort Worth District when programming new construction.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Storage facilities are not visually attractive, and are incompatible with land uses requiring high visual standards. Where land is available, construct warehousing in batteries, end to end, with dividing firewalls spaced to meet fire-prevention requirements.

### **2. Site Planning Considerations**

Locate storage facilities near roads set aside for commercial traffic and, ideally, separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security/protection considerations are vital. Adhere to criteria established by the DOD Explosives Safety Board (DDESB) when planning ammunition storage facilities. Provide safety zones around bulk POL storage areas.

Provide standard GPWs with improved access for commercial and military truck and trailer equipment with up to 48-foot trailers, materials handling apparatus, and mobile fire apparatus. Paving all apron and approach areas to the shipping and receiving areas is essential.

Except for will-call, separate parking areas from the truck docks and other activity areas. Isolate parking from receiving and shipping functions/dock areas.

## **F. Other Considerations**

### **1. Special Instructions**

Army installations with 50,000 GSF or more of covered storage space must report all facilities in this category code on the Storage Space Management Report (DD Form 805) in accordance with AR 740-1, paragraph 4-12. At the discretion of HQDA (DALO-SMP),

installations having less than 50,000 GSF of covered storage space may be required to submit.

Include all facilities in this category code in the report. Criteria exclude storage space used for the following purposes:

- a) Bulk Petroleum, Oils, and Lubricants (POL)
- b) Post or installation exchange and supporting storage space
- c) Installation civil or post engineer and the supporting storage space
- d) Commissary and the supporting storage space
- e) Shop stock and bench stock in shops
- f) Transit sheds and open areas at terminals and depots used exclusively for cargo throughput operations

The facilities that installations use for the listed purposes should normally have a facility category code other than 44220.

Contact USAMC LOGSA PSCC, ATTN: AMXLS-AT, 11 Hap Arnold Boulevard, Tobyhanna, PA, 18466-5097, for assistance with storage space management.

Contact the Fort Worth District COS for assistance in programming this facility category code.

## 2. Exceptions

None.

## 3. References

Army Standard for the Unit Supply Support Activity Facility	14-APR-2009
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 (DLAM 4145.12) Joint Service Manual (JSM) For Storage And Materials Handling	12-APR-94
General Purpose Warehouse Standard Design	Undated, Posted Online: 3 JUN 11

**4. See Also**

44210	Aircraft Production Parts Storage, Installation
44215	Oxygen Storage Facility, Installation
44216	Storage Silo
44217	Acetylene Storage Facility, Installation
44222	Storage Shed, General Purpose, Installation
44223	Arms Building for Battalion and Above
44224	Organizational Storage Building
44228	Hazardous Material Storage Building, Installation
44230	Controlled Humidity Warehouse, Installation
44240	Flammable Material Storehouse, Installation
44250	Underground Storage Facility
44260	Radioactive Storage Warehouse, Installation
44262	Vehicle Storage Shed, Installation
44263	Vehicle Storage Building, Installation
44271	Consolidated Housing Furniture Storage
44288	Installation Storage Other Than Depot or Organizational

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Acceptance and Quality Control	A		210 NSF	210 NSF		
Mission	Order Assembly	A			No lower limit		Included in warehouse area
Mission	Parcel Post Area	A		210 NSF	210 NSF		
Mission	Packing and Crate Shop	D			No lower limit		Included in warehouse area
Mission	Box and Crate Shop	D			No lower limit		Included in warehouse area
Mission	Blocking and Banding Facility	D			No lower limit		Included in warehouse area
Mission	Special Piferable Storage	D			No lower limit		Included in warehouse area
Mission	Humidity Controlled Area	D			No lower limit		Included in warehouse area
Mission	Warehouse/Storage Area	A		Varies	No lower limit		
Mission	Management Information Center	A		460 NSF	460 NSF		
Mission	Shipping Dock	A		3,840 NSF	3,840 NSF		
Mission	Receiving Dock	A		3,840 NSF	3,840 NSF		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A roofed structure, not fully enclosed, that is used for storing either material at the installation level that requires maximum ventilation, or material that does not require complete protection from the weather. Such facilities may be used by the DRMO for storage of surplus and salvage.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

This facility category is managed by the Fort Worth Center of Standardization.

#### Proponent:

- DCS, G-4

#### COS:

- Fort Worth

### 3. Complex

This facility category generally serves installations, and is also included in the Operational Readiness Training Complex.

#### Complex:

- ORTC

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: GSF  
Other: CF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = GSF
- Other UM = CF

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the installation's TOEs, TDAs, and student UICs.

## 2. Programmatic Application

RPLANS calculates allowances by multiplying UIC strength by the weighted average per capita allowance for the assigned TDA-type identifier. Table 44222-1 lists the applicable TDA-type identifiers and algorithms.

Table 44222-1 TDA-Type Identifiers and Algorithms		
Type	Identifiers	Algorithm
1.	Pure Garrison TDA	$GSF = UIC \text{ Strength} \times 3.0853$
3.	Tenant TDA	$GSF = UIC \text{ Strength} \times 0.2633$
4.	MEDDAC TDA	See Note 1.
5.	ISC TDA	$GSF = UIC \text{ Strength} \times 0.1984$
6.	School TDA	$GSF = UIC \text{ Strength} \times 0.1409$
7.	Training Center TDA	$GSF = UIC \text{ Strength} \times 0.1244$
8.	Tenant / Space Available	See Note 2.
98.	TOE w/o SRC	See Note 3.
<b>Notes:</b>		
1. Not calculated because storage space for these organizations is normally provided in medical facilities.		
2. Not calculated because space is normally provided for these organizations only on a space-available basis, or the space is provided in another facility type.		
3. Type 98 units are TOE units with no SRC identified in the ASIP. As such, they are not in the FPS TOE database and get no SRC allowances for these storage facilities. To provide storage space, type 98 units get the same allowance as type 3 TDAs.		

RPLANS calculates allowances using a multicomponent algorithm approved by ACSIM in June 1999. The algorithm allows for DOD and Army supply policies such as “Prime Vendor,” “Velocity Management,” and “Just in Time Delivery.” Implementation of these policies causes a significant reduction in the need for installation storage space.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The TDA allowances are calculated by multiplying the TDA strength of a parent UIC and any derivative UICs by the per capita allowance required by the parent UIC.

RPLANS determines the total facility size by summing six separate functional areas into a major grouping of supply materials that require covered storage.

These major groupings are:

1. Bracing, Blocking, and Tie-Down
2. Installation Project Construction Material
3. Engineer Construction Material for TOE Engineer Units
4. Fortification Material for TOE Units Stored at ISA Facilities
5. Fortification Material for TOE Units Stored at TOE Facilities
6. DRMO

Various units on the installation generate storage requirements for each grouping. For example, Group 1, Bracing, Blocking, and Tie-Down, meets the requirements for deployable TOE units' equipment.

RPLANS includes initial values for CF, days of supply and cycle of replacement for each unit type generating requirements for groupings 1 (Bracing, Blocking, and Tie-Down), 2 (Installation Project Construction Material), and 6 (DRMO). Multiply the initial values by the number of units for each type, and sum the requirements by applicable grouping.

The mission statements of TOE supply units include the CF requirements for groupings 3 (Engineer Construction Material for TOE Engineer Units), 4 (Fortification Material for TOE Units Stored at ISA Facilities), and 5 (Fortification Material for TOE Units Stored at TOE Facilities). The mission statements include Class IV tons-per-day throughput. The Army provides standard conversion factors for tons per day to CF for each class of supply.

To calculate the NSF storage footprint, divide the CF of material requiring storage by the DOD storage utilization rate of 75 percent. This allows for throughput that exceeds the normal requirements – hence, the target of normally maintaining utilization at 75 percent of the available storage volume. Next, divide this volume by the available stack height (programmatic default value = 10 feet). The result of this division is the quotient indicating the NSF storage footprint (does not include circulation and other floor space).

Unless approved local detailed information can justify more space, multiple the NSF storage footprint by a factor of 2.55 to calculate the GSF for each group. This factor takes into account the floor



space requirements for layout/circulation space, supply operations/administrative space, and a net-to-gross conversion for walls, etc.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the Directorate of Logistics (DOL).

#### **b. Facility Utilization Metrics**

The storage utilization rate represents the efficiency of use of the volumetric or cubic storage space. The DOD standard storage utilization rate target is 75 percent (0.75).

## **D. Programmable Increments**

### **1. Standard Facilities**

See the floor plan following this discussion.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects. The Army has not established a minimum or maximum programmable increment for this facility.

Programming UM:

- GSF

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

As an industrial operation, this facility functions as a receiving, storage, and supply point. These support facilities tend to be unsightly and should be placed away from major traffic arteries. They require access for large tractor-trailer vehicles as well as pickup vans.

### **2. Site Planning Considerations**

Landscape screening should be provided wherever possible; through either indigenous plantings or berms.

## F. Other Considerations

### 1. Special Instructions

Consult the Louisville District USACE for further guidance.

### 2. Exceptions

None.

### 3. References

AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
Operational Readiness Training Complex (ORTC) Standard Design	24-AUG-12

### 4. See Also

44220	Storage Building, General Purpose, Installation
44223	Arms Building For Battalion And Above
44224	Organizational Storage Building
44228	Hazardous Material Storage Building, Installation
44230	Controlled Humidity Warehouse, Installation
44240	Flammable Material Storehouse, Installation

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the storage of unit small arms (categories 3 and 4 arms) and other sensitive property and equipment such as field glasses, compasses, and night vision goggles. Security standards should be maintained in accordance with AR 190–11.

***Note:** Use this facility category for arms rooms that are not part of a company operations facility, regardless of whether it is battalion and above.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Norfolk

### 3. Complex

This facility category is part of the NCO Academy Complex .

#### Complex:

- NCO Academy

### 4. Units of Measure

Primary: GSF

Secondary: CF

FAC: GSF

Calculate NUA and capacity for general functional areas IAW Chapter 3 and Appendix A.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = NSF
- Planning UM = CF
- CAP = GSA
- Area UM = NSA
- CAP = PN
- Area UM = NUA

## 5. Functional Areas

Table 44223-1 lists the functional areas by type and adequacy requirements in an Arms Building.

Table 44223-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Weapons Storage	Mission	A
Storage Area	Mission	A
Work Bench	Mission	D
Open Offices	General	D
Distribution Counter	General	A
Restrooms	Support	B
Janitor Closet	Support	D
Electrical Room	Support	A
Mechanical Room	Support	A
Telecommunications Room	Support	A
<b>Presence Requirements for Adequacy:</b>		
A – Required, Collocated		
B - Required, Adjacent		
C - Required, Vicinity		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		
F - Occupant Dependent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a requirement to store arms, ammunition, and explosives as defined in AR 190-11. The criteria allow this space for units and organizations other than TOE, BT/OSUT and AIT companies that have a mission to store weapons.

The basis for calculation is the number and type of weapons and associated materials to be stored.

### 2. Programmatic Applications

RPLANS sets allowances equal to assets for this CATCD at the site level.

RPLANS calculates allowances at the complex level for this CATCD for NCO Academy complexes, based on size as shown in Table 44223-2.

Table 44223-2 Required Floor Space	
Academy Size	Vault Size GSF
Small	444
Medium	581
Large	701

## C. Planning

### 1. Planning Level

The planning level for an Arms Building, Battalion and Above, is unit. This building consolidates arms rooms for any organization above the level of company. Example: Camp Zama Japan has one for the entire installation.

Planning Level:

- Unit

### 2. Requirements Calculations

Arms buildings for battalion and above may serve a variety of purposes.

Some may be “super” arms rooms where the weapons of multiple companies are stored in a consolidated arms room. Individual weapons are assigned to a specific soldier, and are issued and returned to storage on a regular basis. Though rare, this use requires all of the functionality of an arms room in a company operations facility (COF). In this case, base requirements on the number of weapons racks required.

Calculate requirements based on the number and type of weapons, and the type of weapons racks used to secure the weapons in the vault. Table 44223-3 gives an example using a universal rack system with a 42-inch-by-16-inch base.

Table 44223-3 Required Floor Space			
Weapon	Rack Height	Capacity	Stacking?
M9	18"	30	Yes
M16/M4	45"	10	Yes
M16/M4	84"	24	No
M240B	61"	6	No
M249	61"	6	No
M2	61"	2	No
MK19	61"	4	No

Allow 2.5 feet for all aisle widths. Aisle lengths are variable. In addition, the building requires space to accommodate a workbench and tool storage area.

A second use is interim storage of weapons in support of intermittent training. In this case, the weapons may be stored in racks and distributed to training units or individuals as needed. This may occur in support of BT/OSUT, AIT, or ROTC to relieve units from maintaining the weapons during downtime. In this case, the number and type of weapons, and corresponding racks, are the basis for calculating the space required. Even though the weapons are not normally issued individually from this type storage, aisles should be maintained to facilitate compliance with required by-serial-number inventories.

A third use is bulk storage. This could involve storage in case lots for extended periods of time. Consult with the user and the physical security office when developing requirements for this use.

When a building in this facility category is also a primary work space, calculate space for general functional areas in accordance with Appendix A.

### **3. Assigning Space**

#### **a. Guidance**

Arms buildings must meet strict physical security requirements. This includes procedural standards, construction standards, and intrusion detection standards. Coordinate closely with the physical security office to determine whether a building or a portion thereof complies with these standards. Do not assign space for this purpose that is not compliant with all security regulations.

#### **b. Facility Utilization Metrics**

The Army has not established specific utilization criteria for this facility type.

See Chapter 3 for measuring storage space, and Chapter 5 for details on utilization metrics for storage.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standard facilities for this CATCD.

Army Regulation 190-11 provides the following physical security standards and requirements when programming for new construction:

New facilities constructed to store Category II through Category IV arms will meet the following criteria:

*i. Walls*

Walls will be 8 inches of concrete reinforced with No. 4 reinforcing bars at 9 inches on center in each direction, in each face of the wall. Reinforcement in the two faces of the wall will be staggered on each face to form a projected grid approximately 4 1/2 inches square. Tie reinforcements in the walls into floors and ceilings in accordance with American Concrete Institute standards.

*ii. Ceilings and Roofs*

Ceilings and roofs will be of reinforced concrete construction. The thinnest portion may not be less than 6 inches. Reinforcing bar spacing will form a grid so that the area of any opening does not exceed 96 square inches, using No. 4 bars or larger.

*iii. Floors*

Floors, if on grade, will be a minimum of 6-inch-thick reinforced concrete construction, reinforced with 6-inch-by-6-inch, W4-by-W4 welded-wire fabric or equivalent steel reinforcing bars (based on area of steel per square foot). Where the floor slab acts as the ceiling of an underlying room or area, the ceiling standards will apply. Where equivalent steel reinforcing bars are used, form a grid with bar spacing so that the area of any opening does not exceed 96 square inches.

*iv. Doors*

The door will be GSA-approved Class 5-armory door per GSA Fed Spec AA-D-600D. A GSA-approved Class 5 vault door is not encouraged because of its electromechanical lock. Double door protection for arms storage facilities is not required. Doorframes will be per Fed Spec AA-D-600D.

*v. No Windows*

Windows are not authorized. Ducts, vents, and other openings of 96 square inches or more with the least dimension greater than 6 inches will be secured in accordance with one of the following methods, and otherwise limited to the minimum number and size that are essential.

All openings sealed with material comparable to that forming the adjacent walls.

Fitted with any of the barriers below, with bars or steel mesh securely embedded in the structure of the building or welded to a steel frame that is securely attached to the wall with fastenings inaccessible from the exterior of the arms storage building.

Three 8-inch or larger hardened steel bars with vertical bars not more than 4 inches apart, and with horizontal bars welded to the vertical bars so that the openings do not exceed 32 square inches.

A minimum of 8-gauge high carbon manganese steel mesh with 2-inch diamond grid.

Use a 6-gauge cold drawn steel wire mesh with 2-inch diamond grid when 8-gauge mesh above is not available.

## 2. Programming Units

Program to requirements. Seek alternatives to programming standalone buildings of less than 1,000 GSF.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Storage facilities are not visually attractive and are incompatible with land uses requiring high visual standards.

### 2. Site Planning Considerations

Site this building in conjunctions with the unit or organization that requires it. Locate storage facilities near roads set aside for commercial traffic, ideally separate from those used by civilian traffic. Rail access is desirable. Fire prevention and security/protection considerations are vital. Adhere to criteria established by the Department of Defense Explosives Safety Board (DDESB) when planning ammunition storage facilities. Provide safety zones around bulk POL storage areas.



## F. Other Considerations

### 1. Special Instructions

Always consult the Physical Security or Provost Marshall's office when planning or programming this facility.

### 2. Exceptions

None.

### 3. References

AR 190-11 Physical Security of Arms, Ammunition and Explosives	5-SEP-13
UFC 4-215-01 Armories and Arms Rooms (Draft)	23-JUL-09
General Purpose Warehouse Standard Design	Undated Posted Online 28-OCT-08

### 4. See Also

14185 Company Headquarters Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A facility for the storage of equipment and durable materials belonging to any organization, unit, directorate, activity, and so on. It provides an enclosed, dry space for storing on-vehicle equipment and vehicular equipment, tentage, tarps, heaters, camouflage nets, and other authorized TOE/TDA/Common Table of Allowances (CTA) equipment that does not require special security or controlled environment storage.

***Note:** This facility category is not appropriate for the storage space provided within a standard Company Headquarters Building, facility category code 14185.*

***Note:** Do not use this facility category for facilities designed and used for logistics missions.*

***Note:** This facility category may be appropriate for basements or attics of facilities when the space is usable for storage, but not suitable for the primary mission of the organization.*

*See Chapter 3 for a discussion of multiuse facilities.*

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-4

#### Centers of Standardization

MTOE battalions other than schools are under the Savannah District Center of Standardization. AIT and BT/OSUT battalions are governed by the Fort Worth District Center of Standardization.

#### Proponent:

- DCS, G-4

#### COS:

- MTOE – Savannah
- AIT & BT/OSUT – Fort Worth
- Aviation - Mobile

### 3. Complex

Organizational storage will usually be a part of the following complexes:

- Brigade Complex
- TEMF
- Aviation Unit Complex
- BT/OSUT Complex
- AIT Complex
- C2F Complex (MTOE)

#### Complex:

- Brigade
- TEMF
- Aviation Unit
- BT/OSUT
- AIT
- C2F

Refer to Chapter 4 for more information on complexes.

#### 4. Units of Measure

Primary SF:

Secondary CF:

FAC: SF

##### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

#### 5. Functional Areas

Table 44224-1 lists the functional area by type of the Organizational Storage Building. See the functional adequacy matrix following this facility category discussion.

Table 44224-1 Organizational Storage Building	
Functional Area	Type
Storage Space	Mission

##### a. Additional Classification and Reporting Guidance

Use facility category code 44224 to describe smaller buildings suitable for storing materials and equipment that belong to a unit or organization. The nature of the storage is similar to commercial self-storage complexes, which provide space with a low stacking height because most organizations do not have material handling equipment necessary to use the vertical volume above eight feet. Facility category code 44224 is not normally associated with logistic missions or operations. Rather, organizational storage is space where units can keep their equipment when it is not in use.

This facility category may also be appropriate for basement areas that have usable space but are not suited for administrative or similar functions.

## B. Criteria

### 1. Basis for Authorization and Calculation

Organizational Storage Buildings will normally be part of TEMF for TOE units, based on authorized equipment and CTA items. TDA units and other organizations receive an allowance for storage according to their need. Criteria limit Class VII storage to 20,000 cubic feet per SRC unit.

### 2. Programmatic Application

RPLANS assigns allowances by SRC for total cubic feet (CF) of material to be stored from OTOE equipment authorizations and standard CTA items. RPLANS converts total CF of storage to GSF

by dividing the CF by 0.75, and dividing that quotient by a stack height of 7.5 feet. RPLANS multiplies the storage space by 0.33 to determine circulation space.

RPLANS divides the GSF allowance by 350 (rounded up if the remainder is less than or equal to 0.18) to determine the number of storage modules necessary, and then multiplies again by 350.

RPLANS allows TDA augmentations for TOE units, calculating total CF of storage based on 10 CF per person and 15 CF per vehicle. RPLANS converts the total CF of storage to GSF by dividing the CF by 0.75 and dividing that quotient by a stack height of 7.5 feet. RPLANS multiplies the storage space by 0.33 to determine circulation space.

RPLANS assigns storage space allowances to TDA organizations at 10 CF per person. RPLANS converts the total CF of storage to GSF by dividing the CF by 0.75 and dividing that quotient by a stack height of 7.5 feet. RPLANS multiplies the storage space by 0.33 to determine circulation space.

RPLANS effective date is as of Version 30.

RPLANS assigns allowances to TOE units by UIC based on RPLANS SRC allowances. For TDA UICs in RPLANS, RPLANS uses the RPLANS assignment for CATCD 44224.

For a TDA that is not in RPLANS, RPLANS first assigns the TDA a TDA-type identifier, and then calculates an allowance for each UIC based on the TDA-type and a per-person TDA-type factor.

At the NCO Academy complexes, RPLANS calculates the allowance based on the number of NCOS students multiplied by storage volume per student (40 CF) divided by stack height (7.5 feet) divided by utilization rate (0.75) multiplies by layout and circulation factor (1.33) multiplied by net-to-gross factor (1.45)

RPLANS effective date is as of Version 30.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

## 2. Requirements Calculations

The inputs include the number of separate organizations requiring storage space and the volume of materials to be stored.

Determine the required storage volume in CF. Use RPLANS to determine the square footage of organizational storage necessary to provide the required CF for TOE and most TDA units. Adjust requirements based on equipment or missions documented but not reflected in MTOE or TDA data.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

One key purpose of this space is to protect government equipment and material from pilferage or theft. Planners frequently assign facilities in this category code to company levels. At this level, if there are multiple companies sharing a building, it is appropriate to have permanent partitions separating the assigned company areas. Further internal division of the space to hand-receipt-holder level using cages or wire enclosures is appropriate.

While RPLANS gives most UICs an allowance in this category code, consider assigning storage as additional space within administrative areas, as described in AR 405-70, when planning for organizations that are primarily or entirely administrative in nature. This is especially appropriate when the requirement is less than 1,000 GSF and there is an operational requirement to distribute relatively small storage areas (less than 100 NSF) in the proximity of the various staff elements.

In addition to organizational storage for their TOE and CTA items, assign distribution companies additional space in facility category code 44220 for mission functions. See the Chapter 4, Complexes, and the CATCD 44220 discussions.

For TOE units, provide organizational storage as enclosed, dry storage for a unit's Class II and Class VII materials. For TDA units, provide enclosed dry storage space for organizational items that may be infrequently used, but still require storage.

### b. Facility Utilization Metrics

Divide CF required by CF assigned.

## **D. Programmable Increments**

### **1. Standard Facilities**

The TEMF Standard Design has specifications for this building as it relates to maintenance facilities. Standard Design floor plans are available on the COS website at:

<http://mrsi.usace.army.mil/cos/savannah/SitePages/temf.aspx>.

### **2. Programming Units**

Program to requirements.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility normally belongs in a troop area collocated with the TEMF.

### **2. Site Planning Considerations**

Organizational storage siting and land planning will normally be in conjunction with site and land planning for the TEMF with which it is associated. Consolidating organizational storage for several companies into one large storage building is acceptable.

For a TEMF, an access apron 27 feet wide should be present along the access side of the building. Parking spaces within a controlled perimeter should be more than 33 feet away from the building – or more than 82 feet in an uncontrolled area.

## **F. Other Considerations**

### **1. Special Instructions**

Consult Center of Standardization: Savannah.

### **2. Exceptions**

The Savannah COS has designated category code 21412 for use with the organizational storage associated with the TEMF complex.

This distinction is not currently supported by DA Pam 415-28 or the current Army Standard for TEMF.

As of version 30, RPLANS continues to calculate allowances associated with the TEMF as CATCD 44224, and sets allowances equal to zero for CATCD 21412.

As of this publication date, these items are being reviewed at the HQDA level in a series of related staff actions to change DA Pam 415-28 and/or modify Army Standards.

Consult Center of Standardization: Savannah District.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Installation Status Report Standards Booklet 17	1-SEP-07

### 4. See Also

21410      Vehicle Maintenance Shop

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
Mission	Storage Space	A		Refer to CATCD 44224 Section C	No lower limit	
Assign Rating / Notes						
Use RPLANS to determine the Unit organizational storage allowance						
<b>Presence Requirements for Adequacy:</b> A - Required, Collocated B - Required, Adjacent C - Required, Vicinity D - Not required, if present collocated E - Not required, if present: adjacent or vicinity F - Occupant Dependent						



## A. Reporting

### 1. Definition as found in the Army Standard, new category code

The Tables of Organization and Equipment (TOE) Supply Support Activity (SSA) Facility is a specified application of general-purpose warehouse space for organizational deployed supply storage. It provides dedicated space to accomplish material receiving, turn-in, shipping, and storage of Class II, III (P), IV, and IX supplies in brigade sets authorized for a supply platoon or equivalent within the distribution company of the brigade support battalion (or separate battalions when authorized an SSA).

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Fort Worth District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Fort Worth District

### 3. Complex

The TEMF Complex includes space in this facility category for a brigade support battalion (BSB) to perform the distribution company and SSA mission.

#### Complex :

- Brigade (MTOE)
- TEMF

### 4. Units of Measure

Primary: SF  
Secondary: NSF  
FAC: SF  
Capacity: GSA, CF  
Area: NSA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- CAP = GSA, CF
- Area UM = NSA

Calculate GSA, CF, and NSA in accordance with Chapter 3.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

At a minimum, the Storage Building requires logistics/administrative core, shipping and receiving, and storage areas to qualify as an SSA. See the functional adequacy matrix following this facility category discussion for a detailed list of functional areas and evaluation metrics.

Table 44226-1 lists the functional areas by type of General Purpose Storage.

Table 44226-1 SSA	
Functional Area	Type
<b>Warehouse Module</b>	
Warehouse Operations Area	Mission
Receiving and Issue Bay	Mission
Nonsensitive Security Storage	Mission
<b>Admin Core Module</b>	
Administration	General
Stock Control	General
Production	General
General Offices – See Appendix A for criteria	General
Contractor Logistics Support (CLS)	General
Multipurpose Room	General
Shipping Dock	Mission
Receiving Dock	Mission
Men's Restroom	Support
Women's Restroom	Support
Locker Area	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for a brigade-size unit; it is allocated to the distribution company of the brigade support battalion (BSB) and a separate battalion with an organic distribution company.

The qualifying attributes are the presence of a 920B Warrant Officer and four or more 92A series MAT STOR/HDLG enlisted soldiers within the battalion.

The Fort Worth Center of Standardization maintains the authorized size by Standard Design for the SSA.

## 2. Programmatic Application

As of RPLANS Version 30, this CATCD is not in RPLANS. The basis for authorization and calculation are applied as part of the CATCD 44220 calculation methodology.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

In determining the requirement for a new building, the master planner should use the Standard Design for the Fort Worth District. For existing buildings, the following should be used in calculating the storage requirements.

- An interior warehousing area of NMT 13,200 NSF.
- A receiving/issue bay of 2,250 NSF with separate loading dock for receiving and issue operations.
- Bays should have a clear stack-height clearance of 16 feet.
- Administration space of at least 3,590 NSF for the administration core module, training room, and contractor logistics module.
- The total facility should not exceed 20,640 GSF of serviceable area.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Conduct a survey of inventories to determine acceptable and available storage heights. To avoid establishing stacking heights for each item, group the supply inventory into categories and determine a stacking height for each category grouping. Results of the survey will indicate an overall potential and adjusted storage height for each grouping. Verify the storage heights and items in each group frequently against the actual storage required.

Carefully consider the nature of these materials when evaluating selection of storage facilities. The characteristics of the storage facilities influence the heights to which material may be stored. The composition influences the stack height of materials.

Externally, provide separate shipping and receiving truck docks, with ample hardstand paving and vehicle maneuvering area. The dock area requires access ramps at the front and side for vehicle and forklift access. Loading docks must be capable of accommodating vehicles up to the semitrailer type, as well as smaller vehicles, such as flatbeds and box trucks.

#### **b. Facility Utilization Metrics**

See Chapter 3 for measuring storage space, and Chapter 5 for details on utilization metrics for storage.

The utilization rate for storage areas is the occupied cubic space divided by attainable cubic feet times 100. The target utilization is between 75 and 85 percent for covered storage, installationwide.

### **D. Programmable Increments**

#### **1. Standard Facilities**

See the Standard Design floor plans for this facility category immediately following the functional adequacy matrix.

#### **2. Programming Units**

The SSA, composed of a warehouse module and an administrative core module, does not exceed 20,640 GSF unless multiple brigades share a single SSA.

Contact the Center of Standardization, Fort Worth District when programming new construction.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

Storage facilities are not visually attractive, and are incompatible with land uses requiring high visual standards. Where land is available, construct warehousing in batteries, end to end, with dividing fire walls to meet fire-prevention requirements.

## 2. Site Planning Considerations

An SSA building primary footprint requires 5 contiguous acres, with a minimum depth of 252 feet, not to exceed 7 acres. The turning radii of tractor-trailer commercial vehicles require this width on both sides of the warehouse operations building. The objective siting requirement is in close proximity to the BSB TEMF, CATCD 21410, and NMT 5 miles from the supported brigade when land availability precludes adjacent siting to the BSB TEMF complex.

An SSA requires both serviceable and unserviceable bulk storage areas in the form of rigid pavements.

The SSA additionally requires a hazardous materials storage area outside the primary facility, located in the temporary storage area within the security line of the SSA building.

## F. Other Considerations

### 1. Special Instructions

Consult the Fort Worth District COS for assistance in programming this facility category code.

### 2. Exceptions

None.

### 3. References

Army Standard for the Unit Supply Support Activity Facility	14-APR-2009
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 (DLAM 4145.12) Joint Service Manual (JSM) For Storage And Materials Handling	12-APR-94
Army Standard Design for Unit Supply Support Activity Facility Drawings/Floor plans	Posted Online: 7-NOV-11

### 4. See Also

44220	General Purpose Warehouse
44227	Central Issue Facility

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	Warehouse Operations Area	A		NMT 13,200 NSF	No lower limit		All bays will have a clear height clearance of 16 feet
Mission	Receiving/Issue Bay	A		NMT 2,250 NSF	No lower limit		Four separate 10 feet wide X 10 feet high doors
Mission	Secure Storage	A		NMT 150 NSF	No lower limit		
Mission	Turn-in Bay	A		NMT 625 NSF	No lower limit		
General	Core Admin	A		NMT 2,850 NSF	No lower limit		Consists of admin, stock control, production, offices, and support space
General	Contractor Logistics Support	A		NMT 500 NSF	No lower limit		
Mission	Multi-purpose Room	A		NMT 240 NSF	No lower limit		Consolidated meeting, customer briefing, training room; NLT 2 Classroom XXI terminals
Mission	External Serviceable Bulk Storage Area	A		NTE 333 SY	No lower limit		Covered hardstand with a clear height of 16 feet
Mission	External Unserviceable Bulk Storage Area	A		NTE 367 SY	No lower limit		Covered hardstand with a clear height of 16 feet
Mission	Loading/Unloading Apron	A		NMT 1,434 SY	No lower limit		Rigid pavement for Loading/Unloading Apron
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. Definition as stated in the Army Standard for Central Issue Facility (CIF)

An enclosed building on a military installation designed to accommodate bulk storage, shipping, and receiving capabilities, material turn-in, inventory control, and issue, receipt and exchange of organizational clothing and individual equipment (OCIE).

*Note: The CIF may be a standalone facility or a tenant space within a larger general-purpose warehouse (GPW) or other facility.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Fort Worth District Center of Standardization

### 3. Complex

None.

### 4. Units of Measure

Primary: SF  
Secondary: NSF  
FAC: SF  
Capacity: GSA, CF  
Area: NSA

Calculate GSA, CF, and NSA in accordance with Chapter 3.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

At a minimum, the Central Issue Facility requires three modules: administration, customer, and warehouse. See the functional adequacy matrix following this facility category discussion for a detailed list of functional areas and evaluation metrics.

#### Proponent:

- DCS, G-4

#### COS:

- Fort Worth District

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = NSF
- Planning UM = CF
- CAP = GSA
- Area UM = NSA
- CAP = PN
- Area UM = NUA

Table 44227-1 lists the functional areas by module of Central Issue Facility.

Table 44227-1 Central Issue Facility	
Functional Area Admin Module	Type
Private Offices	General
Open Offices	General
Multipurpose/Conference Room	General
Team Room	General
Men's Restroom	Support
Women's Rest Room	Support
Break Room/Vending Room	General
Functional Area Customer Module	Type
Reception Area	General
Issue and Fitting Area	Mission
Turn-in & Checkout Area	Mission
Shipping/Receiving Offices	General
Functional Area Warehouse Module	Type
General Offices	General
Bulk Storage Area	Mission
Warehouse Operations Area	Mission
Shipping Dock	Mission
Receiving Dock	Mission

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for an installation with a Soldier population greater than 200.

The qualifying attributes are a TOE and TDA population of greater than 200, and a daily issue of greater than one, or an Army training center.

The basis for calculation is the number of daily issues. The Fort Worth Center of Standardization maintains the authorized size by Standard Design.

### 2. Programmatic Application

As of RPLANS Version 30, this CATCD is not in RPLANS. The basis for authorization and calculation are applied as part of the CATCD 44220 calculation methodology.



## C. Planning

### 1. Planning Level

The planning level is unit.

#### Planning Level

- Unit

### 2. Requirements Calculations

In determining the requirement for a new facility, the Fort Worth District Standard Design should be followed. For existing buildings, the following should be used in calculating the facility:

- An administration space/module of 4,450 NSF that contains a private and open offices, common restrooms, a janitor's closet, a multipurpose/conference room, a team room, a recycling room and break room, and a vending area.
- A customer space/module of NLT 6,230 NSF that contains the reception area, an issue and fitting area, and a turn-in and checkout area.
- A warehouse space/module of NLT 16,000 GSF that contains a bulk storage area and a warehouse operations area.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Conduct a survey of inventories to determine acceptable and available storage heights. To avoid establishing stacking heights for each item, group the supply inventory into categories and determine a stacking height for each category grouping. Results of the survey will indicate an overall potential and adjusted storage height for each grouping. Verify the storage heights and items in each group frequently against the actual storage required.

Carefully consider the nature of these materials when evaluating selection of storage facilities. The characteristics of the storage facilities influence the heights to which material may be stored. The composition influences the stack height of materials.

Externally, provide separate shipping and receiving truck docks, with ample hardstand paving and vehicle maneuvering area. The

dock area requires access ramps at the front and side for vehicle and forklift access. Loading docks must be capable of accommodating vehicles up to the semitrailer type, as well as smaller vehicles, such as flatbeds and box trucks.

#### **b. Facility Utilization Metrics**

See Chapter 3 for measuring storage space, and Chapter 5 for details on utilization metrics for storage.

The utilization rate for storage areas is the occupied cubic space divided by attainable cubic feet times 100. The target utilization is between 75 and 85 percent for covered storage, installationwide.

### **D. Programmable Increments**

#### **1. Standard Facilities**

See the Standard Design floor plans for this facility category immediately following the functional adequacy matrix.

#### **2. Programming Units**

There are five standard sizes for the CIF within the Army standard.

Contact the Center of Standardization, Fort Worth District when programming new construction.

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

The overall CIF site footprint shall not exceed 12 contiguous acres. The width of the site is predicated upon the size of the facility and constrained by the turning radius of military and commercial tractor-trailer vehicles on one side of the facility.

#### **2. Site Planning Considerations**

Ideally, the CIF should be sited in close proximity to the installation In/Out Processing Center or Welcome Center. However, resupply or lateral transfer operations are supported by commercial tractor-trailers and heavy military vehicles, making access to commercial truck routes imperative. As such, existing facilities may not meet the Army CIF requirement, and land area may not be available for application of this criteria. When this occurs, CIF facilities will be sited in deference to commercial truck traffic routes.

Paving all apron and approach areas to the shipping and receiving areas is essential.

Except for will-call, separate parking areas from the truck docks and other activity areas. Isolate parking from receiving and shipping functions/dock areas.

## F. Other Considerations

### 1. Special Instructions

Consult the Fort Worth District COS for assistance in programming this facility category code.

### 2. Exceptions

None.

### 3. References

Army Standard for Central Issue Facility	28-OCT-13
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 (DLAM 4145.12) Joint Service Manual (JSM) For Storage And Materials Handling	12-APR-94
Army Standard Design for Central Issue Facility Drawings/Floor Plans	Posted 7-AUG 11

### 4. See Also

44220	General Purpose Warehouse
44226	Unit Supply Support Activity

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
General	Admin Module	A		ANNEX 1,120 NSF SMALL 4,450 NSF MEDIUM 5,000 NSF INITIAL ENTRY 6,330 NSF LARGE 5,300 NSF	No lower limit	
General	Private Offices	A		110 NSF	No lower limit	
General	Semi-private/Open offices	A		36 NSF	No lower limit	
Support	Common Restrooms	A			No lower limit	Both Male and Female: Each Restroom will have 1 shower and 4 lockers
Support	Lactation Room	A			No lower limit	Door shall be lockable from inside. **When staffing does not warrant repurpose as storage.
Support	Janitor Closet	A		20 NSF	No lower limit	
General	Multi-purpose/Conference Room (MP/CR)	A		NLT 350 NSF	No lower limit	
General	Team Room	A		NLT 120 NSF	No lower limit	
Mission	Customer Module	A		ANNEX 2,500 NSF SMALL 6,230 NSF MEDIUM 10,600 NSF I.E. 18,650 NSF LARGE 11,200 NSF	No lower limit	Includes: RA, IFA, TCOA, and CAA
General	Reception Area (RA)	A		NLT 505 NSF	No lower limit	

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	ASSIGN RATING / NOTES
Mission	Issue & Fitting Area (IFA)	A		NLT 700 NSF	No lower limit		
Mission	Specialty Item Issue Room	A		NLT 120 NSF	No lower limit		
Mission	Fitting Rooms	A		36 NSF each	No lower limit		Provide at least 2 but not more than 6
Mission	Turn-In & Check-Out Area	A		NLT 735 NSF	No lower limit		
Mission	Warehouse Module	A		ANNEX 0 NSF SMALL 16,000 NSF MEDIUM 49,400 NSF I.E. 50,000 NSF LARGE 90,000 NSF	No lower limit		Includes BSA, WOA, LUA and RFI Storage Areas
Mission	Bulk Storage Area	A		ANNEX 0 NSF SMALL 9,500 NSF MEDIUM 31,000 NSF I.E. 32,000 NSF LARGE 61,850 NSF	No lower limit		Within Warehouse Operations Area; 2 doors minimum for receiving and issue bays
Mission	Warehouse Operations Area	A		ANNEX 0 NSF SMALL 6,500 NSF MEDIUM 18,400 NSF I.E. 18,000 NSF LARGE 28,150 NSF	No lower limit		Provide loading dock
Presence Requirements for Adequacy:							
A - Required, Collocated							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A special storage building for any material or combination of materials that may be classified as hazardous or unsafe. Safety experts recommend that a separate building be constructed for storing hazardous materials, as opposed to use of a portion of another building. Hazardous materials storage buildings require special construction, fire protection systems, washing areas for decontamination, and warning and safeguard systems to prevent contamination. This category includes storage of hazardous wastes.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF; develop their requirements in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: GSF  
Other: CF

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = GSF
- Other UM = CF

### 5. Functional Areas

See the Functional Adequacy Matrix following this section.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the mission to store hazardous materials or waste, or a mission that requires storage of hazardous material as an inherent supporting task for that UIC.

### 2. Programmatic Application

RPLANS assigns a TDA-type indicator to UICs. Allowances are then calculated by multiplying UIC strength times the weighted average per capita allowance for the assigned TDA-type identifier. Table 44228-1 lists the applicable TDA-type identifiers and algorithms.

RPLANS allowances are calculated using a multicomponent algorithm approved by ACSIM in June 1999. The algorithm allows for recent changes in DOD and Army supply policies such as “Prime Vendor,” “Velocity Management,” and “Just in Time Delivery.” Implementation of these policies causes a significant reduction in the need for installation storage space.

The total facility size is determined by summing up four separate functional areas. Each of these functional areas is best described as a major grouping of supply materials requiring installation hazardous material (HAZMAT) storage. These major groupings are:

1. Package POL stored at ISA facilities
2. Miscellaneous HAZMAT stored at ISA/DPW facilities
3. Class III Package Materials stored at TOE facilities
4. HAZMAT stored at DRMO

For each of these groupings, one or more significant installation entities that generate a need for materials to be stored at the installation have been identified. For example, the installation oil storage facilities and space allowance are the generator for the Package POL stored at ISA facilities.



Table 44228-1 TDA-Type Identifiers and Algorithms

Type	Identifiers	Algorithm
1.	Pure Garrison TDA	$GSF = UIC \text{ Strength} \times 0.2579$
3.	Tenant TDA	$GSF = UIC \text{ Strength} \times 0.1167$
4.	MEDDAC TDA	See Note 1.
5.	ISC TDA	$GSF = UIC \text{ Strength} \times 0.1233$
6.	School TDA	$GSF = UIC \text{ Strength} \times 1.1572$
7.	Training Center TDA	$GSF = UIC \text{ Strength} \times 0.9598$
8.	Tenant / Space Available	See Note 2.
98.	TOE w/o SRC	See Note 3.
<b>Notes:</b>		
1. Not calculated since storage space for these organizations is normally provided in medical facilities		
2. Not calculated since space is normally provided for these organizations only on a space available basis or the space is provided in another facility type.		
3. Type 98 units are TOE units with no SRC identified in the ASIP. As such, they are not in the FPS TOE database and get no SRC allowances for these storage facilities. To provide storage space, type 98 units get the same allowance as type 3 TDAs.		

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

See CATCD 21412 Maintenance Storage, Non-DOL/DPW, for detailed instructions on calculating CF of materials.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The storage utilization rate represents the efficiency of use of the volumetric or cubic storage space. The DOD standard storage utilization rate target is 75 percent (0.75).

## **D. Programmable Increments**

### **1. Standard Facilities**

See floor plans following this section.

A total of 10 modularized configurations accommodate either a “narrow aisle” or a “very narrow aisle.”

The “narrow” aisle arrangement is appropriate for the materials handling equipment (MHE) listed here:

- Reach fork-lift truck
- Order picker truck
- Order picking ladders or other manual carts

The “very narrow” aisle arrangement is appropriate for this MHE:

- Turret truck
- Order picker truck
- Order picking ladders or other manual carts

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

As an industrial activity, this facility functions as a receiving, storage, and supply point. These support facilities tend to be unsightly and should be placed away from major traffic arteries.

### **2. Site Planning Considerations**

This facility requires access for large tractor-trailer vehicles as well as pickup vans. Landscape screening should be provided wherever possible; either through indigenous plantings or via berms.

## F. Other Considerations

### 1. Special Instructions

Consult the Center of Standardization USACE Huntsville Center for additional guidance.

Signage in keeping with TM 5-807-10, December, 1983, and the installation's design guide should be incorporated to identify the facility and vehicle access.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facility - Standard Facility	25-JUL-13
AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-15	20-JUL-98

### 4. See Also

21412	Maintenance Storage, Non-DOL/DPW
44220	Storage Building, General Purpose, Installation
44222	Storage Shed, General Purpose, Installation
44223	Arms Building for Battalion and Above
44224	Organizational Storage Building
44230	Controlled Humidity Warehouse, Installation
44240	Flammable Material Storehouse, Installation

## A. Reporting

### 1. DA Pam 415-28 Description/Definition

A building that provides enclosed storage space specially prepared and equipped for the control of humidity. This building may also be used for the storage of medical supplies not associated with hospitals. Almost any type of warehouse may be operated under controlled-humidity conditions, if properly sealed and equipped. General-purpose warehouse is the type most frequently built for, or converted to, a controlled-humidity environment.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: GSF  
Other: CF

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = GSF
- Other UM = CF

### 5. Functional Areas

Same as CATCD 44220, Storage Building, General Purpose, Installation, often called a general-purpose warehouse (GPW).

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number of TOE units and TDA organizations with a mission to receive, store

and use equipment, supplies, materials, and other items requiring a controlled environment to prevent rust, degradation, freeze/thaw, volatile humidity extremes, or other deleterious effects.

## 2. Programmatic Application

RPLANS assigns a TDA-type indicator to UICs where a TDA is not in the FPS database, such as other service tenant activities. Allowances are then calculated by multiplying UIC strength times the weighted average per capita allowance for the assigned TDA-type identifier. Table 44228-1 lists the applicable TDA-type identifiers and algorithms.

Allowances for all TOE units are calculated in detail by FPS and provided to the system as a look-up table that relates allowances to specific TOEs. Allowances for most TDA organizations are also calculated in detail by FPS and provided to the system as a look-up table in terms of a per capita allowance for these TDAs. The TDA allowances are calculated by multiplying the TDA strength of a parent UIC and any derivative UICs by the per capita allowance required by the parent UIC.

Table 44228-1 TDA-Type Identifiers and Algorithms		
Type	Identifiers	Algorithm
1.	Pure Garrison TDA	GSF = UIC Strength X 0.0291
3.	Tenant TDA	GSF = UIC Strength X 0.0213
4.	MEDDAC TDA	See Note 1.
5.	ISC TDA	GSF = UIC Strength X 0.0130
6.	School TDA	GSF = UIC Strength X 0.0796
7.	Training Center TDA	GSF = UIC Strength X 0.1183
8.	Tenant/Space Available	See Note 2.
98.	TOE w/o SRC	See Note 3.
<b>Notes:</b>		
1. Not calculated because storage space for these organizations is normally provided in medical facilities		
2. Not calculated because space is normally provided for these organizations only on a space available basis or the space is provided in another facility type.		
3. Type 98 units are TOE units with no SRC identified in the ASIP. As such, they are not in the FPS TOE database and get no SRC allowances for these storage facilities. To provide storage space, type 98 units get the same allowance as type 3 TDAs.		

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

The total requirement sums the allowances for each of the TOE units and TDA organizations with a qualifying mission. For additional guidance on calculations, see CATCD 44220.

Representative types of equipment requiring controlled-humidity storage:

- a.* Vehicular and nonvehicular equipment, including towed equipment, containing:
  - (1) Internal combustion engines
  - (2) Sensitive or delicate components
  - (3) Electrical or electronic components
  - (4) Components subject to deterioration from mildew, corrosion, or rot
- b.* Artillery and small arms
- c.* Electric and electronic equipment
- d.* Tents, canvas, and leather items
- e.* Instruments (optical, mechanical, and hydraulic)
- f.* Special protective equipment
- g.* Chemical warfare equipment and devices
- h.* Miscellaneous items such as batteries, and basic issue items of a sensitive nature
- i.* Medical supplies and equipment
- j.* Audio-visual and photographic equipment
- k.* Test, measurement, and diagnostic equipment
- l.* Tool sets, tool kits, and shop sets
- m.* Afloat stocks of class V and other classes of supply as determined by Army War Reserve Support Command/Civil Engineering (AWRSPTCMD/CE)

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The storage utilization rate represents the efficiency of use of the volumetric or cubic storage space. The DOD standard storage utilization rate target is 75 percent (0.75).

## D. Programmable Increments

### 1. Standard Facilities

There are no standard sizes for GPW facilities. The Standard Design package (DA Standard Design Package for GPW, DEF 441-10-01/442-20-01) is flexible to permit adaption to all GPW construction projects. The basic GPW shown in the Standard Design package is a 120,000 SF (11,148.4 SM) building. Development of GPW facilities utilizes a standard grid size of 33 feet by 66 feet (10 m by 20 m). The area and height of the GPW may be adjusted to accommodate site-specific conditions and requirements.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

As an industrial activity, this facility functions as a receiving, storage, and supply point.

### 2. Site Planning Considerations

These support facilities tend to be unsightly and should be placed away from major traffic arteries. These facilities require access for large tractor-trailer vehicles as well as pickup vans. Landscape screening should be provided wherever possible, through either indigenous plantings or berms.

Signage in keeping with the installation's design guide should be incorporated to identify the facility and vehicle access.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

**3. References**

AR 740-1 Storage and Supply Activity Operations	26-AUG-08
TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
DEF 441-10-01/442-20-01	OCT-91

**4. See Also**

44220	Storage Building, General Purpose, Installation
44222	Storage Shed, General Purpose, Installation
44223	Arms Building for Battalion and Above
44224	Organizational Storage Building
44228	Hazardous Material Storage Building, Installation
44240	Flammable Material Storehouse, Installation



## A. Reporting

### 1. DA Pam 415-28 Description/Definition

A special-purpose building for the storage of flammable and combustible materials to support day-to-day operations. Materials normally considered for storage in this facility include paints, POL products, and other combustible liquids. Enclosed storage for chemicals, acids, corrosive liquids, oxidizing materials, and other similar flammable materials is also included under this CATCD. This category is only for materials stored in small containers or drums within buildings.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in CF.

Primary: SF  
Secondary: CF  
FAC: SF  
Planning: GSF  
Other: CF

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = GSF
- Other UM = CF

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category by determining the installation allowance as the sum of the allowances required to

support all the installation TOEs, TDAs and student UICs. See Category Code 44228, Hazardous Material Storage Building, Installation.

## 2. Programmatic Application

RPLANS does not calculate allowances for this category code. RPLANS sets the allowance to zero.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

See Category Code 44228, Hazardous Material Storage Building, Installation, for detailed instructions.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army established the goal of at least 75 percent as the target when dividing usage by capacity.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility functions as a receiving, storage, and supply point. As such, it requires access for large tractor-trailer vehicles as well as pickup vans.

### 2. Site Planning Considerations

These support facilities tend to be unsightly and should be placed away from major traffic arteries. Landscape screening should be provided wherever possible, either through indigenous plantings or via berms.

Signage in keeping with TM 5-807-10, December, 1983, and the installation's design guide should be incorporated to identify the facility and vehicle access.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TM 38-400 Joint Service Manual (JSM) for Storage and Materials Handling	14-OCT-08
TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-15 98	20-JUL-98

### 4. See Also

44220	Storage Building, General Purpose, Installation
44222	Storage Shed, General Purpose, Installation
44223	Arms Building for Battalion and Above
44224	Organizational Storage Building
44228	Hazardous Material Storage Building, Installation
44230	Controlled Humidity Warehouse, Installation

**1. DA Pam 415-28 Description / Definition**

An underground building for the storage of a variety of materials.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 45110 Open Storage Area, Depot Level.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

A special storage building for any material or combination of materials that spontaneously emits ionizing radiation. This includes natural elements such as radium and accelerator-produced radio nuclides. Safety experts recommend that a separate building be constructed for housing all stored radioactive material. Radioactive storage facilities require special construction, fire protection systems, washing areas for decontamination, and warning and safeguard systems to prevent contamination.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 45110 Open Storage Area, Depot Level.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure that protects selected organizational vehicles from weather elements and/or satellite surveillance. This structure may be used for all types of vehicles in areas of extreme climate.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in GSF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number of organizational vehicles in USAREUR and Korea only.

### 2. Programmatic Application

RPLANS divides the number of organizational vehicles by 16, then rounds the resulting number up to the nearest half-shed increment. Next, FPS multiplies the resulting number of shed-increments by 14,060 GSF (1,306.2 SM), the standard shed size.

## C. Planning

### 1. Planning Level

The planning level is Other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Follow the RPLANS algorithm using the appropriate number of vehicles.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the unit responsible for the vehicles.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. The target utilization is to have vacant space of not more than half a shed. A shed holds 16 vehicles.

Thus, utilization equals bays occupied divided by bays available.

## D. Programmable Increments

### 1. Standard Facilities

There is no current design standard or Standard Design. RPLANS indicates a standard shed area as noted above.

### 2. Programming Units

Program in increments of whole bays. Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This industrial facility functions as a cover for large vehicles and miscellaneous equipment. It requires access for large tractor-trailer vehicles as well as pickup vans.

## 2. Site Planning Considerations

These support facilities tend to be unsightly and should be placed away from major traffic arteries. Landscape screening should be provided wherever possible, either through indigenous plantings or via berms.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

MH 1190 Facility Planning and Design Guide, Page 40	01-SEP-07
TI - 800-01 - Technical Instructions, Design Criteria	24-JUL-03

### 4. See Also

44220	Storage Building, General Purpose, Installation
44224	Organizational Storage Building
44228	Hazardous Material Storage Building, Installation
44230	Controlled Humidity Warehouse, Installation
44240	Flammable Material Storage, Installation



### 1. DA Pam 415-28 Description / Definition

An enclosed building that protects organizational or other vehicles from the elements. This building category is used primarily in extremely cold climates.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 45110 Open Storage Area, Depot Level.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for the storage and issue of family housing and unaccompanied personnel housing (UPH) furniture.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

This facility category is managed by the Fort Worth Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Fort Worth District

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

The primary unit of measure for this facility category is GSF.

Calculate the cubic feet (CF) in accordance with Chapter 3.

Primary:	SF	
Secondary:	CF	Total cubic feet
FAC:	SF	
Planning:	NSF	Total net square feet of mission and general functional areas
Planning:	CF	Total Cubic feet
CAP:	GSA	
CAP:	PN	Office capacity of general functional areas
Other:	CF	Total cubic feet

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF
- Planning UM = NSF
- Planning UM = CF
- CAP = GSA
- CAP = PN
- Other UM = CF

## 5. Functional Areas

Table 44271-1 lists the functional areas by type and adequacy requirements for Consolidated Housing Furniture Storage.

Table 44271-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Storage Space	Mission	A
Open Offices	General	A
Shipping/Receiving Area	Mission	A
Loading Dock	Mission	A
Women's Restroom	Support	A
Men's Restroom	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
<b>NOTE:</b> Door widths and loading/unloading areas need to be able to accommodate housing furnishings.		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category to installations that provide furnishing support to family housing or UEPH based on the volume of furniture to be stored.

### 2. Programmatic Application

RPLANS assigns space for furniture storage within its calculation for CATCD 44220, Storage Building, General Purpose, Installation; however, because installations may classify buildings for Consolidated Housing Furniture Storage as a separate building, 44271, RPLANS does breakdown the calculation. RPLANS calculates family housing (FH) furniture storage and barracks furniture storage separately, but their algorithms are similar.

RPLANS does not calculate a separate allowance for Consolidated Housing Furniture Storage.

## C. Planning

### 1. Planning Level

The planning level for Consolidated Housing Furniture Storage is other-than-unit. The mission to provide furniture and appliances is based on the number of housing units and barracks spaces that the furnishings manager supports.

#### Planning Level:

- Other-than-unit

## 2. Requirements Calculations

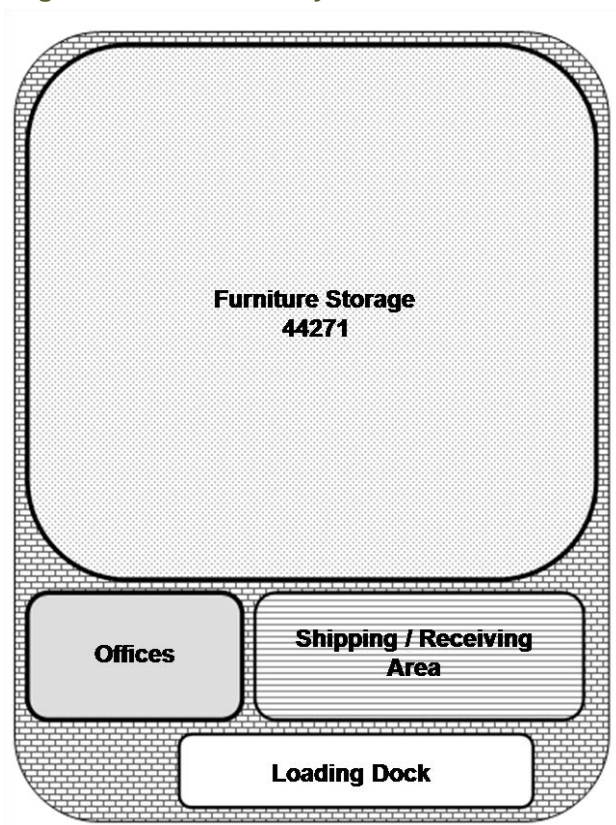
Family housing furniture storage supports installations' family housing facilities. The Army provides limited furniture for family housing in CONUS.

For OCONUS installations, the FH furniture includes, but is not limited to, beds, mattresses, chairs, desks, tables, refrigerators, stoves, lamps, wardrobes, etc. For CONUS, FH furniture items are typically limited to refrigerators and stoves, but may include a limited supply of other items. Allow general officer quarters additional FH items such as trash compactors, entertainment items, etc. In addition, foreign officer quarters may be designated and require a full complement of kitchen, dining, and bedroom furniture items, etc.

The barracks furniture storage area supports installation UPH facilities. It includes, but is not limited to, items such as beds, mattresses, desks, chairs, tables, lamps, wardrobes, etc.

Figure 44271- portrays a floor layout for Consolidated Housing Furniture Storage.

**Figure 44271-1 Floor Layout**



The Consolidated Housing Furniture Storage footprint is the sum of the storage area footprints of the following 11 generators. These generators are the primary installation entities that generate a requirement for Consolidated Housing Furniture Storage.

- Foreign Officer FH Spaces
- General Officer FH Spaces
- CONUS FH Spaces
- OCONUS FH Spaces
- Number of UOQ (Unaccompanied Officer Quarters) Spaces
- Number of SEBQ (Senior Enlisted Barracks Quarters) Spaces
- Number of Permanent Party Barracks Spaces
- Number of Trainee Barracks Spaces
- Number of Transient Quarters Spaces
- Number of AT/MOB (Annual Training/Mobilization) Barracks Spaces
- Number of Non-FH (Non-Family Housing) Facilities Spaces

In conjunction with the family housing office, determine how many sets of furnishings are maintained in storage for each generator the installation supports.

- Determine storage CF per generator for an average set of furniture.
- Days of storage for receipt/issue represents the average installation stocking level for receipt/storage/issue for the materiel being addressed, signified by the unit “Days.”
- Days of storage for retrograde represents the average installation storage needs for holding the materiel for retrograde purposes (replacement, disposal, etc.), signified by the unit “Days.”
- Stack height represents the clear height to which the furniture items may be stacked. Average stack height at installation furniture storage facilities without material handling equipment (MHE), is 8 feet.

Use this to calculate the total CF of storage space the installation requires.

### 3. Assignment of Space

#### a. Guidance

When assigning space in an existing building, assign as much area as is necessary to provide the necessary volume for storage. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign this space to the family housing office or the contractor that provides furnishing support.

#### b. Facility Utilization Metrics

Consider general storage space efficiently utilized only when occupancy embraces effective use of vertical as well as horizontal space. See facility category code 44220 when measuring the net usable and cubic areas of storage spaces, as well as for determining utilization.

Good utilization of net storage space for Consolidated Housing Furniture Storage is an occupancy factor of 85 percent of net storage space. When occupancy of a given building or group of buildings in the same general storage area consistently falls below 85 percent, take appropriate remedial action, such as consolidation of stocks or designation of space to stand-by status.

## D. Programmable Increments

### 1. Standard Facilities

Refer to facility category code 44220, Storage Building, General Purpose, Installation.

### 2. Programming Units

Program to requirements. Refer to facility category code 44220, Storage Building, General Purpose, Installation. The 120,000 SF GPW, with a baseline clearance of 24 feet, may be increased or decreased to suit installation requirements. However, do not exceed 40,000 SF per separated area, and complete all separations using four-hour fire division walls.

Contact the Center of Standardization, Fort Worth District, when programming new construction.

#### Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

General storage for family housing may be located in Industrial land use areas.

### 2. Site Planning Considerations

Parking area is based on one space for each 500 GSF of office area, plus one space for each four persons assigned. Allow 35 SY per parking space. Allow sufficient land area for building access, loading and unloading, and fire protection.

## F. Other Considerations

### 1. Special Instructions

This building is provided in addition to space authorized under facility category code 44220, Storage Building, General Purpose, Installation. Refer to AR 420-1 for information concerning the handling and disposition of Army-owned family housing and UPH furnishings.

### 2. Exceptions

None.

### 3. References

General Purpose Warehouse Standard Design	Undated Posted Online 28-OCT-08
TI 800-01, Technical Instructions, Design Criteria	JUL-98
AR 420-1 Army Facilities Management	12-FEB-08

### 4. Also See

44220	Storage Building, General Purpose, Installation
44222	Storage Shed, General Purpose, Installation
44288	Installation Storage Other Than Depot or Organizational

### 1. DA Pam 415-28 Description / Definition

An enclosed building for the storage of materials used in support of an installation mission distinct from support of soldiers and organizations assigned to the installation. This category of storage may have loading docks or cantilever support canopies over docks. If the storage is for general support of soldiers and organizations, use Storage Building, General Purpose, Installation (44220).

**Proponent:**

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

### 4. See Also

See 44220 Storage Building, General Purpose, Installation; 44224 Organizational Storage Building; and 45110 Open Storage Area, Depot Level.

**Planning Level:**

- Unit



### 1. DA Pam 415-28 Description / Definition

A structure for depot-level storage of commodities that do not require any protection from the elements. This is generally an improved or semi-improved area that does not provide any cover for the materials stored.

### 1. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 2. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 3. See Also

See 45210 Open Storage Area, Installation.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure for the installation-level storage of material and equipment that does not require any protection from the elements. These structures are generally improved or semi-improved areas that do not provide any cover for the material stored. The DRMO often uses such facilities for storage of surplus and salvage.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

This facility category normally supports installations and is included in the TEMF Complex and the TEMF element of the Brigade Complex.

#### Complex:

- TEMF
- Brigade (MTOE)

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY

#### Units of Measure:

Primary UM = SY  
Secondary UM = None  
FAC UM = SY

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the presence of a distribution company in a brigade support battalion based on the TEMF complex. The criteria provides a fixed 445 SY.

Supply and transport battalions and organizations such as DRMO that have supply functions may use this facility. TDA maintenance complexes may use open storage to supplement their warehouses.

## 2. Programmatic Application

Effective with Version 31, RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

#### Planning Level:

- Unit

### 2. Requirements Calculations

Distribution companies in BCT brigade support battalions are given an allowance of 445 SY of open secure storage. This would include large Class IX combat spares such as containerized engines, assemblies, track, tires, and Class IV material. See Appendix D, Glossary, Acronyms, and Units of Measure, for more information.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to units with a storage mission for equipment that does not require protection from the elements. Open storage spaces are used for the storage of goods that do not require extensive protection from the elements. They are generally unimproved or semi-improved areas that do not provide any cover for the materials and salvage stored.

#### b. Facility Utilization Metrics

The Army established the goal of at least 75 percent as the target when dividing usage by capacity.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in SY to make cost comparisons between projects.

#### Programming UM:

- SY

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

As an industrial activity, this facility needs to be located near the other storage facilities of the authorized unit. These support facilities tend to be unsightly and should be placed away from major traffic arteries.

### **2. Site Planning Considerations**

This facility functions as a long-term open-air holding area. As such, it requires delivery access for large tractor-trailer vehicles as well as pickup vans. Landscape screening should be provided wherever possible, either through indigenous plantings or via berms

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

AR 740-1 Storage and Supply Activity Operations	26-AUG-08
UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design Revision 4.3	25-JUL-13
Army Standard for Tactical Equipment Maintenance Facilities - Facility Complex	28-FEB-08

### **4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A structure used for the temporary storage and treatment of contaminated soils, typically POL-contaminated soils and not hazardous waste. It may consist of an impervious soil, lined treatment cells, drainage, leachate recovery/recycling system (holding pond, pumps, and irrigation system), and temporary storage area for treated and untreated waste. Account for other facilities, such as storage facilities for chemicals and equipment, pavements, and site fencing that may be collocated at the site, separately using appropriate CATCDs.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = SY
- FAC UM = EA

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A hospital building that provides general and specialized medical, psychiatric, obstetrical, and/or surgical care for four or more inpatients on a 24-hour basis.

### 2. Proponent

Office of the Surgeon General (OTSG)

Proponent:

- OTSG

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF; develop their requirements in beds (BD).

Units of Measure:

- Primary UM = SF
- Secondary UM = BD
- FAC UM = BD

### 5. Functional Areas

MEDDAC determines functional areas for each authorized facility.

## B. Criteria

### 1. Basis of Allowance

The basis of allowance is the MEDDAC population.

### 2. Programmatic Application

As of June 1995, RPLANS follows an algorithm developed for both CONUS and OCONUS through regression analysis of existing assets and MEDDAC strength at installations authorized Medical Center/Hospital facilities.

$$\text{GSF of Medical Center / Hospital} = (\text{MEDDAC Pop} - 180 \text{ PN}) \times 500 \text{ GSF}$$

RPLANS does not authorize this facility at installations with a MEDDAC population of less than or equal to 180.

## C. Planning

### 1. Planning Level

The planning level is Medical Command.

#### Planning Level:

- Medical Command

### 2. Requirements Calculations

Provided by MEDDAC.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the MEDDAC unit on post.

#### b. Facility Utilization Metrics

MEDDAC establishes utilization based on the functional areas included in each specific installation's programmed facilities.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Medical facilities belong in the Professional/Institutional land use.

### 2. Site Planning Considerations

Medical Center Hospitals should be conveniently located near the populations they support. This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code. Reference UFC 04-010-01 for Antiterrorism Force Protection considerations, and UFC 4-510-01 for site-specific considerations and access issues. See category codes listed below for relevant information.

As large buildings with many ancillary facilities (e.g., other medical facilities, public access infrastructure, utility support for emergency power, fire protection, etc.), hospitals and medical centers require a campus or subarea plan to properly integrate them into an installation's master plan. The site plan must accommodate access for many types of personnel and vehicles, and must provide utilities. Carefully study multiple access points for different types of traffic to avoid conflicts in vehicle and pedestrian movement.

Signage in keeping with the installation's design guide should be incorporated to identify the facility and direct vehicle access.

## **F. Other Considerations**

### **1. Special Instructions**

Contact MEDDAC and The Health Facilities Planning Agency for guidance into planning, site planning, and programming medical facilities.

### **2. Exceptions**

None.

### **3. References**

[www.facilities.health.mil/home/](http://www.facilities.health.mil/home/)

### **4. See Also**

53020	Laboratory
53025	Pharmacy
53030	Morgue
53040	Veterinary Facility
53045	Animal Shelter
53060	Medical Warehouse
53070	Ambulance Shelter
53071	Ambulance Garage
53080	Fisher House
54010	Dental Clinic
55010	Health Clinic



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A separate, freestanding medical laboratory building or laboratories located in facilities other than a hospital. Laboratories that are part of a hospital are not included in this CATCD. This building category provides specialized and general medical laboratory services at a central location for medical facilities not having full laboratory capabilities. It consists of several technical units, including hematology, blood unit, urinalysis, biochemistry, histology, serology-bacteriology, and others, as required.

### 2. Proponent

Office of the Surgeon General (OTSG)

Proponent:

- OTSG

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 5. Functional Areas

Provide laboratory facilities for the following procedures as authorized:

- Biochemistry
- Hematology/Urinalysis
- Microbiology/Serology
- Blood Bank
- Anatomic Pathology/Cytology

## B. Criteria

### 1. Basis of Allowance

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9 for requirements.

## 2. Programmatic Application

RPLANS sets allowances equal to assets.

## C. Planning

### 1. Planning Level

The planning level is Medical Command.

Planning Level:

- Medical Command

### 2. Requirements Calculations

The planner should contact MEDDAC or the HQ for guidance on establishing requirements.

Planning UM:

- GSF

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the medical unit.

#### b. Facility Utilization Metrics

The planner should contact MEDDAC for utilization appropriate to the installation or site.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

There are no standard sizes for laboratory facilities. Programming documents report these facilities in GSF to make cost comparisons between projects.

Programming UM:

- GSF

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility functions as a support to other health services and patient support facilities. It should be convenient to the on-post housing, community center, and main gate to serve off-post clientele.

## 2. Site Planning Considerations

Key considerations and relationships involved in site selection include:

- Access to medical center/hospital
- Access to clinics
- Adjacency to other patient services and community facilities
- Vehicular and pedestrian circulation, parking, deliveries, etc.

Signage in keeping with the installation's design guide should be incorporated to identify the facility and vehicle access.

## F. Other Considerations

### 1. Special Instructions

Contact MEDDAC and The Health Facilities Planning Agency for guidance into planning, site planning and programming laboratory facilities.

### 2. Exceptions

None.

### 3. References

FM 8-55 Planning for Health Service Support – 9-SEP-94  
Chapter 7

### 4. See Also

51010 Medical Center/Hospital  
53025 Pharmacy  
53030 Morgue  
53040 Veterinary Facility  
53060 Medical Warehouse  
54010 Dental Clinic  
55010 Health Clinic

### 1. DA Pam 415-28 Description / Definition

A pharmacy building that dispenses medically prescribed drugs. This category is used for standalone buildings, or to delineate functional areas within facilities other than medical (for example, PX, commissary, etc.). Pharmacy areas within hospitals/clinics carry the same CATCD as the hospital/clinic.

**Proponent:**

- OTSG

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

Pharmacies should be conveniently located near the populations they support. This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Medical Command

### 4. See Also

See 5xxxx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for storing the bodies of deceased persons until identified and claimed by relatives or released for burial. The morgue may have a viewing room and a small chapel area. Mortuaries are also reported using this CATCD. This building is freestanding or located within a medical center/hospital. Facilities that are temporarily used as morgues during emergency/disaster situations should not use this CATCD, but should continue to be identified with their current-use CATCD. For example, the aircraft hangars at Dover Air Force Base in Dover, Delaware, remain categorized as hangars even when used as a morgue.

**Proponent:**

- OTSG

**Complex:**

- None

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

**Planning Level:**

- Medical Command

### 4. See Also

See 5xxxx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building used for the administrative and operational functions of veterinary activities assigned to a community. This category provides space for the medical care of government-owned and privately owned animals, and the control of animal diseases communicable to man that may be carried by either government-owned or privately owned animals. Veterinary activities also include responsibility for all procurement and surveillance food inspections within the geographical area of coverage.

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

### 4. See Also

See 5xxxx for related facility category codes.

#### Proponent:

- OTSG

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Medical Command

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure that provides boarding areas for the upkeep and well-being of both government-owned and privately owned animals under veterinary care. These freestanding structures provide more area for the movement and exercise of animals than holding rooms within the veterinary clinic building. Report the area under the roof or the total enclosed area, and count each kennel or holding space as one space (SP).

### 2. Proponent

Office of the Surgeon General (OTSG)

Proponent:

- OTSG

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in SP.

Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis of Allowance

This facility occurs only at installations with a veterinary unit and mission.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this facility category code.

## C. Planning

### 1. Planning Level

The planning level is unit Medical Command.

Planning Level:

- Medical Command

## 2. Requirements Calculations

For planning purposes, the installation must establish the number of stray animals that might require confinement.

The facility is a roofed structure containing a series of individual indoor and outdoor kennels, and support space consisting of rooms for food preparation, dog treatment, and storage. Design details vary with climate. The facility requires electricity, an exhaust system, a supply of potable water, and an adequate sewage disposal system. When programming new buildings and facilities, use Table 53045-1 for space allocation guidelines based on a minimum of two stray-dog kennels and two stray-cat kennels per facility.

Table 53045-1 – Animal Shelter Area Criteria			
Area	NSF	NSM	Notes
Canine Kennel	60	5.57	See Note 1.
Feline Kennel	10	0.93	
Outdoor Exercise	400	37.2	
Utility / Storage Area	150	13.94	
<b>Note:</b>			
1. Minimum of two canine and two feline kennels per facility. Add one kennel of each type for each 12 estimated animals over than 24.			

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the veterinary unit.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.



## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Do not locate kennels near runways, taxiways, engine test cells, small-arms ranges, or other areas where the time-weighted overall average sound pressure level for any 24-hour period exceeds 75 adjusted decibels.

### 2. Site Planning Considerations

See AR 190-12 Chapter 5, page 17, for warning sign requirements when the kennel accommodates military working dogs (MWDs).

The area should be served by utilities, and the soil should be well drained. Protection from the cold winter winds should be provided, and large shade trees should be planted around the kennel for summer cooling.

The kennel should be collocated with the Veterinary Facility (category code 53040) and away from other activities (particularly housing) to provide an isolated, secured environment for animals, and to minimize annoyance caused by barking.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

DoD Space Planning Criteria for Health Facilities – Chapter 5.6 Veterinary- Currently under revision-expected release FY2015/	06-SEP-08
Army Regulation 190-12 Military Working Dogs.	11 March 2013

### 4. See Also

14126 Animal Building  
53040 Veterinary Facility

### 1. DA Pam 415-28 Description / Definition

A storage warehouse building for medical materials and supplies that are continually withdrawn and replenished. Facilities for the storage of prepositioned war reserve stocks are accounted for with 400-series supply and storage CATCDs, and are not included. These buildings normally require heat and controlled humidity as well as refrigerated and secure storage areas. This category should not be used for facilities that are part of a hospital or battalion aid station.

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

### 4. See Also

See 5xxxx for related facility category codes.

#### Proponent:

- OTSG

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

#### Planning Level:

- Medical Command

### 1. DA Pam 415-28 Description / Definition

A separate structure used to park nontactical ambulances while they are not in use. This facility is not the covered shelter normally attached to the emergency entrance of a hospital. Also, report the number of vehicles as a count of the vehicle capacity of the structure. A single bay or parking space is one VE, and a double parking space is two VE.

**Proponent:**

- OTSG

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Planning Level:**

- Medical Command

### 4. See Also

See 5xxxx for related facility category codes

### 1. DA Pam 415-28 Description / Definition

An enclosed building used to park nontactical ambulances while they are not in use. Also report the number of vehicles as a count of the vehicle capacity of the garage. A single bay is one VE, and a double bay is two VE.

**Proponent:**

- OTSG

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Planning Level:**

- Medical Command

### 4. See Also

See 5xxxx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building built specifically as a guesthouse for military families and retirees visiting a family member who is being treated at a military hospital for a life-threatening condition or long-term illness, or who is terminally ill. These buildings contain separate bedrooms with private baths and a common kitchen, entryway, and living and dining rooms. The common areas are provided so families can draw support from other families that are dealing with similar situations. Do not use for guesthouses unless solely associated with a medical facility. Regular guesthouses should not use this CATCD, even though they may be used to provide overflow capabilities when the Fisher Houses are full. Also, report the number of spaces (SP) as the number of bedrooms in the house. Data should be available from medical activities at the installation. If not, conduct a physical count of bedrooms in a house.

### 2. Criteria

The Army has established criteria and allowances for this facility category code that can be referenced in the Unified Facilities Criteria: UFC 4-510-01. The basis of allocation is a MEDCOM decision based on the medical needs of the population and Title 10 requirements. Contact US Army Medical Command G9.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. Reference UFC 04-010-01 for antiterrorism considerations, and UFC 4-510-01 for site-specific considerations and access issues.

### 4. See Also

See 5xxxx for related facility category codes.

#### Proponent:

- OTSG

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

#### Planning Level:

- Medical Command

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that provides routine and specialized dental treatment for all authorized personnel, including active-duty military, family members, and authorized civilian employees within the geographical area of responsibility. The Dental Clinic can be in a separate building, combined with another compatible nonmedical activity, or part of a hospital. Even if the clinic is part of a hospital, use this category (54010) to report the area used as a Dental Clinic.

### 2. Proponent

Office of the Surgeon General (OTSG)

Proponent:

- OTSG

### 3. Complex

None.

Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in operating units (OU).

Units of Measure:

- Primary UM = SF
- Secondary UM = OU
- FAC UM = OU

### 5. Functional Areas

Table 54010-1 lists the functional areas with their type of space and presence (proximity) relationship requirements.

Table 54010-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Reception areas	Mission	A
Clinic Support areas	Mission	A
Administrative offices and data processing	General	C
Medical materiel – receiving and storage	Support	A
HQ (if required)	General	C
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		
C - Required, Vicinity		

## B. Criteria

### 1. Basis of Allowance

Dental facility allowances are calculated only for installations where either a Dental Command UIC is present in the ASIP (CONUS, Europe and Japan), or a TOE Area Support Dental or Medical Company is present in the ASIP (Korea).

### 2. Programmatic Application

As of October 2004, RPLANS calculates unit allowances based on an algorithm developed using regression analysis of data provided by the Health Services Command.

Based on a regression analysis of data provided by the Health Services Command, the facility gross area may be estimated using the following formula:

$$\text{GSF} = (\text{Military Population} \times 0.527) + 10,801 \text{ GSF}$$

$$\text{GSM} = (\text{Military Population} \times 0.049) + 1,003.4 \text{ SM}$$

## C. Planning

### 1. Planning Level

The planning level is Medical Command.

#### Planning Level:

- Medical Command

### 2. Requirements Calculations

The planner must determine the number of required (versus allowed) dental officers and hygienists. This can be obtained from the unit's MTOE/TDA, or its manpower document. The planner must also determine whether the DENTAC unit headquarters will be located in the Dental Clinic, in which case additional space is allocated for operations and equipment storage in category code 14185, Company Headquarters Building.

Space allocations are based on workload projections and planned services/modalities for a specific MHS facility project. Healthcare and clinical planners working on military hospitals, medical centers, and clinics shall utilize and apply the workload-based criteria in DOD Space Planning Criteria, Chapter 320: Dental Clinic for identified services and modalities to determine space requirements for the project.

The following program data is required to plan an individual Dental Clinic:

The dental treatment room (DTR) capacity calculation is based on the following formula/parameters:

Formula:

$$\frac{\text{Operating Days per Year} \times \text{Hours of Operation per Day}}{\text{Average Length of Encounter (ALOE) in Minutes/60 Minutes}} \times \text{Utilization Factor}$$

User-defined Value:

1. Operating Days per Year: 232, 240, or 250. (default in SEPS: 240)
2. Hours of Operation per Day: 6, 7, or 8 (default in SEPS: 8)

Fixed Value:

3. Utilization Factor: 80%

Calculation: Annual Workload for One General Dental Treatment Room (DTR):

$$\frac{240 \text{ Operating Days per Year} \times 8 \text{ Hours of Operation per Day}}{40 \text{ Minutes/60 Minutes}} \times 0.80 = 2,304$$

Minimum Annual Workload to Generate a General Dental Treatment Room (DTR): 20% of Annual Workload for One General Dental Treatment Room (DTR).

Table 54010-2 Workload Parameter Calculation				
Clinical Encounters/ Procedures	Average Length of Clinic Encounter (minutes)	Utilization Rate	Annual Workload Per Dental Treatment Room(*)	Minimum Annual Workload to Generate One Room (20%)
General Dental Treatment Room (DTR) (per Chair)	75	80%	1,228	246
Pediatric Dental Treatment Room (DTR)	60	80%	1,536	307
Oral Hygiene Dental Treatment Room (DTR)	60	80%	1,536	307
Dental Surgery Operating Room	120	80%	768	154
Prosthodontics Dental Treatment Room (DTR)	110	80%	838	168
Endodontics Dental Treatment Room (DTR)	80	80%	1,152	230



Periodontics Dental Treatment Room (DTR)	110	80%	838	168
Orthodontics Dental Treatment Room (DTR)	30	80%	3,072	614
Oral, Panoramic/Cephalometric Imaging	20	80%	4,608	922

(\*) Values in this column are representative and are based on an 8-hour-per-day and a 240-day-per-year default value. SEPS calculates this value dynamically based on answers to the following Input Data Statements:

- (1) Is Dental Clinic authorized to operate outside the standard 8-hour-per-day shift? (Miscellaneous); if not:
- (2) Is Dental Clinic authorized to operate a 6-hour-per-day shift? (Miscellaneous) (If not, a 7-hour-per-day shift will be used to calculate workload-driven spaces), and
- (3) Is Dental Clinic authorized to operate outside the standard 240 days per year? (Miscellaneous); if not:
- (4) Is Dental Clinic authorized to operate 232 days per year? (Miscellaneous) (If not, 250 days per year will be used to calculate workload-driven spaces)

## PROGRAM DATA REQUIRED

### A. Mission Input Data Statements

1. Is a Cone-Beam CT Dental Radiology Room authorized? (M)
2. Is a Picture Archiving and Communication System (PACS) Viewing Room authorized? (M)
3. Are Dental Laboratories authorized? (M)
  - a. Are some of the Dental Prosthodontics Laboratory functions authorized to be performed at an Area Dental Laboratory? (M) (If yes, a Basic Laboratory will be generated, if not, a Full Service Laboratory will be generated.)
  - b. How many Dental Prosthodontics Full Service Laboratory Workstations greater than four are authorized? (Miscellaneous)
  - c. Are some of the Porcelain/Ceramics Laboratory functions authorized to be performed at an Area Dental Laboratory? (M) (If yes, a Basic Laboratory will be generated, if not, a Full Service Laboratory will be generated.)
  - d. How many Porcelain/Ceramics Full Service Laboratory Workstations greater than four are authorized? (Miscellaneous)
4. Is a Pediatric Dental Specialist authorized? (M)
  - a. How many Pediatric Dental encounters are projected? (W)
5. Are Dental Specialties authorized? (M)
  - a. Is a Prosthodontics Dental Specialty authorized? (M)
    - (1) How many annual Prosthodontics encounters are projected? (W)
  - b. Is an Endodontics Dental Specialty authorized? (M)
    - (1) How many annual Endodontics encounters are projected? (W)
  - c. Is a Periodontics Dental Specialty authorized? (M)
    - (1) How many annual Periodontics encounters are projected? (W)
  - d. Is an Orthodontics Specialty authorized? (M)
    - (1) How many annual Orthodontics Treatment encounters are projected? (W)
  - e. Is a Sub-Waiting in the Dental Specialty Patient Area authorized? (Miscellaneous)

6. Is Dental Surgery authorized? (M)
  - a. How many annual Dental Surgery Procedures encounters are projected? (W)
  - b. Is a Prep/Recovery Room for Dental Surgery authorized? (M)
7. Is a CAD/CAM Cart Alcove for the Dental Laboratory authorized? (M)
8. Is a GDE Education/Training program authorized? (M)
  - a. Is a Residency Program Assistant Director authorized? (Miscellaneous)
  - b. How many Graduate Dental Resident/Student FTE positions are authorized? (S) (Do not include Oral Surgery Resident FTEs)
- B. Workload Input Data Statements
  1. How many annual General Dental Treatment encounters are projected? (W)
  2. How many annual Oral Hygiene Dental Treatment encounters are projected? (W)
  3. How many annual Oral, Panoramic/Cephalometric Imaging encounters are projected? (W)
- C. Staffing Input Data Statements
  1. How many Dental Clinic provider FTE positions are authorized? (S)
    - a. How many Dental Clinic provider FTE positions are authorized to have a private office? (Miscellaneous)
    - b. How many Dental Clinic provider FTE positions are authorized to have a shared office? (Miscellaneous)
    - c. How many Dental Clinic provider FTE positions are authorized to have a cubicle? (Miscellaneous)
  2. How many Dental Clinic non-provider FTE positions are authorized? (S)
    - a. How many Dental Clinic non-provider FTE positions are authorized to have a private office? (Miscellaneous)
    - b. How many Dental Clinic non-provider FTE positions are authorized to have a shared office? (Miscellaneous)
    - c. How many Dental Clinic non-provider FTE positions are authorized to have a cubicle? (Miscellaneous)
- D. Miscellaneous Input Data Statements
  1. Is a Playroom in the Reception Area authorized? (Miscellaneous)
  2. Is a Patient Education Room in the Reception Area authorized? (Miscellaneous)
  3. Is a Consult Room in the Reception Area authorized? (Miscellaneous)
  4. Is a Sub-Waiting in the Dental General Patient Area authorized? (Miscellaneous)
  5. Is a Receiving Workstation dedicated for laboratory/shipping and receiving authorized? (Miscellaneous)
  6. Is a Sub-Waiting in the Staff and Administrative Area authorized? (Miscellaneous)
  7. Is a Patient Records Storage Room in the Staff and Administrative Area authorized? (Miscellaneous)
  8. Are Staff Locker/Changing Rooms authorized? (Miscellaneous)
  9. How many Dental Clinic FTEs will work on peak shift? (Miscellaneous)
  10. (1) Is the Dental Clinic authorized to operate outside the standard 8-hour per day shift? (Miscellaneous)
    - a. (2) Is the Dental Clinic authorized to operate a 7-hour per day shift? (Miscellaneous) (If not, a 6-hour per day shift will be used to calculate workload driven spaces)
  11. (3) Is the Dental Clinic authorized to operate outside the standard 240 days per year? (Miscellaneous)

(4) Is the Dental Clinic authorized to operate 250 days per year? (Miscellaneous) (If not, 232 days per year will be used to calculate workload driven spaces)

**SPACE PLANNING CRITERIA SUMMARY:**

For calculation of the number of vending machine areas, public toilets, communication closets, and janitors closets for this Chapter, please refer to DOD Space Planning Criteria Chapter 6.1: Common Areas.

Table 54010-3 lists space criteria data for Reception Areas

FUNCTION	NSF	SPACE CRITERIA
Waiting	120	Minimum NSF; provide an additional 60 NSF for every increment of four general and pediatric dental treatment chairs, oral hygiene dental treatment rooms (DTRs), prosthodontics, endodontics, periodontics, orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms greater than four.
Playroom	120	Provide one if a playroom in the reception area is authorized.
Reception	120	Minimum NSF; provide an additional 30 NSF for every increment of 12 general and pediatric dental treatment chairs, oral hygiene dental treatment rooms (DTRs), prosthodontics, endodontics, periodontics, orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms greater than 12.
Kiosk, Patient Check-in	30	Provide one for Dental Clinic.
Patient Education	120	Provide one for Dental Clinic, if authorized.
Consult Room	120	Provide one for Dental Clinic, if authorized.
Records Distribution/Signing	60	Provide one for Dental Clinic.
Alcove, Wheelchair	60	Provide one for Dental Clinic.

Table 54010-4 lists space criteria data for Dental General Patient Area

FUNCTION	NSF	SPACE CRITERIA
Sub-Waiting, General Dentistry	60	Minimum NSF; provide an additional 30 NSF for every increment of two general and pediatric dental treatment chairs and oral hygiene dental treatment rooms (DTRs) greater than four, if authorized.
Toilet, Patient	60	Minimum one; provide an additional one for every increment of 10 general and pediatric dental treatment chairs and oral hygiene dental treatment rooms (DTRs) greater than 10.
Dental Treatment Room (DTR), General	120	Minimum two; provide an additional general dental treatment chair for every increment of 1,228 projected annual general dental treatment encounters greater than 2,456; the minimum annual workload to generate one dental treatment chair is 246.

Dental Treatment Room (DTR), Pediatric	120	Minimum two; provide an additional pediatric dental treatment chair for every increment of 1,536 projected annual general dental treatment encounters greater than 3,072; the minimum annual workload to generate one pediatric dental treatment chair is 307.
Dental Treatment Room (DTR), Oral Hygiene	120	Minimum one, provide an additional one for every increment of 1,536 projected annual oral hygiene dental treatment encounters greater than 1,536; the minimum annual workload to generate an oral hygiene DTR is 307.

Table 54010-5 lists space criteria data for Dental Specialty Patient Area

FUNCTION	NSF	SPACE CRITERIA
Subwaiting, Dental Specialty	60	Minimum NSF; provide an additional 30 NSF per each prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) greater than four if dental specialties are authorized and if subwaiting is authorized.
Toilet, Patient	60	Provide one for every increment of 10 prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) greater than ten if dental specialties are authorized.
Dental Treatment Room (DTR), Prosthodontics	120	Minimum two; provide an additional one for every increment of 838 projected prosthodontics encounters greater than 1,676; the minimum annual workload to generate a room is 168 if a prosthodontics dental specialty is authorized.
Dental Treatment Room (DTR), Endodontics	120	Minimum two; provide an additional one for every increment of 1,152 projected endodontics encounters greater than 2,304; the minimum annual workload to generate a room is 230 if an endodontics dental specialty is authorized.
Dental Treatment Room (DTR), Periodontics	120	Minimum two; provide an additional one for every increment of 838 projected periodontics encounters greater than 1,676, minimum annual workload to generate a room is 168 if a periodontics dental specialty is authorized.
Dental Treatment Room (DTR), Orthodontics	120	Minimum three; provide an additional one for every increment of 3,072 projected orthodontics encounters greater than 9,260, minimum annual workload to generate a room is 614 if orthodontics dental specialty is authorized.
Workroom, Preparation Area	120	Provide one if a periodontics specialty is authorized.
Team Collaboration Room	120	Provide one if dental specialties are authorized.
Storage, Dental Models	120	Provide one if dental specialties are authorized.
Alcove, Crash Cart	30	Provide one if dental specialties are authorized.

Alcove, Blanket Warmer	30	Provide one if a periodontics specialty is authorized.
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Table 54010-6 lists space criteria data for Dental Imaging Patient Area

FUNCTION	NSF	SPACE CRITERIA
Subwaiting, Dental Imaging	60	Minimum NSF; provide an additional 30 NSF for every increment of two intra oral panoramic/cephalometric and cone-beam CT dental radiology room greater than four.
Dental Radiology Room, Intra Oral Panoramic/ Cephalometric	180	Minimum one; provide one for every increment of 4,608 projected intra oral panoramic/cephalometric imaging encounters greater than 4,608; the minimum annual workload to generate a room is 922.
Dental Radiology Room, Cone-Beam CT	180	Provide one if a cone-beam CT dental radiology room is authorized.
Control Room, Cone-Beam CT Dental Radiology	120	Provide one if a cone-beam CT dental radiology room is authorized.
Viewing Room, Picture Archiving and Communication System (PACS)	120	Provide one if a picture archiving and communication system (PACS) is authorized.

Table 54010-7 lists space criteria data for Dental Surgery Patient Area

FUNCTION	NSF	SPACE CRITERIA
Sub-Waiting, Dental Surgery	60	Minimum NSF; provide an additional 30 NSF for every increment of two dental surgery operating rooms greater than four if dental surgery is authorized.
Toilet, Patient	60	Provide one if dental surgery is authorized.
Scrub Area, Dental Surgery	60	Provide one for every increment of two dental surgery operating rooms if dental surgery is authorized.
Operating Room, Dental Surgery	240	Minimum two; provide an additional one for every increment of 768 projected annual dental surgery procedures greater than 1,536, the minimum annual workload to generate a dental surgery operating room is 154 if dental surgery is authorized.
Prep / Recovery Room	120	Provide one for every increment of two dental surgery operating rooms if prep/recovery room is authorized.
Dental Treatment Room (DTR), General	120	Provide two if dental surgery is authorized.
Workroom, Preparation Area	120	Provide one if dental surgery is authorized.

Alcove, Wheelchair	60	Provide one if dental surgery is authorized.
Alcove, Blanket Warmer	30	Provide one if dental surgery is authorized.
Alcove, Crash Cart	30	Provide one if dental surgery is authorized.

Table 54010-8 lists space criteria data for Dental Laboratories

FUNCTION	NSF	SPACE CRITERIA
Shipping and Receiving, Dental Laboratories	120	Provide one if dental laboratories are authorized.
Laboratory Basic Service, Dental Prosthodontics	240	Provide one if some of the dental prosthodontics laboratory functions are authorized to be performed at an area dental laboratory.
Laboratory Full Service, Dental Prosthodontics	360	Provide one if some of the dental prosthodontics laboratory functions are not authorized to be performed at an area dental laboratory; provide an additional 120 NSF if dental surgery is authorized, and an additional 60 NSF per each dental prosthodontics laboratory full service workstation authorized greater than four.
Laboratory Basic Service, Porcelain/Ceramics	240	Provide one if some of the porcelain/ceramics laboratory functions are authorized to be performed at an area dental laboratory.
Laboratory Full Service, Porcelain/Ceramics	360	Provide one if some of the porcelain/ceramics laboratory functions are not authorized to be performed at an area dental laboratory; provide an additional 60 NSF per each porcelain/ceramics laboratory full service workstation authorized greater than four.
Storage, Equipment	120	Provide one if dental laboratories are authorized.

Table 54010-9 Support Area

FUNCTION	NSF	SPACE CRITERIA
Workstation, Receiving	60	Provide one if a dedicated space for logistics/shipping and receiving is authorized.
Dental Instrument Decontamination Room, Small	120	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is between one and 10.
Dental Instrument Sterilization Room, Small	120	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is between one and 10.

Dental Instrument Storage Room, Small	120	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating room is between one and 10.
Dental Instrument Decontamination Room, Medium	240	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is between 11 and 20.
Dental Instrument Sterilization Room, Medium	240	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is between 11 and 20.
Dental Instrument Storage Room, Medium	240	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is between 11 and 20.
Dental Instrument Decontamination Room, Large	360	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is greater than 20.
Dental Instrument Sterilization Room, Large	360	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is greater than 20.
Dental Instrument Storage Room, Large	360	Provide one if the total number of general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs) and dental surgery operating rooms is greater than 20.
Medication Room	120	Provide one for Dental Clinic.
Utility Room, Clean	120	Minimum NSF; provide an additional 30 NSF for every increment of eight general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs), intra oral panoramic/cephalometric and cone-beam CT dental radiology rooms greater than eight.
Utility Room, Soiled	120	Minimum NSF; provide an additional 30 NSF for every increment of eight general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs), intra oral panoramic/cephalometric and cone-beam CT dental radiology rooms greater than eight.
Linen Room, Clean	120	Minimum NSF; provide an additional 30 NSF for every increment of eight general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs), intra oral panoramic/cephalometric and cone-beam CT dental radiology rooms greater than eight.



Linen Room, Soiled	120	Minimum NSF; provide an additional 30 NSF for every increment of eight general and pediatric chairs, oral hygiene, prosthodontics, endodontics, periodontics, and orthodontics dental treatment rooms (DTRs), intra oral panoramic/cephalometric and cone-beam CT dental radiology rooms greater than eight.
Alcove, AED	30	Provide one for Dental Clinic.
Storage, Equipment	120	Provide one for Dental Clinic.
Storage, Gas Cylinder	120	Provide one for Dental Clinic.
Storage, Chemical/Corrosives	120	Provide one for Dental Clinic.
Alcove, CAD/CAM Cart	30	Provide one if dental laboratories are authorized and if CAD/CAM imaging is authorized.
Dental Equipment Mechanical Room	120	Provide one for Dental Clinic.

Table 54010-10 lists space criteria data for Staff and Administrative Area

FUNCTION	NSF	SPACE CRITERIA
Office, Department/Clinic Chief	120	Provide one for Dental Clinic.
Office, Executive Assistant	120	Provide one for Dental Clinic.
Sub-Waiting	60	Provide one for Dental Clinic if staff and administrative subwaiting is authorized.
Office, NCOIC/LCPO/LPO	120	Provide one for Dental Clinic.
Team Collaboration Room	120	Minimum one; provide an additional one for every increment of eight general and pediatric chairs; oral hygiene, prosthodontics, endodontics, periodontics, orthodontics dental treatment rooms (DTRs), intra-oral panoramic/cephalometric dental radiology rooms and dental surgery operating rooms greater than eight.
Office, Private	120	Provide one per each Dental Clinic provider and nonprovider FTE position authorized to have a private office.
Office, Shared	120	Provide one for every increment of two Dental Clinic provider and nonprovider FTE positions authorized to have a shared office.
Cubicle	60	Provide one per each Dental Clinic provider and nonprovider FTE position authorized to have a cubicle.
Storage, Patient Records	120	Provide one if storage of patient paper records is authorized.



Conference Room	240	Minimum NSF; provide an additional 60 NSF if the total number of FTE positions authorized is greater than 10.
Copier	120	Provide one for Dental Clinic.
Storage, Office Supplies	60	Provide one for Dental Clinic.
Lounge, Staff	120	Minimum NSF; provide an additional 60 NSF for every increment of five FTEs working on peak shift greater than 10; maximum 360 NSF.
Locker/Changing Room, Male Staff	120	Provide one if a male staff locker/changing room is authorized.
Locker/Changing Room, Female Staff	120	Provide one if a female staff locker/changing room is authorized.
Toilet/Shower, Male Staff	60	Provide one if a male staff locker/changing room is authorized.
Toilet/Shower, Female Staff	60	Provide one if a female staff locker/changing room is authorized.

Table 54010-11 lists space criteria data for GDE Education/Training Area

FUNCTION	NSF	SPACE CRITERIA
Office, Residency Program Director	120	Provide one if a graduate dental education program for Dental Clinic is authorized.
Office, Residency Program Assistant Director	120	Provide one if a graduate dental education residency program assistant director is authorized.
Dental Treatment Room (DTR), General One-Chair	120	Provide one per each resident/student FTE position authorized if a graduate dental education program for Dental Clinic is authorized.
Resident Collaboration Room	240	Minimum NSF; provide an additional 60 NSF per each resident/student FTE position authorized greater than two if a graduate dental education program for Dental Clinic is authorized.
Classroom/Conference Room	240	Provide one if the total number of resident/student FTE positions is greater than five if a graduate dental education program for Dental Clinic is authorized.

Table 54010-6 lists space criteria data for DENTAC/Installation Administrative Complex.

Table 54010-6 DENTAC/INSTALLATION ADMINISTRATIVE COMPLEX Criteria			
FUNCTION	SM	NSF	PLANNING RANGE/COMMENTS
DENTAC Commander Commanding Officer	25.08	270	Presumes authorized FTE is 0-6 – See Note 1
Executive Director	16.72	180	Per authorized FTE – See Note 1.
Senior Enlisted Advisor	9.29	100	Per authorized FTE – See Note 1.
Secretary w/ Visitor Waiting	11.15	120	Per authorized FTE secretary
Director for Administration	9.29	100	Per authorized FTE requiring a private office.
Director of Clinical Services Comptroller/Resource Manager Budget Analyst QA/Risk Manager Data Manager IM/IT Manager Operations Management Manpower	9.29	100	Per authorized FTE
<b>Note:</b>			
1. See Reference Section 2.1 (General Administration) for other ranks and space			

Table 54010-12 lists space criteria data for DENTAC/Installation Administrative Complex.

Table 54010-12 DENTAC/Installation Administrative Complex Criteria		
FUNCTION	NSF	PLANNING RANGE/COMMENTS
DENTAC Commander Commanding Officer	270	Presumes authorized FTE is 0-6 – See Note 1
Executive Director	180	Per authorized FTE – See Note 1.
Senior Enlisted Advisor	100	Per authorized FTE – See Note 1.
Secretary w/ Visitor Waiting	120	Per authorized FTE secretary
Director for Administration	100	Per authorized FTE requiring a private office.
Director of Clinical Services Comptroller/Resource Manager Budget Analyst QA/Risk Manager Data Manager IM/IT Manager Operations Management Manpower	100	Per authorized FTE
<b>Note:</b>		
1. See Reference DOD Space Planning Criteria, Section 2.1 (General Administration) for other ranks		



### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the Dental Unit.

#### b. Facility Utilization Metrics

DENTAC establishes utilization metrics based on composition of services provided at each installation's Dental Clinic.

## D. Programmable Increments

### 1. Standard Facilities

None.

Programming UM:

- OU

### 2. Programming Units

Programming documents report these facilities in OU to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The Dental Clinic should be sited in the central cantonment area, if possible. Locations adjacent to other medical buildings are ideal. The medical care land use is compatible with unaccompanied personnel and family housing, community facility, administrative, outdoor recreation, and open space land uses. Dental Clinics should be provided within 30 minutes' driving time of the personnel they support.

Training areas, the airfield, maintenance shops, and the industrial sector of the installation are incompatible land uses.

### 2. Site Planning Considerations

Clinics will, as a rule, be designed as one-story structures. This is for handicapped accessibility and operational economics. The net square feet (square meters) calculated above should be laid out as the building footprint requirement of the site, and additional setback and buffer areas between the clinic and other area buildings must be added to the facility land area requirement determined above.

For initial planning, this setback can be estimated at one-fifth the building dimension perpendicular to the buffer. For example, an average clinic (without HQ) of roughly 11,250 GSF (1,045.2 GSM) with a 1:2 aspect ratio of width: length produces a footprint of 75 feet by 150 feet (22.9 m by 45.7 m). Thus, the setbacks should be roughly 15 feet (4.6 m) on the short ends, and 30 feet (9.1 m) along the long face of the facility. This yields a ground print of:

$$(15 \text{ feet} + 150 \text{ feet} + 15 \text{ feet}) \times (30 \text{ feet} + 75 \text{ feet} + 30 \text{ feet}) = 180 \text{ feet} \times 135 \text{ feet}$$

$$(4.6 \text{ m} + 45.7 \text{ m} + 4.6 \text{ m}) \times (9.1 \text{ m} + 22.9 \text{ m} + 9.1 \text{ m}) = 54.9 \text{ m} \times 41.1 \text{ m}$$

In addition to this ground print, the planner must allow for parking and service vehicle circulation, and other restrictions of the installation master plan and design guide. Parking is based on three spaces per OU. This allocation is for both visitor and staff parking. TOE units are allowed a separate organizational vehicle parking area. Signage in keeping with the Installation's Design Guide should be incorporated to identify the facility and vehicle access.

## F. Other Considerations

### 1. Special Instructions

Contact DENTAC and the Health Facilities Planning Agency for guidance on planning, site planning and programming medical facilities.

### 2. Exceptions

None.

### 3. References

DoD Space Planning Criteria for Health Facilities – Dental Clinic – Dental Clinic Chapter 320	17-Jan-13
TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-15	20-JUL-98

**4. See Also**

51010 Medical Center/Hospital  
53020 Laboratory  
53025 Pharmacy  
53060 Medical Warehouse  
53080 Fisher House  
55010 Health Clinic

### 1. DA Pam 415-28 Description / Definition

A dispensary building that provides both routine and emergency ambulatory services to military personnel, authorized civilian personnel, retired military personnel, and family members. These facilities include hospital outpatient clinics and first aid stations. At sites where justification exists, some specialty care, such as Exceptional Family Member Clinics, may also be provided. Battalion, brigade, and consolidated aid stations are not part of this category, but should be reported as part of the appropriate headquarters building (for example, 14182, Brigade Headquarters Building, or 14183, Battalion Headquarters Building).

**Proponent:**

- OTSG

**Complex:**

- None

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. Contact Health Services Command for requirements.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = BD
- FAC UM = SF

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Planning Level:**

- Medical Command

### 4. See Also

See 5xxxx for related facility category codes.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building where recruits are processed into military service. The facility contains multipurpose areas for physical, medical, and aptitude testing, and for administrative processing functions. The building also may contain offices for permanent parties who work there, and a small snack area. This category does not include housing or dining facilities if they are contained within the MEPS. Report such housing and dining facilities separately.

### 2. Proponent

DCS, G-1

Proponent:

- DCS, G-1

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Primary = SF: Total square feet of the building

Secondary = None

FAC: = SF

Area = NUA: Total net usable area of general functional areas

CAP = PN: Office capacity of general functional areas

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = PN

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 61001-1 lists functional areas by type for MEPS. See the functional adequacy matrix following this facility category discussion.

Table 61001-1 Functional Areas and Adequacy Requirements	
Functional Area	Type
Private Offices (See Appendix A for Criteria)	General
Open Offices	General
Ceremony Room	Mission
Test Rooms	Mission
ASVAB Test Room	Mission
Medical Exam Room	Mission



<b>Table 61001-1 Functional Areas and Adequacy Requirements</b>	
<b>Functional Area</b>	<b>Type</b>
EKG/Cot Room	Mission
Serology	Mission
Laboratory	Mission
Vision Test Room	Mission
Audio Room	Mission
Male Urinalysis	Mission
Female Urinalysis	Mission
Male Ortho	Mission
Female Ortho	Mission
Briefing Room	General
Conference Room	General
Visitor Waiting Room	General
Mail / Forms Storage Room	General
Supply Storage	General
Public Locker Rooms	Support
Exercise Room	Mission
Staff Lounge	General
Applicant Waiting Room	General
Game Room	Mission
Baggage Room	Mission
Operations Waiting Room	General
Control Counters	General
PEI Workstation	General
Files Room	General
Copier Room	General
ASVAB Storage	Mission
Secure Test Storage	General
Medical Storage	Mission
Medical Briefing	General
Medical Waiting	Mission
Female Waiting	Mission
Female Dressing	Mission
Security Interview	General
Army Recruiting and Accession Data System	Mission
Navy Advance Placement Test	Mission
Air Force PROMIS Station	Mission
Liaison Waiting Room	General
Liaison TV Room	Mission
Janitor Closet	Support
Mechanical	Support
Public Restrooms	Support
Telecommunication Room	Support

## B. Criteria

### 1. Basis of Allowance

DOD criteria allow the U.S. MEP Command the Military Entrance Processing Stations based on the number of applicants per day. Currently, the Army is the executive leasing agent of real property for USMEPCOM.

### 2. Programmatic Application

Because MEPS are assigned by the DOD, RPLANS and FPS do not have specific programmatic application for these facilities.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The military recruit entrance-processing mission triggers the requirement.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Because MEPS are allowed by the DOD, use the allowances in facility category code 61050, General Purpose Administration Building, for the office spaces and other general functional areas.

#### Planning UM:

- NSF

The DOD determines the size of the MEPS required: CAT 1, CAT 2, CAT 3, CAT 4, or CAT 5. Because the Army manages USMEPCOM real property for DOD, the manager will probably deal with leased property. Whether leased or on the installation, the building requires six functional sections in the Military Entrance Processing Station. The allowances are NSF. Table 61001-2 lists the MEPS categories (CAT) by PN for both applicants and staff.

Table 61001-2 MEPS Categories by PN					
	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
Applicants	150	120	90	60	30
Staff	100	85	70	55	40

#### a. Command Section

The command section requires general functional areas. Locate this section contiguously in the ideal area of the building, near a secondary or employee entrance; also, avoid collocating with any applicant circulation or processing steps. Table 61001-3 lists the command section space standards. P designates a private space (not necessarily an office), and O designates open areas.

Table 61001-3 Command Section Space Standards - NSF

PERSONNEL	GRADE	TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Commander	04/05	P	1	150					150
Station NCO	E8	P	1	110					110
Secretary	GS5	O	1	60					60
Budget Technician	GS7	P	1	100					100
Budget Assistant	GS5	O	1	60					60
Unit Clerk	E5	O	1	60	If 24+ Military Staff				Varies
Conference Room		P	1	250					250
Mail/Forms Storage Room		P	1	130					130
HQ Administration		O	1	100					100
Supply Technician	GS5	P	1	900	800	700	600	500	Varies

**b. Support Section**

The support section requires mission, general, and support functional areas. This section supports applicant processing and staff welfare requirements. Each related function can be located in separate areas of the space, per the specific design. These functions are in the general categories of staff support, applicant support, ceremony support, and public support. Table 61001-4 lists the support section space standards.

Table 61001-4 Support Section Space Standards- NSF

SUPPORT SPACES	TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Blind Vending	O	1	150					150
Applicant Dining	P	1	1200	1000	800	600	400	Varies
Food Prep & Storage	P	1	250					250
Female Staff Locker Room	P	1	250					250
Male Staff Locker Room	P	1	250					250
Exercise Room	P	1	250	225	200	175	150	Varies
Staff Lounge	P	1	350	325	300	275	250	Varies
Game Room	P	1	300					300
Applicant Waiting	O	1	800	700	600	500	400	Varies
Visitor Waiting	P	1	300	275	250	225	200	Varies
Baggage Room	P	1	300	250	200	150	125	Varies
Briefing Room	P	1	820	600	480	360	360	Varies
Ceremony Room	P	1	350					350
Public Washrooms	P		As required per local code.					
Circulation Corridors	N/A		As required per local code.					

**c. Operations Section**

These are general functional areas and support functional areas. This section must be a contiguous block of space with the control counter, files room, copier, and packet breakdown functions located near the entrance to this section, adjacent to the applicant waiting area. Table 61001-5 lists the operations section space standards.

<b>Table 61001-5 Operations Section Space Standards- NSF</b>									
<b>PERSONNEL</b>	<b>GRADE</b>	<b>TYPE</b>	<b>QTY</b>	<b>CAT 1</b>	<b>CAT 2</b>	<b>CAT 3</b>	<b>CAT 4</b>	<b>CAT 5</b>	<b>TTL</b>
OPS Officer	O3/O4	P	1	110					110
Processing NCOIC	E 7	P	1	110					110
Process NCO	E 6	O	1	60					60
Supervisor Military Processing Clerk	GS 6	O	1	100					100
Processing Specialists/MPC	E5/G4	O	Varies	60					Varies
Lead Military Personnel Clerk	GS 5	O	1	60					60
Systems Administrator	GS 6	P	1	110					110
<b>OPERATIONS SPACES</b>		<b>TYPE</b>	<b>QTY</b>	<b>CAT 1</b>	<b>CAT 2</b>	<b>CAT 3</b>	<b>CAT 4</b>	<b>CAT 5</b>	<b>TTL</b>
Control Counter		O	1	200					200
PEI Workstation		O	2	200					400
Files Room		P	1	150					150
Copier Room		P	1	125					125
Travel Agency		P	1	150					150
Packet Breakdown		P	1	150					150
MIRS /Communication		P	1	115					115
Telecom Room		P	1	64					64
Ops Waiting Room		O	1	150	125	100	75	75	Varies

**d. Testing Section**

These are mission functional areas and general functional areas. This section must be contiguous. Ideally, this section should be located adjacent to operations section, and adjacent to an exterior door to the building. If possible, locate the test rooms within building interior, away from exterior walls with windows. Table 61001-6 lists the testing section space standards.

Table 61001-6 Testing Section Space Standards- NSF									
PERSONNEL	GRADE	TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Test Control Officer	O3	P	1	110					110
Ed Services Spec	GS 11	P	1	110					110
Test NCO	E6	O	1	60					60
Test Coordinator	GS 5	O	1	100					100
Processing Specialist/MPC	E5	O	Varies	60					Varies
SUPPORT SPACES		TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Test Administration/ Scoring		P	1	150					150
ASVAB Storage		P	1	150					150
Secure Test Storage		P	1	135					135
Test Rooms		P	2	100					200
CAT-ASVAB Test Room		P	1	1000	800	600	500	500	Varies

**e. Medical Section**

These are mission functional areas and general functional areas. The entrance to this section must be visible from the reception counter. The medical control center ideally should have visibility of all the medical functions or the entrances to those functions. Locate this section within the building if possible to avoid exterior windows. If necessary, install appropriate light-tight blinds for applicant privacy. Table 61001-7 lists the medical section space standards.

Table 61001-7 Medical Section Space Standards – NSF									
PERSONNEL	GRADE	TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Chief Medical Officer	GS 13	P	1	110					110
Assistant Medical Officer	GS 12	P	1	100					100
Health Technician, Supervisor	E7/G6	P	1	100					100
Medical Lab Specialist	E 5	O	2	0	Assigned to Lab				
Lead Health Technician	GS 5	O	1	60	Varies				
Health Technician	GS 4	O	2	60	Varies				
MEDICAL SPACES		TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Exam Rooms		P	4	4X120	4X120	3X120	3X120	3X120	Varies
EKG / Cot Room		P	1	100					100
Serology		O	2	60					120
Medical Storage		P	1	80					80
Laboratory		P	1	250					250
Medical Admin		O	1	150					150
Control Counter		O	1	150					150
Medical Briefing		P	1	720	600	480	360	360	Varies
Medical Waiting		O	1	500	400	300	200	200	Varies
Vision Test Room		P	1	200					200
Audio Room		P	1	350					350
Male Urinalysis		P	1	200					200
Female Urinalysis		P	1	150					150
Male Ortho		P	1	720	720	720	225	225	Varies
Female Ortho		P	1	360	360	360	180	180	Varies
Female Dressing		O	1	90	90	90	45	45	Varies
Female Waiting		O	1	100	100	0	0	0	Varies

**f. Liaison Section**

These are general functional areas. The liaison section must be located in a self-contained, contiguous office suite with a secondary entry/exit door, access to staff toilets, and after-hours HVAC. The entrance door to this section must be visible from the main control counter. The MEPS must be able to secure the door to the liaison section, preventing unauthorized after-hours access to the remaining MEPS sections. If required by code, the secondary door from the liaison section to the MEPS space shall have a magnetic strike, with a hold-close function, connected to the fire alarm system, releasing in emergencies. Table 61001-8, lists the liaison section space standards.

**Table 61001-8 Liaison Section Space Standards - NSF**

<b>PERSONNEL</b>	<b>GRADE</b>	<b>TYPE</b>	<b>QTY</b>	<b>CAT 1</b>	<b>CAT 2</b>	<b>CAT 3</b>	<b>CAT 4</b>	<b>CAT 5</b>	<b>TTL</b>
Army Senior Counselor		P*	1	110					110
Army Liaison		O	1	100					100
Army Clerk		O	1	60					60
Navy Senior Counselor		P*	1	110					110
Navy Liaison		O	1	100					100
Navy Clerk		O	1	60					60
Air Force Senior Counselor		P*	1	110					110
Air Force Liaison		O	1	100					100
Marine Corps Senior Counselor		P*	1	110					110
Marine Corps Liaison		O	1	100					100
Coast Guard Senior Counselor		P*	1	110					110
Coast Guard Liaison		O	1	100					100
National Guard Sr. Counselor		P*	1	110					110
National Guard Liaison		O	1	100					100
* NCOs in charge of an office with six or more staff reporting to them receive a private office.									
<b>LIAISON SPACES</b>		<b>TYPE</b>	<b>QTY</b>	<b>CAT 1</b>	<b>CAT 2</b>	<b>CAT 3</b>	<b>CAT 4</b>	<b>CAT 5</b>	<b>TTL</b>
Security Interview		P	1	100					100
Army ARADS		O	1	60					60
Navy Advance Placement Test		P	1	100					100
Air Force PROMIS Station		O	1	60					60
Waiting Area		O	1	800	700	600	500	400	Varies
TV Room		O	1	400	350	300	250	200	Varies

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Most military liaisons, or other authorized personnel, will have a space in an open office work area. Commanders and NCOs in charge of an office with six or more counselors receive a private office, as well as the operations officer, system administrator, test control officer, educational services officer, chief medical officer, assistant medical officer, and health technician supervisor.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

Calculate overall utilization by dividing average throughput by design capacity based on MEPS category.

## D. Programmable Increments

### 1. Standard Facilities

USACE Norfolk provides the design guide for the Military Entrance Processing Station.

### 2. Programming Units

The DOD determines the size of the MEPS required: CAT 1, CAT 2, CAT 3, CAT 4, or CAT 5. The smallest is CAT 1.

Programming UM:

- GSF



## **E. Land Use and Site Considerations**

### **1. Land Use Considerations**

MEPCOM determines MEPS locations to meet accessions requirements. When located on a military installation, site this building near an entrance to facilitate access and egress for personnel without military ID.

### **2. Site Planning Considerations**

Plan a secure parking space for each government vehicle assigned to the building, either at the office or within a four-block radius. Adequate visitor parking must be present at the building itself. Do not provide POV parking by government contract if cash payment or other valuable consideration is required on behalf of the government, unless funding by recruiting command.

## **F. Other Considerations**

### **1. Special Instructions**

For new facilities, contact Center of Standardization: Norfolk District.

### **2. Exceptions**

None.

### **3. References**

USMEPCOM Standard Design	05-OCT-01
Department of Defense Military Recruiting Facilities Program Space Management Guide	28-FEB-03

### **4. See Also**

None.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building where recruiters interact with potential recruits into military service. Typically, these are leased facilities in the civilian community and are used by one or more services to provide a visible presence in the community where civilians can talk to recruiters and sign up for military service. Does not include administrative space for unit operations.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-1

#### Center of Standardization

None.

#### Proponent:

- DCS, G-1

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

The primary unit of measure for this facility category is SF

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Primary:	SF	Total square feet of the building
Secondary:	None	
FAC:	SF	Total square feet of the building
Planning:	NSF	Total net square feet of mission and general functional areas
Other:	None	
CAP:	PN	Office capacity of general functional

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Other UM = None
- CAP = PN

## 5. Functional Areas

Table 61002-1 lists functional areas by type and adequacy requirements for a Recruiting Station Storefront.

Table 61002-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Test Rooms	Mission	A
ASVAB Test Room	Mission	A
Reception/Waiting Room	General	A
Private Offices (See Appendix A for Criteria)	General	A
Open Offices	General	A
Conference Room	General	A
Storage Room	General	A
Work Area	General	A
Private Showers	Support	A
Telecommunications Room	Support	A
Public Restrooms	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this category code similar to Administrative Building, General Purpose, facility category code 61050.

Recruiting Station Storefronts are typically leased commercial property outside of a military installation.

### 2. Programmatic Application

RPLANS does not calculate an allowance for this facility category.

RPLANS sets allowances equal to zero for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is unit.

### 2. Requirements Calculations

Most recruiters, or other authorized personnel, will have a space in an open office work area. Table 61002-2 denotes space allowances. Only nurse counselors, company commanders, and

NCOs in charge of an office with six or more recruiters receive a private office.

These facilities are normally leased as a joint Armed Forces Recruiting Center, with all services represented. The Corps of Engineers is the leasing agent. Consult the appropriate district for additional information.

Table 61002-2 Operations Section Space Standards (NSF)									
PERSONNEL	GRADE	TYPE	QTY	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5	TTL
Senior Recruiter *		P	1	110					110
Recruiter		O	1	100					100
Clerk		O	1	60					60
Liaison Spaces									
Security Interview		P	1	100					100
Army ARADS		O	1	60					60
Navy Advance Placement Test		P	1	100					100
Air Force PROMIS Station		O	1	60					60
Waiting Area		O	1	800	700	600	500	400	Varies
TV Room		O	1	400	350	300	250	200	Varies
* NCOs in charge of an office with six or more staff reporting to them receive a private office.									

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

##### i. Function and Productivity

To maximize usage of available space, separate the areas to serve the different functions. Separating the functions requires more space, but it increases the productivity of the recruiting office, and allows the recruiter to help more applicants concurrently. Design spaces to meet industry standards for circulation and work/activity zones. Use professional references, such as “Human Dimensions & Interior Space,” by Julius Panero and Martin Zelnik, for standard dimensions to determine room sizes, circulation patterns, and furniture arrangements.

##### ii. Privacy

Recruiters screen applicants through an interview process where they discuss Privacy Act issues such as health, drug use, criminal records, etc. Privacy is crucial to protecting applicants’ rights and obtaining accurate information from the applicant, so the recruiter

does not waste valuable time on unqualified applicants. Privacy is essential to obtain honest information from applicants, thereby increasing the effectiveness of the recruiters. Separating the functions supports privacy. A private space must be available, whether in a private office or a conference room. In small, one-person to three-person recruiting offices, private offices require less space than a conference room. When there are four or more recruiters, provide a conference room for privacy, and put recruiters in paneled workstations to conserve space.

Acoustical privacy is especially important for applicants who are testing. Provide walls with a sound transmittance coefficient (STC) of 45 around the testing room. To prevent transmission of noise between the recruiting office and other tenants or recruiting services, provide walls with an STC of 45 that extend to the structure.

### *iii. Accessibility*

Accessibility standards set by the Americans with Disabilities Act (ADA) affect the size of the building. For example, all public spaces shall provide wheelchair accessibility with a minimum turning diameter of 1,500 mm (60 inches). The Americans with Disabilities Act and applicable fire codes define corridor widths, door widths, clearances adjacent to doors, and other parameters affecting the size of the space.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. It is suggested to calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces) included as general functional areas in Appendix A.

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no standard or Standard Design for this facility category. A Recruiting Station Storefront will typically be on leased property.

Programming UM:

- GSF

## **2. Programming Units**

There should be no need to construct a new building because these facilities are normally leased off-post in civilian communities. If the need exists, program in GSF.

## **E. Land Use and Site Considerations**

### **1. Land Use Considerations**

This building is normally located off military property, often in a mall environment.

### **2. Site Planning Considerations**

U.S. Army Recruiting Command selects sites based on a variety of factors. When selecting a location for a recruiting office, look at the architectural appearance of the potential building. Select the building reflecting a professional image. Select facilities with attractive architectural detailing, when possible. While the style of the building may reflect the local architecture, it still should portray a positive image of the U.S. military services.

#### **a. Accessibility and Visibility**

Consider accessibility and visibility when selecting the site of a recruiting office. Applicants should be able to enter the parking lot without going around obstacles. Locate recruiting offices on well-known roads with easy access. Choose facilities easily visible from the street, rather than behind other building structures. Select facilities for which directions will be easy to give. Select recruiting office sites with storefront access to maximize visibility to the public. Choose facilities that allow for recruiting office signage viewable from a major highway or road. Place the recruiting office signage on the mall marquee and on the front of the building to enhance visibility.

#### **b. Flexibility and Expansion**

Select facilities that meet spatial needs and allow for flexibility in design, to the maximum extent possible. Consider the shape of the space when selecting a building. Long, narrow facilities require more space for circulation. Wider lease spaces allow for shared circulation by having usable space on either side of the corridor, thus reducing the overall space requirements. Ideally, select a building with space available for future expansion.

**c. Location**

Location has precedence over spatial issues. Major malls and strip malls are primary locations for recruiting offices. Locate recruiting offices in facilities near major shopping areas, schools, theaters, fitness centers, or other businesses that attract young adults. Select a site near respectable businesses that present a positive impression of the U.S. military services.

**d. Parking**

Besides being easy to find and access, facilities need to have adequate parking. Select facilities that do not require applicants to park in spaces designate for other businesses, in adjacent lots, or across the street. Parking must include ADA parking spaces. Convenient parking is crucial to recruiters who are in and out of the office often.

Provide each government vehicle assigned to the building a secure parking space at the office. Choose a location with adequate visitor parking at the building itself. Do not provide POV parking by government contract if cash payment or other valuable consideration is required on behalf of the government, unless funded by the recruiting command.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

Recruiting Office Standards Design Guide

03-DEC-07

**4. See Also**

None.

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A general-purpose building that provides administrative space for personnel. Major users of this facility include: community headquarters staff, DPW, DOL, Director of Personnel and Community Affairs (DPCA), Staff Judge Advocate, Resource Management Office, vehicle registration and driver testing (if not part of 73074, Privately Owned Vehicle Inspection Station), DPTM administration personnel, and other units that provide direct administrative support to the community. This category also serves as the headquarters space at levels above brigade, and provides administrative space for TOE and TDA organizations that require administrative space separate from their headquarters facilities. Separate headquarters at echelons below company (platoon, detachment, contact team, and so on) are also included in this category. Receptions and in/out-processing areas also can be included in this category when less than 1,000 GSF.

***Note:** Do not use this category code to report or inventory general-purpose functional areas that occur in other facility categories, except as outlined in Chapter 3, subsection II. E.*

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Centers of Standardization

None.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: PN  
FAC: SF

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF



Calculate NUA for general functional areas in accordance with Chapter 3 and Appendix A. Calculate the capacity of general functional areas in accordance with Chapter 3 and Appendix A.

## 5. Functional Areas

Table 61050-1 lists functional areas by type for an Administrative Building. See the functional adequacy matrix following this facility category discussion.

Table 61050-1 General Purpose Admin		
Functional Area	Type	Presence
Private Offices	General	A
Open Offices	General	A
Conference Room	General	A
Vault	General	D
Printer/Copier Area	General	A
Records and File Area	General	A
Break/Vending Area	General	A
Mail Room	General	A
Storage	General	A
Telecommunications	Support	A
AV Closet	Support	A
Reception Area	General	D
Public Restrooms	Support	A
Classroom/Training Room	General	D
Private Shower Rooms	Support	D
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D – Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a mission to perform duties primarily administrative in nature that are not included in criteria for other facility categories (e.g., C2F, General Instruction, or Brigade HQ). The basis for calculation is the number of administrative personnel requiring private and open office spaces, plus the required special space and storage space.

### 2. Programmatic Application

RPLANS creates an attribute, “Number of Administrative Personnel,” by applying business rules to Army TOE and TDA units.

RPLANS uses business rules to assign the attribute “Organization Type” that identifies tenants other than Army UICs for allowances in this CATCD. RPLANS uses business rules to determine the number of personnel authorizations to use for calculations. RPLANS multiplies the number of personnel by 162 GSF/PN to calculate allowances. RPLANS effective date is JUL-2009.

## C. Planning

### 1. Planning Level

The planning level is unit and other-than-unit.

#### Planning Level:

- Unit
- Other-than-unit

### 2. Requirements Calculations

Follow the procedures in Appendix A to determine requirements for facility category code 61050. Use the allowances in the tables in Appendix A to calculate space requirements for private offices, open office space, special space, and storage space.

The average office space per occupant should not exceed 130 NSF. If possible, optimum space per occupant is 122 NSF by using layout methods and modular or space-efficient furniture systems.

Special and storage space is in addition to office space. Special space includes areas required for common functions, such as rooms for conferences, meetings, data processing, maintenance, duplicating, and mail processing, as well as classrooms, exhibit and reception areas, and/or spaces with unique architectural features.

Storage space as a general functional area should provide space for supplies and equipment that support the day-to-day operation of the office for a period of 30 days. Storage space for organizational equipment or mission support items such as displays or mockups represent additional requirements. When feasible, provide the storage space within the building footprint. Do not classify occupiable space in an administrative building as facility category code 44224 simply because it is a storage area. Classify storage areas in unimproved basements or attics as facility category code 44224 if they otherwise meet the definition of net space.

Normally, accommodate administrative space requirements in open office space, unless individual duties clearly require the provision of a private office. Use systems or modular furniture to achieve better utilization of space, and to provide individuals

semiprivate workstations in lieu of private offices. Open office allowances include sufficient space for furniture and equipment, including personal computers and terminals. In addition, open office space allowances include a circulation or layout factor. The guidance in Appendix A, Table A-1 and subsection II.B applies to open office space in this facility category.

Provide additional space for furniture, cabinets, and equipment items that support a shared mission when they exceed or are in addition to the space in reception areas, printer/copier areas, and file areas that are part of the basic requirement. The procedures in Appendix A account for normal furnishings in individual work areas and common areas. If the organization's mission involves furniture or equipment in excess of what is included in Appendix A, calculate additional requirements using the information in Table 61050-2. Calculate the space requirements for items not listed from actual measurements plus 50 percent for circulation, or by using similar items as a guide.

Table 61050-2 Unit Equipment NSF		
Unit Equipment	Size (Inches)	NSF Allowed
Bookcase	13 x 33	6
Bookcase, Unitized	22 x 18	4
Cabinet, Storage, Wardrobe	18 x 24	6
Cabinet, Storage, Wardrobe	18 x 36	9
Cabinet, Storage, Wardrobe	24 x 36	11
Cabinet, Stationary	18 x 36	9
File Cabinet Letter Size	15 x 25	6
File Cabinet Legal Size	18 x 25	7
File Cabinet, Safe	19 x 28	8
File Cabinet, Lateral	18 x 42	11
Map/Plan File	36 x 48	20
Map/Plan File	36 x 60	25
Chair, Side		5
Lounge Chair		10
Customer Hat Tree		4
Valet Rack	20 x 30	6
Valet Rack	20 x 51	8
Credenza	18 x 66	9
Desk	34 x 60	15
Clothing Locker	18 x 21	5
Clothing Locker	36 x 21	9
Safe (1-Door)	21 x 23	8
Safe (1-Door)	27 x 27	10
Safe (2-Door)	42 x 36	18
Sofa		30
Dictionary Stand		4

Table 61050-2 Unit Equipment NSF		
Unit Equipment	Size (Inches)	NSF Allowed
Stand, Office Machine	18 x 18	3
Stand, Office Machine	18 x 34	5
Stand, Office Machine	24 x 36	6
Table	14 x 26	3
Table	24 x 36	6
Table	34 x 45	12
Table	34 x 60	16
Table	36 x 72	18

For project justification, include information on the number of personnel assigned and authorized. For justification of auditoriums, training rooms, and drafting and server rooms, include information on the number of people normally using the building and the amount and size of equipment in each room. Information systems (IS) operations or server rooms usually require approximately three times the footprint area of the equipment.

Edit RPLANS to include special and storage space requirements. Requirements must be fully justified.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area. Office space per occupant should not be less than 115 NSF in existing buildings.

Based on analysis of Army standards and the Standard Design for command and control facilities and other Army headquarters, a rule of thumb for evaluating a requirement is that 215 GSF per person should provide an adequate amount of net usable area for most organizations, including special space and storage space in buildings with a net-to-gross ratio of 65 percent or better. The rule of thumb does not by itself justify that amount of space.

For large or complex organizations, assign space at the level that has the ability to redistribute space within the organization, except when separate assignments are necessary for cost accounting purposes.

Where privacy is required, assign offices no larger than necessary for the occupant to conduct normal business efficiently. Table A-2 in Appendix A provides guidelines on private offices. Although this table reflects rank and duties, **do not interpret that these positions or grades must have private offices.**

Do not consider private offices that fall below the maximum allowances inadequate solely based on square footage. The Army does not authorize building alterations for the primary purpose of achieving the maximum square footage. Use Table 3-3 in Chapter 3 as a guide in evaluating the sufficiency of existing office spaces.

A space with less than 100 NUA or 96 NSF may not be large enough to occupy as a private office. Consider how a door swing affects the usable space.

#### **b. Facility Utilization Metrics**

Calculate building utilization for administration by dividing the requirement in PN by the capacity in PN where the requirement includes PN and PN equivalents as outlined in Appendix A. Divide total special space and storage space requirements by 96 to determine PN equivalents. Base utilization on the total useable personnel spaces for all general functional areas as defined in Chapter 3 and Appendix A.

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

Occupancy of buildings at a rate greater than 215 GSF per person may be an indicator of underutilization.

## **D. Programmable Increments**

### **1. Standard Facilities**

There is no Standard Design for this facility category. The Command and Control Facilities (C2F) and Other Army Headquarters Standard Design can serve as a guide.

### **2. Programming Units**

Do not program standalone buildings in this facility category with less than 2,000 GSF without approval from IMCOM. Because efficiencies can be achieved in larger buildings, avoid

programming standalone buildings with a capacity of fewer than 250 PN.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

In terms of land use, administrative buildings may be collocated with community facilities, as well as Professional/Institutional land uses. They are normally well suited to mixed-use developments. Be sensitive to information or operations security concerns or vulnerabilities associated with the intended units in site selection and planning.

Be sensitive to vehicle traffic It is undesirable to site general-purpose administrative buildings in housing and billeting areas or other Residential land use areas because of the traffic generated by administrative functions. In addition, because of noise, it is also undesirable to site in Industrial land use and maintenance areas.

### **2. Site Planning Considerations**

Site administrative buildings with a customer service component in the central cantonment area of an installation when possible. Provisions for handicapped access are required for all new buildings and when making any change to the size of existing buildings.

Base parking on 90 percent of the building capacity. Include available on-street parking, parking lots, and nearby parking structures. For planning purposes, use 35 SY per space. Visitor parking requires a special study; as an initial estimate, use one space for every 1,000 GSF of building space.

## **F. Other Considerations**

### **1. Special Instructions**

Do not use this facility category to report or inventory office space that occurs appropriately in other facility categories.

Designation of usable space for all administrative areas requires a ceiling height of 7 feet or greater, and 50 foot-candles (FC) (537 lux) of lighting. In addition, Class A (Top Secret) and Class B (Secret) secured storage vaults, when required, must be ventilated

and have both intrusion and fire alarms, in accordance with AR 380-5.

The Army does not authorize additional space for over-hires or temporary personnel. Provide contract personnel space only as stipulated by contract or appropriate written agreement.

In retrofit projects, the column spacing, floor depth, and building configuration will already be established. If the selected building has inefficient key elements, such as floor depth and bay spacing, fewer workstations and office layouts can be accommodated than were planned for based on the raw area. In other words, this inefficiency in building configuration and layout has the effect of “driving up” the circulation and net-to-gross multipliers so that fewer personnel are able to occupy the same gross building area when compared with new facilities. The layout and capacity of existing electrical, communications, and other building system distribution systems may also limit the flexibility of the layout.

## **2. Exceptions**

None.

## **3. References**

AR-380-5 Department Of The Army Information Security Program	29-SEPT-00
AR 405-70 Utilization of Real Property	12-MAY-06
UFC 4-610-01 Administration Facilities	06-MAY-08
UFC 3-530-01 Lighting Design and Controls	22-AUG-06
Command And Control Facilities (C2F) And Other Army Headquarters	21-MAR-13

## **4. See Also**

61055 Waiting Area/In-Out Processing  
61065 Technical Library

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An area typically found within an administrative building serving as a reception station, in-processing and out-processing facility, and so on. This area, although part of an administrative facility, is not normally used for a person's office space. These areas typically include reception areas, waiting rooms, in/out-processing waiting areas, and so on. Inventory this portion of the facility separately only if the total area is greater than 1,000 GSF. Use this CATCD if the entire building is dedicated to in-processing and out-processing operations.

***Note:** Except for dedicated in/out-processing buildings, treat this space as a general functional area unless one or more of the three tests in Subsection II. E. of Chapter 3 apply.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G1 (DCS, G-1)

#### Center of Standardization

When applied to a central in/out-processing center, this facility category is included in the Huntsville Soldier and Family Support Center complex.

#### Proponent:

- DCS, G-1

#### COS:

- Huntsville

### 3. Complex

This facility category is not part of an ACSIM-defined complex except for a central in/out-processing center, which is part of the Soldier and Family Complex.

#### Complex:

- SFC

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.



## 5. Functional Areas

Table 61055-1 lists functional areas by type and adequacy requirements for Waiting Area/In-Out Processing.

Table 61055-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Waiting Area/In-Out Processing	General	A
Public Restrooms	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria allow commanders, heads of directorates, offices, bureaus, agencies, and comparable positions in Grades O7-O10 waiting areas. Criteria also allow this facility category for customer service activities and contracting activities. These allowances are normally included in space classified in CATCD 61050. The basis for calculation is the average number of visitors for a single meeting.

Criteria also allow this facility category when an installation operates a central in/out-processing facility. The basis for calculation in this case is the number of personnel working in the processing center, and the average number of concurrent appointments during business hours.

### 2. Programmatic Application

Effective with Version 31, RPLANS sets allowances for this facility category equal to assets.

## C. Planning

### 1. Planning Level

The planning level is unit and other-than-unit. Unit-level calculations apply to reception and waiting areas in senior headquarters and at activities that provide customer service.

Base-level planning factors apply when using this category code for an in/out-processing center.

#### Planning Level:

- Unit
- Other-than-unit

## 2. Requirements Calculations

Reception areas will be allotted on the basis of position and function. Commanders, heads of directorates, bureaus, agencies, and comparable positions in Grades O7-O10, SES, are authorized reception areas. Transportation and finance offices are examples of functions that are authorized reception areas. An allowance of 10 NSF is authorized, based on the average number of visitors who are received for a single appointment. Generally this will be less than 1,000 GSF, and should be included in the category code of the primary facility.

When calculating requirements for in/out-processing centers, this space is additive to the general functional areas allocated to the agencies included in the center. Determine the customer capacity of each agency (e.g., ID cards, finance, etc.) and allow 10 NSF per person for the total number of potential concurrent appointments, and add a 25 percent factor to account for appointments involving the sponsor and eligible family members.

Installations with BT/OSUT or AIT trainees typically have a surge that coincides with the end of each course. BT/OSUT can have 200 or more trainees graduate per company, and five or more companies graduating at one time. While AIT classes are much smaller, multiple classes for different courses can end concurrently. Interview the processing center staff to determine the number of trainees/Soldiers that must be accommodated during surge.

## 3. Assigning Space

### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Waiting areas are general functional areas normally included in facility category code 61050, Administrative Building, General Purpose. See Appendix A for guidelines on waiting and reception areas.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

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## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this building. Program this building only when the intent is a standalone building to serve as a consolidated in/out-processing center.

### 2. Programming Units

The Army does not have a minimum size to program for this facility category. If programmed, it is usually part of another building.

## E. Land Use and Site Considerations

### 1. Land Use Considerations

A standalone in/out-processing center is appropriate in community or professional/institutional areas. At BT/OSUT and AIT installations, consider placing this building within walking distance of trainee areas.

### 2. Site Planning Considerations

Provide adequate parking for staff. Parking lots should allow for bus traffic. For in/out-processing centers, provide parking for 80 percent of peak-hour customers. Obtain hour-by-hour averages from center staff.

The in/out-processing center is part of the Soldier and Family Support Center campus. Ideally, the SFSC is a hub, or all-encompassing “campus” that includes as many as five main buildings, including Military Personnel Department (MPD), Army Community Service Building (ACS), Reception Barracks Building (RBB), Soldier Readiness Processing Center (SRPC), and Family Readiness Center (FRC). These buildings service and employ full time staff, part time staff and volunteers.

The SFSC campus may include an area for child care services, military in/out-processing, youth activity-related functions, an area to perform basic medical and dental care or screening, military housing, financial and legal consultation, an area for leisure travel, recreation and theme park tickets, fast food eateries, and lodging for government and military personnel.

The campus should accommodate the Army-required functions for processing that include military personnel, in/out-processing, housing, finance, the ACAP Army Career Program, transition branch, retirement services (RC career counselor), reassignments branch, customer services, and the casualty and education counselor.

## **F. Other Considerations**

### **1. Special Instructions**

RPLANS calculates allowances for CATCD 61050 based on TDA and TOE personnel who have duties that are administrative in nature. The number of personnel from these TDAs and TOEs that have the in/out-processing center as their primary workplace should be deducted from the count of personnel used to calculate requirements for CATCD 61050.

### **2. Exceptions**

None.

### **3. References**

AR 405 – 70 Utilization of Real Property	12-MAY-06
Echelons Above Brigade Command and Control Facility (C2F) and Other Army Headquarters Standard	21-MAR-13

### **4. See Also**

61050      Administrative Building, General Purpose

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A complete building or a portion of an existing building used to house various specialized library reference materials (for example, engineering, medical, law, scientific/technical, and so on) in formal technical library collections of 1,000 volumes or greater, exclusive of periodicals.

**NOTE:** *Treat this space as a functional area unless the conditions described in Chapter 3 apply.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-1 (DCS, G-1).

#### Center of Standardization

None.

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF

#### Proponent:

- DCS, G-1

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

AR 25-97 replaces the term “technical library” with “specialty library.” This includes academic, medical, technical, law; Table 61065-1 lists functional areas by type and presence requirements for a Technical Library.

Table 61065-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Technical volume collection	Mission	A
Reading Areas	Mission	A
Work Areas / Computer	Mission	A
Periodicals	Mission	A
Files Area	General	A
Printer Copier	General	A
Storage	General	A
Break Area	General	A
Librarian Work Area	Mission	A
Head Librarian Office	General	A
Open Office Area	General	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D – Not Required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow units or organizations performing technical missions requiring 1,000 volumes or greater, exclusive of periodicals, a Technical Library. In general, a Technical Library is not authorized if the organization does not have library personnel authorized on its TOE or TDA. Organizations needing a Technical Library may include RDT&E, and aircraft and vehicle maintenance, among others. Army Schools may be authorized academic libraries IAW AR 25-97. Include academic libraries in General Instruction requirements. Medical libraries are included in the medical facility. The basis for calculation is the number of volumes maintained, and the number of authorized full-time library staff.

### 2. Programmatic Application

Effective with Version 31, RPLANS sets allowances equal to assets for this facility category.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Refer to Table 61065-2 for the net area of functional spaces per thousand volumes. Each volume occupies approximately 0.125 NSF of shelf space.

Table 61065-2 Minimum Space Standards Per 1,000 Volumes		
Area		NSF
Technical volume collection	Per 100 Volumes	125
Reading Areas	Per Person	25
Work Areas/Computer	Per Workstation	35
Periodicals	Per 100 Tiles	35
Files Area	Per Appendix A	96
Printer Copier	Per Appendix A	96
Storage	Per Appendix A	96
Break Area	Share with Building	108
Librarian Work Area	Per Librarian	150
Head Librarian Office	1 per Library	150
Open Office Area	Per library staff	96

Determine by interview the number of personnel assigned full time to operating the library, and provide office space accordingly. Determine usage requirements and calculate space for the collection of volumes, the number of reading spaces for patrons, the number of work/computer spaces for research and digital access, the number of periodicals, and the number of files, based on Table 61065-2. One printer/copier area should support most Technical Libraries. Evaluate storage requirements and allocate space as needed. Provide a break area only if there is not a shared area available on the floor, or if the Technical Library is in a standalone building.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Space needs depend upon the size of the collection. A small library may occupy a single room, while larger collections may require a larger space.

**b. Facility Utilization Metrics**

The Army has not established space utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

There are no standards or Standard Designs for this building.

**2. Programming Units of Measure**

This facility type would not normally be programmed as a standalone building. The requirement should be included in programming the academic, medical, research, or other facility to which it belongs. If the need exists, program to requirements. The Army does not have a minimum size for programming.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

The Technical Library is not typically a standalone building. The supported building governs land use.

**2. Site Planning Considerations**

None.

**F. Other Considerations****1. Special Instructions**

AR 25-97 establishes four categories of libraries: general libraries, academic libraries, special libraries and consolidated libraries. General libraries are covered under category codes 74040 and 74041. Academic libraries are covered under the description of category code 17120. Include requirements for RDT&E and medical libraries in the category code of the supported mission facility.

**2. Exceptions**

When academic or special libraries are incorporated into a consolidated library, add their requirement to the requirement for 74041 or 74040, as appropriate.



**3. References**

AR 25-97 The Army Library Program  
UFC 4-740-20 Libraries

18-SEPT-06  
01- MAY- 2006

**4. See Also**

61050     Administrative Building, General Purpose  
74040     Library Branch  
74041     Library Main

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used by the Red Cross to conduct its administrative functions, including counseling, training, community programs, and volunteer-led activities. Red Cross facilities also may include storage of supplies to aid the population in case of serious national disaster.

### 2. Proponent

ACSIM, CFSC

#### Proponent:

- ACSIM, CFSC

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary = SF: Total square feet of the building

Secondary = None

FAC: = SF

Area = NUA: Total net usable area of general functional areas

CAP = PN: Office capacity of general functional areas

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- CAP = PN

The primary unit of measure for this facility category is SF. Calculate NUA for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 61070-1 lists functional areas by type and adequacy requirements for a Red Cross Building.

Table 61070-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Offices (See Appendix A for criteria)	General	A
Open Offices	General	A
Classrooms	General	D
Storage	General	E
Public Restrooms	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		
E - Not required, if present: adjacent or vicinity		

## B. Criteria

### 1. Basis of Allowance

The criteria allow a Red Cross Building when an installation has a Red Cross tenant.

### 2. Programmatic Application

FPS does not calculate an allowance for this facility category.

Facility category code 61070 is included in the calculation for FCG F60000 in RPLANS. RPLANS effective date is JUL-2009.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Occupants of Red Cross buildings require the same space as occupants of an Administration Building, General Purpose, 130 NSF (12.0 NSM). Refer to facility category code 61050.

Planning UM:

- NSF

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Space assignment is similar to that of an organization requiring an administration building. Refer to facility category code 61050. A Red Cross tenant may need additional space for classrooms and for storing disaster relief supplies. Report storage space located in a separate building as facility category code 44224, Organizational Storage Building. Provision of Army facilities for Red Cross storage is on a space-available basis.

The Red Cross cooperates closely with the Army by carrying out activities supplementing and otherwise assisting the Army in its programs relating to the health, welfare, recreation, and morale of military personnel and their dependents. Provide the Red Cross U.S. Army facilities when space is available.

Where the Red Cross does not provide office space, supplies or equipment, installation commanders will:

- Provide the Red Cross adequate office space, when available, without charge thereof. Make every effort to assign office space that will be readily accessible to all military personnel and afford privacy for interviews.
- Furnish nonexpendable office equipment to the Red Cross on a loan basis.
- Furnish office supplies to the Red Cross on a reimbursable basis.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code. It is suggested to calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Do not use this facility category for programming facilities; the Red Cross provides facility category code 61070 facilities.

Programming UM:

- N/A

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This CATCD is appropriate in Community and Professional/Institutional land uses.

**2. Site Planning Considerations**

A Red Cross Building will have site planning similar to an Administration Building, General Purpose. Consult facility category code 61050.

**F. Other Considerations****1. Special Instructions**

Use this facility category only on facilities provided to the Army by the Red Cross.

**2. Exceptions**

None.

**3. References**

AR 930-5 American National Red Cross Service Program and Army Utilization	1-FEB 05
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**4. See Also**

61050	Administrative Building, General Purpose
44224	Organizational Storage Building

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A freestanding building, or a courtroom space within another building, used to conduct court-martial proceedings. Primary users are military judges, prosecuting counsel, and trial defense service. These facilities may, in some instances, be used to host civil proceedings for local jurisdictions.

### 2. Proponent and Center of Standardization

#### Proponent

TJAG

#### Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- TJAG

#### COS:

- Louisville

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Primary:	SF	Total square feet of the building
Secondary:	None	
FAC:	SF	Total square feet of the building
Planning:	NSF	Total net square feet of mission and general functional areas
Other:	None	
CAP:	PN	Office capacity of general functional areas

#### Units of Measure;

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = NSF
- Other UM = None
- CAP = PN

## 5. Functional Areas

Table 61075-1 lists functional areas by type and adequacy requirements for a Courtroom. See the functional adequacy matrix following this facility category discussion.

Table 61075-1 Functional Areas by Type	
Functional Area	Type
Security Screening Area	Mission
Lobby	General
Courtroom	Mission
Magistrate Work Area	Mission
Multi-purpose Room	General
Prosecution Office	General
Prosecution Witness Room	Mission
Prosecution Counsel Office	General
Paralegal Work Area	General
File Storage	General
Printer/Copy Area	General
Deliberation	Mission
Court Reporter	Mission
Judge's Chambers	Mission
General Storage	General
Audio/Visual Room	General
Holding Room	Mission
Defense Counsel Office	General
Remote Defense Witness Room	General
Defense Witness Room	General
Break Room	General
Staff Private Restroom	Support
Kitchenette	Support
Deliberation Private Restroom	Support
Judge's Chambers Private Restroom	Support
Public Restrooms	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at installations with a courts-martial-convening authority. Installations hosting a unit with a derivative UIC of W0KEAA normally meet this requirement.

## 2. Programmatic Application

RPLANS does not factor facility category code 61075 in allowances for administrative space. RPLANS sets allowances equal to assets for this facility category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. A senior mission commander with the authority to convene courts-martial triggers the requirement. This space is normally assigned to the garrison.

### 2. Requirements Calculations

Table 61075-2 lists planning sizes for the functional areas of a Courtroom.

Table 61075-2 Planning Size by Functional Area	
Area	Space Criteria (NSF)
Security Screening Area	155
Lobby	1,021
Courtroom	2,581
Magistrate Work Area	236
Multi-purpose Room	140
Prosecution Office	170
Prosecution Witness Room	135
Prosecution Counsel Office	198
Paralegal Work Area	185
File Storage	105
Printer/Copy Area	29
Deliberation	491
Court Reporter	157
Judge's Chambers	296
General Storage	108
Audio/Visual Room	89
Holding Room	143
Defense Counsel Office	150
Remote Defense Witness Room	135
Defense Witness Room	135
Break Room	176
Staff Private Restroom	65
Kitchenette	44
Deliberation Private Restroom	59
Judge's Chambers Private Restroom	94
Public Restrooms	322



Use table 61075-2 to determine the NUA required when using existing facilities.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Provide the judge's chambers with direct private access to the judge's bench in the courtroom. Provide the chamber a direct private exit to the outside of the building, separate from any public entrances. Soundproof the walls and doors to allow confidential conversations therein. Do not place vents, grills, or door lights within the door. Do not place a ceiling grid vent for return air leading to an open plenum.

Place the judge's clerk's office adjacent to the judge's chamber. Provide the clerk's office access to a public hallway and the judge's chamber.

Provide the courtroom a well area, which includes the judge's bench, recorder/reporter's box, member's box, witness stand, and two counsel tables. NLT 10 feet shall separate the two parties. Separate the bench from the counselor's tables by fifteen feet. Provide a gallery for public viewing. Separate the gallery from the well with a rail.

Criteria strictly prohibit columns within the well area and exterior windows in the courtroom. Provide required raised floors throughout the well area. Criteria prohibit interior glazed openings in passageways or office spaces.

Criteria require that the judge have an unobstructed view of the entire courtroom when seated on the bench. Place the bench adjacent to the court reporter's box. Incorporate flag etiquette into the courtroom design, with flags flanking the judge. The bench requires: 1,440 square inches of writing surface, a drawer below the writing surface, a top rail of NLT 4 inches surrounding the entire perimeter of the bench, a silent duress alarm button wired to the post provost marshal's desk sergeant, and two electrical duplex outlets.

Provide a prisoner-holding cell with access/entry separate from public spaces. The cell is a secure room with appropriate locking devices and no windows.

Provide space to fit from 12 to 14 people in two rows of seating, with the second row slightly raised above the first for the members' box. Provide an unobstructed view of the witness, judge, counsel, and accused, a writing surface NLT 18 inches deep, and a separate entrance to the deliberation room to the members' box.

The lobby area serves as both a screening and holding area. Provide controlled access to the courtroom through either electronic or mechanical means in the lobby.

Provide witness room walls and ceilings with sufficient sound insulation for confidential conversation. Do not place interior or exterior windows in the witness room. Seating should not be easily relocatable.

Provide the deliberation room with a conference table and chairs for at least 12 persons. Provide a private entrance from the member's box to the deliberation room. Provide the required direct exit from the deliberation room to the outside of the building. Provide walls and ceilings with sufficient sound insulation for confidential conversation. Do not have doors with vents, grills, or door lights. Do not place the ceiling grid vent for return air leading to an open plenum. Provide a private restroom adjacent to the deliberation room.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

### **D. Programmable Increments**

#### **1. Standard Facilities**

See Army Standard Design for Judicial Centers with Courtroom, 1 September 2009, that follows this discussion.

#### **Programming UM:**

- GSF

#### **2. Programming Units**

The judicial center with courtroom mandated by the standard has NMT 13,500 GSF.

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## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This building is compatible with Professional/Institutional land use areas.

### 2. Site Planning Considerations

Provide public parking for 100 percent of spectator seating. Provide a separate and secured parking lot for 60 percent of assigned personnel. Provide not more than 12 parking spaces near the judge's private exit.

## F. Other Considerations

### 1. Special Instructions

The Army standard states, "(Non-Waiverable – NW) Co-location of a Judicial Center with functions and operations other than those of the Staff Judge Advocate (in accordance with AR 27-1, Legal Services) is prohibited."

### 2. Exceptions

None.

### 3. References

Army Standard for Judicial Centers with Courtrooms (JC)	30-JUN-09
Army Standard Design for Judicial Centers with Courtroom	01-SEP-09

### 4. See Also

None.

APPENDIX F - FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission General	Security Screening Area	A	155 NSF	No Lower Limit	Locate adjacent to Public Entrances
	Lobby	D	1,021 NSF	No Lower Limit	
Mission	Courtroom	A	2,851 NSF	2,851 NSF	Non-Waiverable, Judge must have an unobstructed view of the courtroom.
Mission	Magistrate Work Area	A	236 NSF	236 NSF	
General	Multi-purpose Room	A	140 NSF	140 NSF	
General	Prosecution Office	A	170 NSF	170 NSF	
Mission	Prosecution Witness Room	A	135 NSF	135 NSF	
General	Prosecution Counsel Office	A	198 NSF	Provide at least 1	NFT 1, NTE 2
General	Paralegal Work Area	A	185 NSF	185 NSF	
General	File Storage	E	105 NSF	105 NSF	
General	Printer / Copy Area	A	29 NSF	29 NSF	
Mission	Deliberation	A	491 NSF	491 NSF	Non-Waiverable, must seat NMT 14
Mission	Court Reporter	A	157 NSF	Provide at least 1	NFT 1, NTE 2
Mission	Judge's Chambers	A	296 NSF	Provide at least 1	Non-Waiverable, provide NFT 1, NTE 3. Each chamber must have a private entrance.
General	General Storage	E	108 NSF	108 NSF	
General	Audio / Visual Room	A	89 NSF	89 NSF	Locate Adjacent to Courtroom
Mission	Holding Room	A	143 NSF	143 NSF	
General	Defense Counsel Office	A	150 NSF	Provide at least 1	NFT 1, NTE 2
General	Remote Defense Witness Room	B	135 NSF	135 NSF	
General	Defense Witness Room	A	135 NSF	135 NSF	
General	Break Room	A	176 NSF	176 NSF	
Support	Staff Private Restroom	D	65 NSF	65 NSF	
Support	Kitchenette	D	44 NSF	44 NSF	

APPENDIX F - FUNCTIONAL ADEQUACY MATRIX					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Support	Deliberation Private Restroom	A	59 NSF	59 NSF	Must be accessible from the Deliberation Room
Support	Judge's Chambers Private Restroom	A	94 NSF	94 NSF	
Support	Public Restrooms	A	322 NSF	1 set per floor	
Support	Vestibule, Primary Entrance	D	80 NSF	80 NSF	
Support	Vestibule, Other Entrances	D	35 NSF	35 NSF	Vestibules should be present at all entrances, except the Judge's private entrance.
Support	Electrical Room	A	107 NSF	107 NSF	
Support	Communications Room	A	105 NSF	105 NSF	
Support	Mechanical Room	A	611 NSF	611 NSF	
<b>Presence Requirements for Adequacy:</b>					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An underground building that provides administrative spaced.

### 2. Proponent

ACSIM Facilities

Proponent:

- ACSIM Facilities

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

Complex:

- None

### 4. Units of Measure

Primary = SF: Total square feet of the building

Secondary = None

FAC: = SF

Area = NUA: Total net usable area of general functional areas

CAP = PN: Office capacity of general functional areas

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Area = NUA
- CAP = PN

The primary unit of measure for this facility category is SF.

Calculate NUA for general functional areas in accordance with Chapter 3 and Appendix A.

### 5. Functional Areas

Table 62010-1 lists functional areas by type and adequacy requirements for an Underground Administrative Facility.

Table 62010-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Private Office (See Appendix A for criteria)	General	A
Open Offices	General	A
Storage	General	D
Office Supply	General	A
Conference Room	General	D
Public Restrooms	Support	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis of Allowance

Criteria allow this building by exception only.

### 2. Programmatic Application

FPS does not calculate an allowance for this facility category.

RPLANS sets allowances equal to assets in the associated Facility Category Group.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Occupants of an Underground Administrative Facility require the same space as occupants of an Administration Building, General Purpose. Refer to facility category code 61050.

Planning UM:

- NSF

Planning UM:

- PN

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Space assignment is similar to that of an organization requiring an admin building. Refer to facility category code 61050.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to calculate building utilization for administration and operations in terms of occupied space per person (PN) compared with the total personnel capacity. Base utilization on the total usable personnel spaces (including special and storage spaces that are included as general functional areas in Appendix A).

See Chapter 5 regarding utilization, and Appendix A regarding general functional areas.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

Do not program this facility category without approval from IMCOM. Base programming of underground construction on normal administrative space planning criteria. It requires a special study of security, engineering, and cost factors.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

None.

### **2. Site Planning Considerations**

None.

## **F. Other Considerations**

### **1. Special Instructions**

Use this facility category for existing inventory only. Do not program new construction without approval from IMCOM.

### **2. Exceptions**

None.

### **3. References**

AR 405-70 Utilization of Real Property

12-MAY-06

### **4. See Also**

61050      Administrative Building, General Purpose



### 1. DA Pam 415-28 Description / Definition

A flagpole structure on which a national, unit, or decorative flag is raised.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 690xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A display structure for posting information/notices. Tack-up surfaces allow for periodically changing information. Normally sited in high-use pedestrian areas such as community plazas and bus stations.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 690xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A sign structure for providing information of a permanent nature for areas and/or facilities. They are generally constructed from materials such as stone, brick, concrete, or timber. Installation names or facility titles (for example, Post Exchange) are typically on this type of sign.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 690xx for related facility category codes.

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for officer grades 07 through 010, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in GSF. Their requirements are developed in FA.

Primary: SF  
Secondary: FA  
FAC: SF  
Planning: FA  
Other: FA

### 5. Functional Areas

Typical dwelling spaces in proportion to family size.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF
- Planning UM = FA
- Other UM = FA

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married officers in grades 09 and 010.

## 2. Programmatic Application

RPLANS allows 3,300 GSF per FA. DA Pam 420-1-1, Table 2-8, allows four bedrooms in a dwelling unit (DU) of 3,330 GSF (310 SM). The applicable maximum floor area may be increased by 10 percent for the DU of a general or flag officer holding a special command position. Where there are more than 7,500 heating degree-days annually at the installation, the applicable maximum gross floor area may be increased by up to 250 GSF (23 SM) to provide an additional indoor activity room. The maximum size is 4,000 GSF.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Multiply the number of authorized DUs by the area allowed.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Construct single-family DUs as required to bring the supply of adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations as privately developed housing off of the post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage through traffic, and should use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to the glossary for the definition and further clarification of gross floor area.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 210-8 Housing Utilization Management	5-NOV-93
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-2010
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-2011
ACSIM Memorandum: Updated size standards for senior executives housing grades 09 and 10	16-OCT-2012

### 4. See Also

71112	Family Housing, Colonel
71113	Family Housing, Lt Colonel and Major
71114	Family Housing, Company Grade and Warrant Officer
71115	Family Housing, Senior NCO
71116	Family Housing, Junior NCO/Enlisted
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building, Family Housing

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for officer grade 06, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in FA.

Primary: SF  
Secondary: FA  
FAC: SF  
Planning: FA  
Other: FA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF
- Planning UM = FA
- Other UM = FA

### 5. Functional Areas

Typical dwelling spaces in proportion to family size and within GSF allowed.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married officers of grade 06.



## **2. Programmatic Application**

RPLANS allows 2,520 GSF per FA. DA PAM 420-1-1, Table 2-8, allows four bedrooms in a dwelling unit of 2,520 GSF (234 SM). The applicable maximum floor area may be increased by 10 percent for the DU of an installation commander. Where there are more than 7,500 heating degree-days annually at the installation, the applicable maximum gross floor area may be increased by up to 250 GSF (23 SM) to provide an additional indoor activity room.

## **C. Planning**

### **1. Planning Level**

The planning level is other-than-unit.

### **2. Requirements Calculations**

Multiply the number of authorized DUs by the area allowed.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Construct single-family DUs as required to bring the supply of adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations of privately developed housing off post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage “through traffic” and use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to the glossary for the definition and further clarification of gross floor area.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
DA PAM 210-8 Housing Utilization Management	5-NOV-93
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-2010
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-2011

### 4. See Also

71111	Family Housing, General Officer
71113	Family Housing, Lt Colonel And Major
71114	Family Housing, Company Grade And Warrant Officer
71115	Family Housing, Senior NCO
71116	Family Housing, Junior NCO/Enlisted
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building, Family Housing

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for officer grades 04, 05, CW4, CW5, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the **Norfolk** Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in FA.

Primary: SF  
Secondary: FA  
FAC: SF  
Planning: FA  
Other: FA

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF
- Planning UM = FA
- Other UM = FA

### 5. Functional Areas

Typical dwelling spaces in proportion to family size and within GSF allowed.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married officers in grades 04, 05, CW4, CW5, and civilian grade equivalents.

## 2. Programmatic Application

RPLANS allows 2,098 GSF per FA. Depending on family size, DA PAM 420-1-1, Table 2-8, allows three bedrooms in a DU of 2,020 GSF (188 SM), or four bedrooms, in a DU of 2,310 GSF (215 SM). Where there are more than 7,500 heating degree-days annually at the installation, the applicable maximum gross floor area may be increased by up to 250 GSF (23 SM) for four-bedroom units, and 200 GSF (19 SM) for three-bedroom units, to provide an additional indoor activity room.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Multiply the number of authorized DUs times the area allowed.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Construct single-family DUs as required to bring the adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations as privately developed housing off post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage “through traffic” and use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to the glossary for the definition and further clarification of gross floor area.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
DA PAM 210-8 Housing Utilization Management	5-NOV-93
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-10
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-11

### 4. See Also

71111	Family Housing, General Officer
71112	Family Housing, Colonel
71114	Family Housing, Company Grade And Warrant Officer
71115	Family Housing, Senior NCO
71116	Family Housing, Junior NCO/Enlisted
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building, Family Housing

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for officer grades 01 through 03 and CW1 through CW3, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- NONE

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in FA.

Primary: SF  
 Secondary: FA  
 FAC: SF  
 Planning: OU  
 Other: OU

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF
- Planning UM = OU
- Other UM = OU

### 5. Functional Areas

Typical dwelling spaces in proportion to family size and within GSF allowed.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married officers in grades 01 through 03 and CW1 through CW3.



## 2. Programmatic Application

RPLANS allows 1,762 GSF per FA. Depending on family size, DA PAM 420-1-1, Table 2-8, allows from two to five bedrooms per DU. Where there are more than 7,500 heating degree-days annually at the installation, to provide an additional indoor activity room, the applicable maximum gross floor area may be increased as noted below.

Table 71114-1 DU Allowances				
Bedrooms per DU	Standard		Degree-day Addition	
	GSF	SM	GSF	SM
2	1,490	139	150	14
3	1,860	173	200	19
4	2,150	200	250	23
5	2,510	234	300	28

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Multiply the number of authorized DUs by the area allowed.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## D. Programmable Increments

### 1. Standard Facilities

None.

## **2. Programming Units**

Construct single-family DUs as required to bring the supply of adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations as privately developed housing off post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage “through traffic” and use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to the glossary for the definition and further clarification of gross floor area.

Although two-bedroom units are identified in the table, current Army policy is to construct only three-bedroom and larger units where new construction is warranted. This policy does not deem existing two-bedroom units inadequate, nor does it change existing policies on housing assignment.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
DA PAM 210-8 Housing Utilization Management	5-NOV-93
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-10
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-11

### 4. See Also

71111	Family Housing, General Officer
71112	Family Housing, Colonel
71113	Family Housing, Lt Colonel And Major
71115	Family Housing, Senior NCO
71116	Family Housing, Junior NCO/Enlisted
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building, Family Housing

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for noncommissioned officer grades E7 through E9, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in FA.

Primary: SF  
Secondary: FA  
FAC: SF  
Planning: FA  
Other: FA

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF
- Planning UM = FA
- Other UM = FA

### 5. Functional Areas

Typical dwelling spaces in proportion to family size and within GSF allowed.

## B. Criteria

### 1. for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married noncommissioned officer of grade E7 through E9.

## 2. Programmatic Application

RPLANS allows 1,974 GSF per FA. Depending on family size, DA PAM 420-1-1, Table 2-8, allows three- or four-bedroom DUs for E-9s, and from two to five bedroom DUs for E-7s and E-8s. Table 71115-1 reproduces Table 10-1. Where there are more than 7,500 heating degree-days annually, the applicable maximum gross floor area may be increased, as noted below, to provide an additional indoor activity room. Table 71115-1 lists the allowances by grade.

Table 71115-1 DU Allowances				
Bedrooms per DU	Standard		Degree-day Addition	
	GSF	SM	GSF	SM
E-9 Allowances				
3	2,020	188	200	19
4	2,310	215	250	23
E-7 and E-8 Allowances				
2	1,490	139	150	14
3	1,860	173	200	19
4	2,150	200	250	23
5	2,510	234	300	28

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Multiply the number of authorized DUs times the area allowed.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## D. Programmable Increments

### 1. Standard Facilities

None.

Programming UM:

- FA

## **2. Programming Units**

Construct single-family DUs as required to bring the supply of adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations as privately developed housing off post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage “through traffic” and use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to glossary for definition and further clarification of gross floor area.

Although two-bedroom units are identified in the table above, current Army policy is to construct only three-bedroom and larger units where new construction is warranted. This policy does not deem existing two-bedroom units inadequate, nor does it change existing policies on housing assignment.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 210-8 Housing Utilization Management	5-NOV-93
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-2010
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-2011

### 4. See Also

71111	Family Housing, General Officer
71112	Family Housing, Colonel
71113	Family Housing, Lt Colonel And Major
71114	Family Housing, Company Grade And Warrant Officer
71116	Family Housing, Junior NCO/Enlisted
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building, Family Housing

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as quarters for junior noncommissioned officers and enlisted grades E1 through E6, and civilian grade equivalents where authorized.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in FA.

Primary: SF  
Secondary: FA  
FAC: SF  
Planning: FA  
Other: FA

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = FA
- FAC UM = GSF
- Planning UM = FA
- Other UM = FA

### 5. Functional Areas

Typical dwelling spaces in proportion to family size and within GSF allowed.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one dwelling unit each for married noncommissioned officer grades E1 through E6.



## 2. Programmatic Application

2004, RPLANS allows 1,479 GSF per FA. DA PAM 420-1-1, Table 2-8, allows two to five bedrooms in a dwelling unit with sizes based on the Soldier's number of family members and pay grade. Table 71116-1 lists the allowed areas by number of bedrooms. Where there are more than 7,500 heating degree-days, the applicable maximum gross floor area may be increased as noted below, to provide an additional indoor activity room.

Table 71116-1 DU Allowances for E-1 thru E-6				
Bedrooms per DU	Standard		Degree-day Addition	
	GSF	SM	GSF	SM
2	1,340	135	150	14
3	1,630	152	200	19
4	1,950	181	250	23
5	2,300	214	300	28

## C. Planning

### 1. Planning Level

The planning level is Other-than-unit.

### 2. Requirements Calculations

Multiply the number of authorized DUs by the area allowed.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The goal for each installation is a utilization rate of 95 percent for adequate housing.

## D. Programmable Increments

### 1. Standard Facilities

None.

## **2. Programming Units**

Construct single-family DUs as required to bring the supply of adequate housing up to the required level. Programming documents report these facilities in GSF to make cost comparisons between projects.

Although two-bedroom units are identified in the table above, current Army policy is to construct only three-bedroom and larger units where new construction is warranted. This policy does not deem existing two-bedroom units inadequate, nor does it change existing policies on housing assignment (see AR 210-50, paragraph 3-5) and adequacy standards (see AR 210-50 paragraph 4-3).

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Family housing requires the same neighborhood atmosphere and considerations as privately developed housing off-post.

### **2. Site Planning Considerations**

Arrange construction locations to maximize views and privacy, minimize encroachments, and create exterior space for family activities, e.g. children playing, picnics, or quiet solitude. Recognize that to everyone, “their home is their castle,” but they are not islands unto themselves.

Vehicular access should discourage “through traffic” and use traffic calming devices other than speed bumps.

## **F. Other Considerations**

### **1. Special Instructions**

The above allowances do not apply to DUs in foreign countries constructed or acquired by the Secretary of State for occupancy by members of the armed forces.

Refer to glossary for definition and further clarification of gross floor area.

### **2. Exceptions**

None.

### 3. References

DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
DA PAM 210-8 Housing Utilization Management	5-NOV-93
DA PAM 420-1-1 Housing Management	2-APR-09
UFC 4-711-01 Family Housing	13-JUL-06
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-10
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update No. 4	18-JUL-11

### 4. See Also

71111	Family Housing, General Officer
71112	Family Housing, Colonel
71113	Family Housing, Lt Colonel And Major
71114	Family Housing, Company Grade And Warrant Officer
71115	Family Housing, Senior NCO
71117	Family Housing, Other Than Military
71210	Family Housing Trailers
71410	Garage, Family Housing
71411	Carport, Family Housing
71420	Storage Building

### 1. DA Pam 415-28 Description / Definition

A building that provides family housing for civilians not associated with the military.

### 2. Criteria

The Army has not established separate criteria for this facility category code. Based on similar facility category codes, RPLANS allows 1,350 SF per authorized family housing dwelling.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 711xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = FA
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Trailers and mobile homes that are Army-controlled, acquired as real property, and used as family dwelling units. Includes any pad or prepared site upon which the trailer rests.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 711xx, 71310, and 714xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = FA
- Secondary UM = SF
- FAC UM = FA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Trailer parking sites or pads with appurtenant site facilities provided for privately or government-owned trailers and mobile homes within a government-owned trailer or mobile home park.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 711xx, 71210, and 714xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = FA
- Secondary UM = None
- FAC UM = FA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An enclosed building for parking vehicles at an Army family housing unit. Report garages as multipurpose buildings with the family housing unit as the primary building, whether the garage is attached or detached.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

### 4. See Also

See 711xx, 71210, 71310, and 714xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An open structure for parking vehicles at an Army family housing unit. Report carports as the structure part of a multipurpose facility, with the family housing unit as a building and the carport as a structure, whether the carport is attached or detached.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

### 4. See Also

See 711xx, 71210, 71310, and 714xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

An enclosed storage building provided for family housing units. If the storage building supports a multifamily housing building (a duplex or a fourplex), classify it as a separate building. If the storage building supports only the occupants in an assigned single-family housing unit, then classify the storage building as part of a multipurpose family housing building, with the family housing portion as the primary building.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 711xx, 71210, 71310, and 714xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that provides a variety of support services for government-owned trailer or mobile home parks. The building provides space for a trailer park management office, a self-service laundry, restrooms, storage, vending machine areas, and utility rooms.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code..

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 711xx, 71210, 71310, and 714xx for related facility category codes.

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that provides temporary lodging accommodations for all personnel (officer, enlisted, Reserve Component, Department of the Army (DA) civilian employees, eligible DOD civilians, and their family members) who are on temporary duty status, traveling on official business, or arriving or departing installations incident to a permanent change of station. Eligible personnel also include visitors of patients in military hospitals or military patients in local hospitals, active and retired military personnel undergoing outpatient medical treatment who must stay overnight near a military medical facility, U.S. and foreign guests of the military services, and guests of the armed forces as determined by the installation commander. If space is available, the following may use Army lodging facilities regardless of travel status: Active Duty retirees, military personnel on leave or permissive temporary duty, family members and guests of military personnel assigned to the installation, and Reserve Component personnel not on official orders. Report these facilities with unit of measure square feet (SF) and spaces. One room equals one SP. Report hotel/motel lodging facilities not meeting this description as Recreational Billets (74036).

### 2. Proponent and Center of Standardization

■ **Proponent**

ACSIM Facilities

■ **Center of Standardization**

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in GSF.

Primary: SF

Secondary: SP

FAC: SF

**Proponent:**

- Army Lodging

**COS:**

- None

**Complex**

- NONE

**Units of Measure:**

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

## **5. Functional Areas**

Lodging facilities (LFs) provide quality, consistent, and cost effective lodging services to official government travelers. The design and configuration of LFs employ most concepts of a mid-priced, limited-service private sector hotel, i.e., a hotel that does not have full-service food and beverage capability.

See Table 1-1, UFC 4-720-01, Lodging Facilities, 13 February 2012.

See Functional Program Areas following this write-up.

## **B. Criteria**

### **1. Basis for Authorization and Calculation**

The criteria authorize this facility category at one per installation.

### **2. Programmatic Application**

RPLANS sets allowances equal to assets for this facility category code.

The number of guest rooms, suites, guest support areas, and service areas at each site will vary depending on the mission. Department of Defense Instructions (DODI) 1015.11 and 1015.12 provide policy and resourcing for all lodging facilities, and define TDY and PCS lodging. The Joint Federal Travel Regulations define the types of travelers that will use these facilities.

The Army. Family and Morale, Welfare, and Recreation Command (FMWRC): U.S. Army Installation Management Command, will provide the number and types of rooms based on usage data. Planning shall incorporate accessibility requirements in all common guest support areas. Allow space for guest support areas, back-of-house service areas, and site requirements. Replacement of existing support functions will be considered in the programming of a new facility.

See Functional Program Areas following this write-up.

## **C. Planning**

### **1. Planning Level**

The planning level is other-than-unit.

### 3. Assigning Space

#### ■ Guidance

This facility is normally assigned to the garrison.

#### Facility Utilization Metrics

None provided.

## D. Programmable Increments

### 1. Standard Facilities

There are two types of LFs:

- Central facilities accommodate the main check-in function, most guest services and administration functions, and the guest rooms and suites. There will always be at least one central facility on an installation that includes visitor lodging.
- Satellite facilities accommodate additional guest rooms, suites and limited services and support functions. They may be located remotely from the central facility to serve additional installation areas, or near the central facility as part of a visitor lodging complex.

### 2. Programming Units

Comply with Table 72010-2-1 for guest room and suite net area standards (net area as measured from interior finished wall to interior finished wall).

Table 72010-2-1 Net Area Standard for New Construction and Renovation		
Room	Minimum	Maximum
Guest Room	300SF	325SF
Suite	450SF	600SF

Support space sizing standards are provided in Appendix C of UFC 4-720-01, Lodging Facilities, 13 February 2012. This is also provided in the Functional Program Areas following this discussion.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

LFs require the same hotel/motel atmosphere and considerations as privately developed facilities off post.

### **2. Site Planning Considerations**

Determine the most appropriate and cost-effective location for the LF/campus based on the following factors:

Development potential, future expansion, and adjoining land uses. Expansion of lodging facilities usually involves adding guest rooms. It is generally impractical to add onto an existing lodging facility. Therefore, if potential future expansion is identified during the programming stage, allow space in the site development plan for additional structures and size site utilities accordingly.

Proximity to and capacity of recreational centers and community facilities such as fitness centers, dining facilities, postal service centers, installation exchanges, commissaries, pedestrian circulation systems, bike paths, and mass transit routes. Balance the proximity to community services with the need for quiet and privacy.

Proximity to a particular activity or site that the lodging facility serves, if applicable, also considering transportation resources and routes to those activities.

Existing topography and landscape. Site selection should minimize the need for excessive grading.

Available installation infrastructure such as roads and drives, parking, landscape, utilities, and fire department access.

Future demands placed on the capacity of supporting infrastructure and utilities.

Facilities requiring demolition.

Off-installation communities and adjoining neighborhoods.

## F. Other Considerations

### 1. Special Instructions

Contact: Army. Family and Morale, Welfare and Recreation Command (FMWRC): U.S. Army Installation Management Command, Attn: Family and MWR Command-Director, Hospitality Programs, 11711 North IH 35, Suite 110, San Antonio, TX 78233-5498.

### 2. Exceptions

None.

### 3. References

UFC 4_720_01, Lodging Facilities	13-FEB-12
DOD 4165.63M: DoD Housing Manual	20-JUL-98
AR 420-1: Army Facilities Management	28-MAR-09
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Sustainable Design and Development Policy Update (Environmental and Energy Performance)	27-OCT-10
Office of the Assistant Secretary of the Army Installation, Energy and Environment Memorandum: Construction, Renovation and Condition Standards for Residential Communities Initiatives (RCI) Family Housing Program – Update # 4	13-JUL-11
ACSIM Memorandum: Updated size standards for senior executives housing grades 09 and 10	16-OCT-12

**4. See Also**

- 71112 Family Housing, Colonel
- 71113 Family Housing, Lt Colonel and Major
- 71114 Family Housing, Company Grade and Warrant Officer
- 71115 Family Housing, Senior NCO
- 71116 Family Housing, Junior NCO/Enlisted
- 71117 Family Housing, Other Than Military
- 71210 Family Housing Trailers
- 71410 Garage, Family Housing
- 71411 Carport, Family Housing
- 71420 Storage Building, Family Housing



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building, or a portion thereof, that meets or exceeds the minimum standards for assignment as housing for unaccompanied enlisted personnel, or as dormitory space for cadets at the U.S. Military Academy at West Point. This building provides lodging for permanent party Soldiers in grades E1-E6, and DOD civilian employees in grades GS 6 and below who are authorized space. This category does not include a dining facility, unit administration, or supply areas.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

Enlisted Unaccompanied Personnel Housing is under the Fort Worth District Center of Standardization.

#### Proponent:

- ACSIM Housing

#### COS:

- Fort Worth

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: SP  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

## 5. Functional Areas

This facility, or this portion of a facility, provides housing for permanent party unaccompanied enlisted personnel (E1-E6). Table 72111-1 lists the functional areas and type of space for adequate facilities.

Table 72111-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Living / sleeping areas (Barracks Rooms)	Mission	A
Kitchens	Mission	A
Closets	Mission	A
Bathrooms	Mission	A
Latrines	Support	A
Equipment cleaning rooms (mudrooms)	Mission	B
Lounge (dayroom)	General	B
Mailroom	General	A
Enclosed stairwells/foyers/corridors	Support	A
Janitor's closets	Support	A
Soldiers' laundry facilities	Support	B
Charge-of-Quarters (CQ) office	General	A
Bulk storage	Support	B
Mechanical / electrical / telecom rooms	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The allowance is based on the number of permanent party unaccompanied enlisted personnel (E1-E6).

### 2. Programmatic Application

RPLANS calculates the number of unaccompanied personnel by multiplying the ASIP population by grade groups for E1 through E4, and for E5 and E6 by multiplying the ASIP population for each grade group by the unaccompanied rate for that group. RPLANS multiplies the product by one space per person for E1 through E4, and by two spaces per person for E5 and E6. The number of E1 through E5 spaces is multiplied by 366 in CONUS to determine the total GSF required. In OCONUS, the E6 spaces are added to the calculation.

Table 72111-2 displays the percentage of enlisted personnel by grade used in the allowance calculations for the geographic areas. These percentages are used when location-specific data is not available. The rates are available in the RPLANS attribute reports.

Table 72111-2 – Percentage of Enlisted Personnel by Grade			
Geographic Area	E2 through E4	E5	E6
CONUS	55 percent	26 percent	0 percent
Europe	60 percent	33 percent	19 percent
Korea	100 percent	100 percent	100 percent
Alaska	59 percent	26 percent	0 percent

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

The master planner should obtain the “planning number” of enlisted personnel from the DRM to quantify the number of personnel within the unit by grade, and apply an aggregated set of unaccompanied personnel housing (UPH) rates, including consideration of the “marriage factor.”

If the user knows locally applicable UPH rates, use them as the primary source, rather than other sources, for requirements development.

Plan the barracks to accommodate the calculated number of required spaces for unaccompanied E1-E5 personnel. Students with a student UIC ending in “P” live in this facility with the same UPH rates as other permanent party junior personnel.

Do not include barracks space for the following under this category code:

Students with a Student UIC ending in “T” (AIT Trainees) or “ASI” students in grades E1-E4 live in barracks under facility category code 72121, Transient UPH, Advanced Individual Trainees (AIT).

Students with a Student UIC ending in “B” (Basic Trainees) or “S” (OSUT Trainees) live in barracks under facility category code 72181, Trainee Barracks.

### **3. Assigning Space**

#### **a. Guidance**

Central barracks management has consolidated the barracks assignment and termination under a single activity on most installations.

Adequacy standards for permanent party UEPH in AR 420-1 establish a minimum of 90 SF net living area per soldier in grades E1 through E4, with not more than four per room, and a central bath. For E-5 and E-6, the minimum is 135 SF net living area with a private room and a bath shared. See Chapter 3 for a discussion of net living area.

#### **b. Facility Utilization Metrics**

The goal for each installation is a utilization rate of 95 percent. Utilization is the number of spaces occupied divided by the number of spaces available, multiplied by 100.

## **D. Programmable Increments**

### **1. Standard Facilities**

Refer to the Army Standard Designs for the various floor plans.

### **2. Programming Units**

Programming documents report these facilities in SP to make cost comparisons between projects. The minimum number of rooms for programming barracks is 50.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The master planner must recognize the important role barracks play in the quality of life of unaccompanied personnel. Thus, barracks, dormitories, and associated and support facilities need carefully studied relationships to community, administrative, and other duty stations. Generically referred to as the cantonment area, these related facilities and activities usually include the garrison

(or higher) headquarters and “unit area(s)” for a number of Army organizations.

Balance the desire of many commanders to have barracks close to unit areas with opportunities to make access to community activities convenient for barracks residents.

## **2. Site Planning Considerations**

Plan barracks on the basis of centralized barracks management and community dynamics, rather than “unit integrity,” as in the past.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization for barracks, the U.S. Army Corps of Engineers Fort Worth District, for the latest design standards.

### **2. Exceptions**

Only the Assistant Chief of Staff for Installation management has the authority to approve exceptions to the Army Standard. Waivers from the Army Standard must be requested in accordance with AR 420-1 and the Army Facilities Standardization Program Charter, latest edition.

### **3. References**

AR 420-1 Army Facilities Management	12-FEB-08
Army Standard for Unaccompanied Enlisted Personnel Housing (UEPH)	10-JUL-12

### **4. See Also**

72114	Transient Training Enlisted Barracks
72115	Mobilization Enlisted Barracks
72121	Transient UPH, Advanced Individual Trainees (AIT)
72122	Transient UPH, Advanced Skills Trainees (AST)
72170	Unaccompanied Personnel Housing, Senior NCO
72181	Trainee Barracks

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Barracks Room	A		140 NSF	140 NSF		
Mission	Barracks Room Closet	A		32 NSF	32 NSF		
Mission	Living Room	A		90 NSF	90 NSF		
Mission	Kitchen	A			No lower limit		Built in upper cabinetry with convection microwave, lower cabinets with sink and cook top and full size refrigerator.
Mission	Bathroom	A			No lower limit		
Mission	Laundries	A			No lower limit		1 per floor; ratio 1 washer per 8 occupants and dryer 1 per 6 occupants
Mission	Elevator	A			No lower limit		Provided when building is 4 story or higher
Support	Lobby	B			No lower limit		CQ desk, bathroom and vending area
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A Warrior Transition Unit (WTU) barracks is a building, or a portion thereof, that meets or exceeds the minimum standards for assignment as housing for unaccompanied permanent party personnel. This building provides lodging for permanent party Soldiers. The facility will be accessible to individuals with disabilities, supporting the Warrior in Transition units, in accordance with the Uniform Federal Accessibility Standards (UFAS), as required by the Architectural Barriers Act (ABA) (Public Law 90-480), Title 42 United States Code, sections 4151-4157, (42 USC 4151-4157). Additional accessibility features may be added or incorporated based upon the medical needs of specific occupants as certified by the installation medical authority.

### 2. Proponent and Center of Standardization

#### Proponent

G-1/WTC-MEDCOM

#### Center of Standardization

This facility category is managed by the Fort Worth Center of Standardization.

### 3. Complex

UPH, WTU is part of the WT Complex.

#### Proponent:

- G-1/WTC-MEDCOM

#### COS:

- Fort Worth

#### Complex:

- WT

#### 4. Units of Measure

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for mission and general functional areas in accordance with Chapter 3.

Report CAP where “spaces” is the number of sleeping quarters (individual bedroom) located within a building.

Primary:	SF	Total square feet of the building
Secondary:	SP	Enlisted personnel capacity of the building
FAC:	SF	Total square feet of the building
Planning:	SP	Enlisted personnel capacity of the building
Other:	None	
CAP:	SP	Enlisted personnel capacity of the building
CAP:	PN	Enlisted personnel capacity at the time of construction or renovation.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF
- Planning UM = SP
- Other UM = NONE
- CAP = SP
- CAP = PN

#### 5. Functional Areas

Table 72112-1 lists the functional areas of the WTU barracks. See the functional adequacy matrix following this facility category discussion.

Table 72112-1 UPH, WT Barracks	
Functional Area	Type
Bedroom	Mission
Closet	Mission
Private Bath	Mission
Kitchen	Mission
Lobby	General
Charge of Quarters Station	General
Multipurpose Area	General
Janitor's Closet	Support
Private Restroom	Support
Laundry	Mission
Living Room	Mission
Telecommunications Room	Support

### B. Criteria

#### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one WT Complex at locations with Army hospitals; a WT barracks is an essential part of a WT Complex. The allowance for a WT barracks is based on the number and type of apartments.



## 2. Programmatic Application

RPLANS sets allowances equal to assets in the associated facility category group.

## C. Planning

### 1. Planning Level

Planning is other-than-unit. In supporting the Warrior-in-Transition Units (WTU), the eligible strength is unaccompanied, permanent party Soldiers assigned.

### 2. Requirement Calculations

Most space within a WTU barracks is composed of apartment modules. There are two types of apartments. Each apartment is either a two-bedroom, one-bath apartment, or a two-bedroom, two-bath apartment. A typical barracks will have a 50/50 mix of the two types of apartments.

To determine the number of two-bedroom apartments, divide the total number of expected occupants by 2. Divide the previous quotient by 2 to arrive at the number of apartments of each type needed.

Table 72112-2 lists the planning factors for the two-bedroom, one-bath apartment. The total size of the two-bedroom, one-bath apartment is 1,060 GSF.

Table 72112-2 NUA for 2 Bedroom, 1 Bath Apartment	
Functional Area	Planning Factor (NSF)
Bedroom	180 per bedroom
Closet	32 per bedroom
Private Bath	60
Kitchen	96

Table 72112-3 lists the planning factors for the two-bedroom, two-bath apartment. The total size of the two-bedroom, two-bath apartment is 1,350 GSF.

Table 72112-3 NUA for 2 Bedroom, 2 Bath Apartment	
Functional Area	Planning Factor (NSF)
Bedroom	180 per bedroom
Closet	50 per bedroom
Private Bath	61 per bedroom
Kitchen	80
Living Room	160
Laundry	21

Calculate a multipurpose room for the lobby of each barracks and a Charge-of-Quarters station.

The size of the multi-purpose room depends on the number of bedrooms in the barracks as listed in Table 72112-4.

Table 72112-4 Multi-Purpose Room Planning Factors	
Number of Bedrooms	Planning Factor (NSF)
Up to 64	250
65 to 100	500
101 to 200	750
More than 200	1,000

### 3. Assigning Space

#### a. Guidance

Assign the building to the responsible Warrior Transition Unit (WTU). The WTU will assign apartments based on individual Soldier requirements.

#### b. Facility Utilization Metrics

To establish utilization, divide the actual occupancy by the design occupancy. Compare the resulting percentage with the four ranges given in Table 72112-5.

Table 72112-5 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

## **D. Programmable Increments**

### **1. Standard Facilities**

Standard facilities are sized based on the total number of apartments within the barracks. A two-bedroom, two-bathroom apartment has a standard size of 1,350 GSF, while a two-bedroom, one-bathroom apartment has a standard size of 1,060 GSF.

See the Standard Design floor plans for this facility category code immediately following the functional adequacy matrix, which provides illustrations of the components of a standard WTU UPH building.

### **2. Programming Units**

The minimum programmable unit is 12 apartments (24 bedrooms).

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The WT complex is part of a medical facility and is classified as Community land use.

### **2. Site Planning Considerations**

The WT Complex is a mini-campus composed of barracks, WTU headquarters, dining, and Soldier and Family Assistance Center (SFAC). Buildings in the complex need to be located to minimize travel distance. The complex must also be located adjacent to a hospital and medical facilities.

Seventy percent of apartments within the barracks have parking spaces. A minimum of 20 percent of the parking spaces must be handicapped spaces.

## **F. Other Considerations**

### **1. Special Instructions**

Because of the nature of the mission of a WTU, it is critical that apartments within the barracks be handicap accessible. A minimum of 10 percent of the total apartments must be accessible in accordance with ADA Accessibility Guidelines (ADAAG) or Uniform Federal Accessibility Standard (UFAS), whichever is

more stringent. The remainder of the apartments must be adaptable to meet accessibility standards. Additionally, the apartment environment should minimize or eliminate stress caused by aesthetics for injured service members with traumatic brain injury or behavioral health disorders such as post-traumatic stress disorder (PTSD).

Locate barracks in areas without excessive noise and exposure to harsh and unpleasant smells. The color, flooring material, and countertop textures of all apartments should be therapeutic, avoiding complex, possibly agitating designs. Fluorescent lighting should be continuous and minimize hum. Maximizing natural lighting is a must.

## **2. Exceptions**

Consult the COS: Forth Worth.

## **3. References**

Army Standard for Warrior Transition Unit Barracks	30-JUN-08
Warrior Transition Unit Standard Design	01-SEP-08

## **4. See Also**

14188	Warrior Transition Unit Headquarters
74033	Army Community Services Center

## APPENDIX F – FUNCTIONAL ADEQUACY MATRIX

FUNCTIONAL AREA		PRESENC E	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission	Bedroom	A	180 NSF per bedroom	180 NSF	
Mission	Closet	A	2-1 Apartment – 32 NSF 2-2 Apartment – 50 NSF	32 NSF	One closet per bedroom
Mission	Private Bath	A	2-1 Apartment – 60 NSF 2-2 apartment – 61 NSF	60 NSF	
Mission	Kitchen	A	2-1 Apartment – 96 NSF 2-2 apartment – 80 NSF	80 NSF	
Mission	Lobby	A	One per building	No lower limit	Locate at entrance
Mission	Charge of Quarters Station	A	One per building	No lower limit	Locate in lobby
Mission	Multi-Purpose Area	A	< 65 rooms – 250 NSF 65 to 100 rooms – 500 NSF 101 to 200 rooms – 750 NSF > 200 rooms – 1,000 NSF	Per standard	
Support	Janitor Closet	A	40 NSF	One per Floor	
Support	Private Restroom	A		No lower limit	Locate in lobby
Mission	Laundry	A	21 NSF	21 NSF	2-2 Apartment Only
Mission	Living Room	A	160 NSF	160 NSF	2-2 Apartment Only
Support	Telecommunications Room	A	One per Building	No lower limit	In accordance with I3A Guide and ANI/EIA/TIA-569-B
Support	Handicapped Accessibility	A		No lower limit	In accordance with 42 USC 4151-4157
Support	POV Parking	A	Provide for 70% of Apartments	No lower limit	20% must be handicapped-accessible
Preference Requirements for Adequacy:					
A - Required, Collocated					
B - Required, Adjacent					
C - Required, Vicinity					
D - Not required, if present collocated					
E - Not required, if present: adjacent or vicinity					
F - Occupant Dependent					

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses unaccompanied enlisted personnel and authorized civilians who are conducting training at a location other than their assigned home station (in other words, Reserve Component Soldiers at annual training sites and Active Component soldiers training away from their home stations). This category also may be used for outside continental United States (OCONUS) transient training billets.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- ACSIM Housing

#### COS:

- Louisville

### 3. Complex

The Transient Training (TT) Enlisted Barracks will normally be a part of an Operational Readiness Training Complex (ORTC).

Refer to Chapter 4 for more information on this complex.

#### Complex:

- ORTC

### 4. Units of Measure

The primary unit of measure of this facility category is SF.

Primary:	SF	Total square feet of the building
Secondary:	SP	Enlisted personnel capacity of the building
FAC:	SF	Total square feet of the building
Planning:	SP	Enlisted personnel capacity of the building
CAP:	SP	Enlisted personnel capacity of the building
CAP:	PN	Enlisted personnel capacity at the time of construction or renovation.
Other:	None	

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF
- Planning UM = SP
- CAP = SP
- CAP = PN
- Other UM = None

## 5. Functional Areas

The barracks building consists of sleeping bays, public showers, a laundry room, activity rooms, and an Internet café. Personnel in grades E7-E8 receive semiprivate rooms, with two personnel per room. The criteria for these rooms are the same as for facility category code 72412, Transient Training Officers Quarters.

Table 72114-1 lists functional areas by type for a TT Enlisted Barracks. See the functional adequacy matrix following this facility category discussion.

Table 72114-1 Functional Areas	
Functional Area	Type
Sleeping Bays	Mission
Semi-private Rooms	Mission
Public Shower	Support
Laundry Room	Support
Activity Room	Mission
Internet Café	Mission

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize space for 125 percent of the transient training load at installations that support annual training or rotational training.

### 2. Programmatic Application

RPLANS assigns a space allowance for these facilities for all units with enlisted personnel grades E2 – E9. Each person receives an allowance of 182 GSF.

RPLANS allows space for this building for installations based on the Reserve Component (RC) Training Load, a below-the-line population from the Army Stationing and Installation Plan (ASIP). RPLANS also provides allowances this facility category to UICs in the ASIP identified by TDA type as transient loads. RPLANS allows 120 GSF per person, and reflects an average grade distribution to account for different assignment standards for different military grades. RPLANS also includes units with TDA Type 22 (rotational or transient load) in allowance calculations. RPLANS adds an additional 25 percent space to the allowance to accommodate unit integrity.

RPLANS calculates and reports spaces in this facility category and in F7211P (spaces), and converts the spaces to GSF.

The RPLANS allowances do not reflect the metrics in the current ORTC Standard Design.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible population is the enlisted strength in the Reserve Component training load and enlisted strength in UICs assigned TDA types.

### 2. Requirements Calculations

Refer to Table 72114-2 for minimum adequacy standards for TT Enlisted Barracks in existing facilities.

Table 72114-2 Space Standards	
Grade	UPH(TT)
Minimum: Comply with AR 420-1	Maximum
E1-E6	90 NSF living area per Soldier, open bay, central latrine/shower
E7-E8, WO1-CW3, and O1-O3	125 NSF living area per Soldier, not more than two per room, shared bath.
E9, CW4, CW5, and O4 and above	250NSF living area per Soldier, private room, private bath

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Overall, each occupant of the building is to receive a minimum of 72 NSF of space. Optimally, each occupant will receive 90 NSF of space.

The E7-E8 module has a minimum area of 250 NSF with two each 7 NSF closets and a private bath based on double occupancy. Adequacy standards require a minimum of 90 NSF per person with not more than two personnel per room for these grades. Provide each module one exterior operable window with an insect screen.



Each sleeping bay houses 20 soldiers in either bunk or single beds. Provide each soldier two wall lockers, and provide each sleeping area a small window with the sill 7 feet above the floor.

Provide toilets and sinks at the rate of one per every five occupants. Provide showers at one per three occupants.

Provide one clothes washer for every 12 building occupants, based on capacity. Provide clothes dryers at the rate of one for every eight residents, based on capacity.

Provide boot-wash facilities at each exterior entrance to the TT Enlisted Quarters.

See the Standard Design floor plans for this facility category code immediately following the functional adequacy matrix. See the ORTC Standard Design for further details.

#### **b. Facility Utilization Metrics**

Determine the number of weeks per year an authorized user occupies each building to determine weeks used. Multiply the number of buildings by 52 to determine the number of building weeks available. Divide by the weeks occupied by the number of weeks available to determine the utilization rate.

Compare the resulting percentage with the four ranges given in Table 72114-3.

Table 72114-3 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

## **D. Programmable Increments**

### **1. Standard Facilities**

The standard TT Enlisted Barracks size in an ORTC is 30,558 GSF, with a design capacity of 168 personnel and a maximum capacity of 200. See the Standard Design floor plans for ORTC at <http://mrsi.usace.army.mil/cos/louisville/SitePages/ortc.aspx>.

### **2. Programming Units**

The minimum number of spaces for programming barracks is 40.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Select land use consistent with ORTC. The ideal ORTC site requires approximately 30 acres per battalion.

### **2. Site Planning Considerations**

This facility category is included in an ORTC. See Chapter 4 for information on complexes.

Site the TT Enlisted Barracks in close proximity to other facilities supporting the battalion. These facilities include TT Battalion HQ, COF, TEMF, vehicle hardstands, and a dining facility. Each Battalion Complex should be in close proximity to other battalion complexes in the brigade, the TT Brigade HQ, and formation fields.

Each ORTC is designed around six battalions. Each battalion has four TT Enlisted Barracks capable of housing from 672 to 800 personnel.

Provide POV parking for 10 percent to 25 percent of the ORTC Battalion Complex intended occupants.

## **F. Other Considerations**

### **1. Special Instructions**

Contact the Center of Standardization, Louisville District.

## 2. Exceptions

None.

## 3. References

Operational Readiness Training Complex (ORTC) Standard Design	13-FEB-12
AR 420-1 Army Facilities Management	12-FEB-08

## 4. See Also

14184	Battalion Headquarters Bldg: Transient Training
14186	Transient Training Company Headquarters Building
14187	Transient Training Brigade Headquarters Bldg
17119	Organizational Classroom
21406	Transient Training Vehicle Maintenance Shop
44224	Organizational Storage Building
72115	Mobilization Enlisted Barracks
72212	Transient Training Dining Facility
72412	Transient Training Officers Quarters
85210	Organizational Vehicle Parking, Paved

APPENDIX F - FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	#	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission		Sleeping Bay	A	168 spaces at 90 NLA per occupant	72 NLA per occupant	Reduce capacity until NSF per person is at least 72 NLA
Mission		Senior Enlisted Room	D	180 NLA	90 NLA per occupant	2 E7-E8 per room
Mission		Public Shower	A	1 toilet per 5 PN 1 shower stall per 3 PN	No lower limit	
Mission		Laundry Room	B		No lower limit	1 washer per 10 PN 1 dryer per 8 PN
Mission		Activity Room	D	420 NSF first floor 478 NSF second floor	No lower limit	
Mission		Internet Café	D	270 NSF	No lower limit	
Support		Mechanical Room	A		No lower limit	
Support		Janitor Closet	A	65 NSF	No lower limit	1 per floor
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses unaccompanied enlisted personnel in the event of mobilization.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- ACSIM Housing

#### COS:

- Louisville

### 3. Complex

Mobilization Enlisted Barracks will normally be a part of an Operational Readiness Training Complex (ORTC). Refer to Chapter 4 for more information on this complex.

#### Complex:

- ORTC

### 4. Units of Measure

The actual capacity will vary depending on the grade distribution of the using unit.

Primary:	SF	Total square feet of the building
Secondary:	SP	Enlisted capacity of the building based on 72 NUA per soldier
FAC:	SF	Total square feet of the building
Planning:	SP	Enlisted capacity of the building based on 72 NUA per soldier
Other:	None	
CAP:	SP	Enlisted capacity of the building based on 72 NUA per soldier
CAP:	PN	Enlisted capacity at the time of construction or renovation

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF
- Planning UM = SP
- Other UM = None
- CAP = SP
- CAP = PN

## 5. Functional Areas

The barracks building consists of sleeping bays, public showers a laundry room, activity rooms, and an Internet café. Provide personnel in grades E7-E8 semiprivate rooms, with two personnel per room. The criteria for these rooms are the same as for facility category code 72412, Transient Training Officers Quarters.

Table 72115-1 lists functional areas by type for a Transient Training (TT) Enlisted Barracks. The mobilization barracks will have similar requirements when provided in lieu of TT Enlisted Barracks. See the functional adequacy matrix following this facility category discussion.

Table 72115-1 Functional Areas	
Functional Area	Type
Sleeping Bays	Mission
Semi-private Sleeping Room	Mission
Public Shower	Support
Laundry Room	Mission
Activity Room	Mission
Internet Café	Mission
Senior Enlisted Room	Mission
Mechanical Room	Support
Janitor's Closet	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize space for this facility category based on the mobilization load for the installation, less the capacity available in ORTC. Available capacity in ORTC may be used to meet mobilization requirements, except where rotational training unrelated to mobilization will be conducted concurrently with mobilization activities.

### 2. Programmatic Application

RPLANS includes this facility category with facility category code 72114 in FCG F72114 (AT/MOB Barracks). RPLANS calculates space allowances based on the Reserve Component (RC) training load, a below-the-line population from the Army Stationing and Installation Plan (ASIP). RPLANS also assigns allowances in this FCG to UICs in the ASIP identified by TDA type as transient loads. Mobilization plans are not considered in the algorithm and,

therefore, mobilization populations are not included in the allowance.

The RPLANS allowance is 120 GSF per person, and reflects an average grade distribution to account for different assignment standards for different military grades.

RPLANS adds an additional 25 percent space assignment to the allowance to accommodate unit integrity.

Special Instructions: RPLANS calculates and reports spaces in this category code and in F7211P (spaces) and converts the spaces to GSF. RPLANS effective date is APR-2004.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible population is the mobilization load for the installation.

### 2. Requirements Calculations

Table 72115-2 lists minimum adequacy standards for mobilization barracks in existing facilities.

Table 72114-2 Space Standards	
Grade	UPH(TT)
Minimum: Comply with AR 420-1	Maximum
E1-E6	90 NSF living area per Soldier, <del>open</del> bay, central latrine/shower
E7-E8, WO1-CW3, and O1-O3	125 NSF living area per Soldier, not more than two per room, shared bath.
E9, CW4, CW5, and O4 and above	250NSF living area per Soldier, private room, private bath

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Mobilization Enlisted Barracks have requirements similar to those of the TT Enlisted Barracks. These fulfill the function of mobilization barracks when necessary.

The standard E7-E8 module has a minimum area of 250 NSF, with two closets of 7 NSF and a private bath, based on double occupancy. Adequacy standards require a minimum of 90 NSF per person, with not more than two personnel per room for these grades. Provide each module one exterior operable window with an insect screen.

A standard barracks houses 168 personnel. With sleeping bays filled to maximum capacity (four sleeping areas having double occupancy), a barracks can support up to 200 personnel.

Overall, provide each occupant of the building a minimum of 72 NSF of space. Table 72115-2 provides the minimum adequacy. Optimally, provide each occupant 90 NSF of space.

Each sleeping bay houses 20 soldiers in either bunk or single beds. Provide each soldier two wall lockers, and each sleeping area a small window with the sill 7 feet above the floor.

Provide one clothes washer for every 12 building occupants, based on capacity. Provide clothes dryers at the rate of one for every eight residents based on capacity.

Provide toilets and sinks at the rate of one per every five occupants. Provide showers at one per three occupants.

Provide boot-wash facilities at each exterior entrance to the Mobilization Enlisted Quarters.

See the Standard Design floor plans for the mobilization enlisted barracks immediately following the functional adequacy matrix.

#### **b. Facility Utilization Metrics**

Determine the number of weeks per year an authorized user occupies each building to determine weeks used. Multiply the number of buildings by 52 to determine the number of building weeks available. Divide by the weeks occupied by the number of weeks available to determine the utilization rate.



Compare the resulting percentage with the four ranges given in Table 72115-3.

Table 72115-3 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

## D. Programmable Increments

### 1. Standard Facilities

There are no standards or Standard Designs for this building. Use the Standard Design for ORTC barracks when programming permanent construction.

### 2. Programming Units

The Army does not program mobilization facilities during peacetime. When programming is justified, the ORTC standard is the preferred standard. However, contingency operations may require more rapid construction than the ORTC standard allows. Base programming on 125 percent of the anticipated sustained load. Expedient construction should focus on multiple smaller buildings with a capacity of 50 to 100 personnel. The net area per person cannot be less than the area shown in Table 72115-2 without a waiver.

The standard TT Enlisted Barracks size in an ORTC is 30,558 GSF.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Provide this facility category the same land use as Transient Training UEPH, Training. The ideal ORTC requires approximately 30 acres.

## 2. Site Planning Considerations

Site the Mobilization Enlisted Barracks in close proximity to other facilities supporting the Mobilization Complex. Of particular concern is **minimizing** mounted movement needed by mobilizing personnel to travel between critical components of the complex, as well as **maximizing** efficiency in accessing various community services. Also consider proximity to training facilities and deployment platform activities on the installation.

## F. Other Considerations

### 1. Special Instructions

A Mobilization Complex will normally require the same facilities as an ORTC, but may also require a Soldier Readiness Processing (SRP) facility, simulation facilities, and other operational facilities, depending on the type of units included in the mobilization mission.

Contact the Center of Standardization, Louisville District.

### 2. Exceptions

None.

### 3. References

Operational Readiness Training Complex (ORTC) Standard Design	13-FEB-12
AR 420-1 Army Facilities Management	12-FEB-08

### 4. See Also

14184	Battalion Headquarters Bldg: Transient Training
14186	Transient Training Company Headquarters Building
14187	Transient Training Brigade Headquarters Bldg
17119	Organizational Classroom
44224	Organizational Storage Building
72212	Transient Training Dining Facility
72412	Transient Training Officers Quarters
85210	Organizational Vehicle Parking, Paved

APPENDIX F - FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	#	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission		Sleeping Bay	A	168 spaces at 90 NLA per occupant	72 NLA per occupant	Provide sufficient space to allow for overflow to 200 beds Each bay accommodates 20 soldiers
Mission		Senior Enlisted Room	A	180 NLA per Room	90 NLA per occupant	2 E7-E8 per room
Mission		Public Shower	A	One toilet per 5 PN 1 shower stall per 3 PN	No lower limit	
Mission		Laundry Room	B	1 washer per 12 PN 1 dryer per 8 PN	No lower limit	
General		Activity Room	D	420 NSF first floor 478 NSF second floor	No lower limit	
Mission		Internet Café	D	270 NSF	No lower limit	
Support		Mechanical Room	A		No lower limit	
Support		Janitor Closet	A	65 NSF	No lower limit	1 per floor
<b>Presence Requirements for Adequacy</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses personnel attending MOS producing schools at locations other than Army training centers. Use category 72181, Trainee Barracks, at Army training center locations.

*Note: ACSIM Housing superseded instructions to use category 72181. However, category 72181 may be used to house AIT trainees when they are sharing facilities with OSUT trainees.*

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

The Fort Worth District Center of Standardization governs the AIT Complex which includes Transient UPH, Advanced Individual Trainees.

#### Proponent:

- ACSIM Housing

#### COS:

- Fort Worth

### 3. Complex

AIT barracks will normally be included in the AIT Complex.

Refer to Chapter 4 for more information on this complex.

#### Complex:

- AIT

### 4. Units of Measure

Primary: SF  
Secondary: SP  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

## 5. Functional Elements

Table 72121-1 lists the functional areas by type of AIT barracks. See the functional adequacy matrix following this facility category discussion.

Table 72121-1 Functional Areas by Type	
Functional Area	Type
Two-Person Living Module	Mission
Private Bathroom per Module	Support
Entry Area	Support
Utility Closet	Support
Day Room	Mission
Computer Learning Center	Mission
Profile Recovery	Mission
Laundry	Support
Luggage Storage	Support
Drill Instructor Office	General
Drill Instructor's Bath	Support
Janitor Closet	Support
Mechanical Room	Support
Electrical Room	Support
POV Parking	Support
Telecommunications Equipment Room	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization for this facility is a mission to conduct Advanced Individual Training. The criteria allow this building based on the billeting load for AIT student populations in the ASIP to training battalions at AIT school installations, or for AIT graduates attending Additional Skill Identifier (ASI) training following the completion of AIT.

### 2. Programmatic Application

The RPLANS allowance calculation provides for a housing facility to accommodate CONUS AIT students by factoring rank and utilization rates applied to a space factor of 200 GSF per person. RPLANS effective date is as of Version 30.

## C. Planning

### 1. Planning Level

The planning level is unit. The eligible population is the AIT student load. The eligible population may also include AIT graduates attending Additional Skill Identifier (ASI) producing courses at the AIT location immediately following AIT. Many TRADOC schools or school posts have multiple student UICs that may contribute to AIT barracks requirements; such students should be included in this planning unless there are operational or security issues that require separation of AIT trainees into distinct, non-contiguous areas.

#### Planning Level:

- Unit

### 2. Requirement Calculations

Planning is an HQDA function with the field providing input in support of HQDA initiatives. Housing managers at all levels will develop implementing plans supporting the mission priorities contained in guidance: The Army Plan (TAP), Program and Budget Guidance (PBG), Army Family Housing Master Plan (FHMP), and the Army Barracks Master Plan (BMP) address the Army's housing facility strategy (AR 420-1, paragraph 3-8 b (1)).

The requirements for UPH, AIT are found in the most current Army Standard Design. At minimum, each will provide: two-person sleeping modules with a minimum of 216 NSF; a day room per floor of NLT 900 NSF; a computer learning center of NLT 500 NSF; a profile recovery room of NLT 270 NSF; a laundry with one washer per eight students and one dryer per six students; and drill instructor rooms of NLT 320 NSF on each floor.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

The minimum standards for assignment are 90 NSF per person, with not more than four people to a room, in a module with a central bath/shower. Observe these minimums when reporting capacity. Conversely, the capacity of a room cannot exceed four spaces in this category code. AR 420-1 delineates net area for AIT barracks. See Chapter 3 for a discussion of net living area (NLA).

### b. Facility Utilization Metrics

To establish utilization, divide the actual occupancy by the design occupancy. Compare the resulting percentage with the four ranges given in Table 72121-2.

Table 72121-2 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

Occupancy in excess of 100 percent is possible during peak loads. Standard design AIT barracks have two-person rooms that may be utilized at three per room at 72 SF net living area per occupant. See Chapter 3 for a discussion of net living area.

Compare utilization at multiple points during the year because student loads vary considerably over a 12-month period.

## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/fortworth/SitePages/ait.aspx>.

### 2. Programming Units

Base programming quantities on 600 PN buildings, per the Standard Design. The room modules vary in size, with 216 NSF per room for 50 per cent of the rooms. This allows three trainees per room at 72 NSF per person, which enables facilities built to the standard to absorb surges and seasonal variations in population.

Program this building based on the billeting load for AIT student populations in the ASIP. Consider ASI courses that receive inputs from AIT.

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## E. Land Use and Site Planning Considerations

### 2. Land Use Considerations

This facility category belongs in an AIT Complex or a Troop land use area.

### 2. Site Planning Considerations

AIT barracks are an integral part of an Army school complex. See Chapter 4 for a discussion of school complexes. Locate training buildings and dining facilities near the barracks to minimize the time required for movement throughout the training day. Design pedestrian circulation in such a manner as to minimize conflict between school and post circulation. In particular, avoid housing areas and other noise-sensitive locations because of early morning physical and other training.

Design circulation to provide direct access to field training areas. Do not design movement of students and equipment to field training areas to disrupt school or post circulation.

UPH should be no farther than an eight-minute walking distance from supporting facilities within the complex.

## F. Other Considerations

### 1. Special Instructions

Consult the COS Fort Worth District and HQ TRADOC when planning or programming this facility category.

### 2. Exceptions

Air Force and Marine Corps students in Inter-service Training Review Organization (ITRO) AIT courses are entitled to Transient UPH, Advanced Skills Training.

Army AIT graduates attending follow-on Additional Skills Identifier Training should be included in the AIT population for calculating requirements.

### 3. References

AR 420-1 Army Facilities Management	12-FEB-08
The Army Standard for Advanced Individual Training Complexes - Facilities Standardization Program	2-APR-13



**4. See Also**

72111	Enlisted Unaccompanied Personnel Housing
72122	Transient UPH, Advanced Skills Training (AST)
72181	Trainee Barracks
72210	Dining Facility

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	2-Person Living Sleeping Module	A		216 NSF/module	72 NSF/PN		Based on a two person living module. Periodic events may require a surge of an extra person per module
Support	Module Bathroom	A			No lower limit		
Mission	Day Room	A		900 NSF	900 NSF		One per floor
Mission	Computer Learning Center	A		500 NSF	500 NSF		One per floor
Mission	Profile Recovery	A		270 NSF	270 NSF		
Support	Janitor's Closet	A			20 NSF		One per floor
Support	Mechanical Room / Electrical Room	A			No lower limit		One per floor
General	Drill Instructor Room	A		320 NSG	80 NSF/PN		One DI room per floor
Support	Drill Instructor Bathroom	A			No lower limit		One per DI room
Support	Laundry	B			No lower limit		Ratio of 1:8 (washers to student) and 1:6 (dryers to student)
Mission	Telecommunication Room	A			2,100 NSF		In accordance with I3A technical guide.
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses personnel attending non-MOS producing schools of instruction at Army training centers and equivalent locations. This includes facilities for housing students attending additional skills or advanced training such as Advanced Leader Course, Senior Leader Course, and Senior Noncommissioned Officers' Course.<sup>1</sup>

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

Fort Worth District Center of Standardization

#### Proponent:

- ACSIM Housing

#### COS:

- Fort Worth

### 3. Complex

AST barracks may be standalone buildings, or they may be part of an Army School Complex, an AIT Complex, or an NCO academy.

See Chapter 4 for a discussion of the complex.

#### Complex:

- Army School
- AIT
- NCO Academy

### 4. Units of Measure

Primary: SF  
Secondary: SP  
FAC UM: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

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<sup>1</sup> BNOC, ANOC, and SNCOC have been replaced by Advanced Leaders Course, Senior Leaders Course, etc.

## 5. Functional Areas

Table 72122-1 lists the functional areas by type of the AST barracks. See the functional adequacy matrix following this facility category discussion.

Table 72122-1 AST Barracks	
Functional Area	Type
1- or 2-Person Living Module	Mission
Private Bathroom	Support
Entry Area	Support
Utility Closet	Support
Day Room	Mission
Laundry	Support
Luggage Storage	Support
Janitor's Closet	Support
Mechanical Room	Support
Electrical Room	Support
POV Parking	Support
Telecommunications Equipment Room	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the mission to conduct ATRRS-supported TDY schools. The criteria authorize this facility for an NCO academy at the complex, based on the average daily load of Soldiers registered for a given course(s) in ATRRS.

### 2. Programmatic Application

RPLANS calculates allowances in this category code at unit level to enlisted strength for student UICs that end with the letter "Y," excluding NCO academies. It calculates spaces (two per E5-E6) at 366 GSF per person.

RPLANS allows space in this category code to student UICs assigned the appropriate TDA. RPLANS effective date is Version 30.

RPLANS calculates allowances for NCO academies based on 435 GSF per room, double occupancy. RPLANS provides additional area for a multipurpose room (24.7 GSF per student), a laundry room (14.5 GSF per student), and a scrub room (9.7 GSF per student).

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## C. Planning

### 1. Planning Level

The planning level is unit. The eligible population is the TDY student load. It may also include Inter-service Training Review Organization (ITRO) students from the other services who are considered TDY students even when attending AIT-level courses at Army schools.

Planning Level:

- Unit

### 2. Requirements Calculations

AST standards are primarily oriented toward E5 and E6 students in TDY status. Calculate NLT 135 NLA for a private room for each NCO in grade E5 and E6, and calculate NLT 135 NSF of living space, and a bathroom shared with not more than one other soldier. The planning population is the average daily load. The NCO academy has a new Standard Design with more generous space standards than the minimums listed above, which are per AR 420-1 (Table 3-7).

Calculate 270 NLA per E7–E8 for a private room with private bathroom. The planning population is the average daily load.

For NCO academies, calculate 266 GSF per student. Verify the installation strategy for AST students and course requirements for students to remain at the NCO academy overnight. Currently, there are no live-in Warrior Leaders Courses listed in ATRRS. The only students requiring billeting will be TDY students from Reserve Components or installations without an NCO academy. Major school installations with NCO academies often provide housing in army lodging, third-party lodging, or in off-post facilities.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area. Within the barracks, there should be assigned a two-person barracks room, a multipurpose room, a laundry room, and a scrub room.

Coordinate this building with the installation housing office, which assigns space to students.

**b. Facility Utilization Metrics**

To establish utilization, divide the actual capacity by the design capacity. Compare the resulting percentage with the four ranges given in Table 72122-2.

Table 72122-2 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

Although the goal for each installation is a utilization rate of 95 percent for Enlisted Unaccompanied Personnel Housing, it is recognized that this facility class will not maintain this percentage.

**D. Programmable Increments****1. Standard Facilities**

There is no Standard Design for AST barracks. AR 420-1 establishes adequacy standards for this type of UPH. A new NCO academy design is being used at this time.

**2. Programming Units**

Planning is essentially an HQDA function with the field providing input in support of HQDA initiatives. Housing managers at all levels develop implementing plans that support the mission priorities contained in such guidance as The Army Plan (TAP), Program and Budget Guidance (PBG), Army Family Housing Master Plan (FHMP), and the Army Barracks Master Plan (BMP), which address the Army's housing facility strategy (AR 420-1, paragraph 3-8 b (1)).

Housing managers develop workload and project requirements for all housing programs. Housing managers will include these in the formal resource requests to HQDA (AR 420-1, paragraph 3-8 c).

Consult ACSIM Housing and the Fort Worth District COS before programming facilities in this category code.

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## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

AST barracks are an integral part of an Army school complex. See Chapter 4 for a discussion of school complexes. Locate training buildings and dining facilities near the barracks to minimize the time required for movement throughout the training day. At some locations, the training for AST students may be divided between primarily academic classrooms in a professional education complex and applied instruction buildings in a separate complex.

### **2. Site Planning Considerations**

Design circulation to provide direct access to field training areas. Movement of students and equipment to field training areas should not disrupt school or post circulation.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the COS Fort Worth District and HQ TRADOC when planning or programming this facility category.

### **2. Exceptions**

The Army is currently developing standards for drill sergeant barracks through the Fort Worth District. When completed, the corresponding Standard Design will be included in this facility category.

Air Force and Marine Corps students in Inter-service Training Review Organization (ITRO) AIT courses are entitled to Transient UPH, Advanced Skills Training.

The requirement for AST UPH may be met through Army lodging or off-post contracts in lieu of AST Barracks. Work closely with the installation and schools when planning or programming for AST student populations.

### **3. References**

U.S. Army Training and Doctrine Command Non-Commissioned Officer Academy Standard	MAR-2012
Facility Planning Criteria	
AR 420-1 Army Facilities Management	12-FEB-08

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**4. See Also**

17120 General Instruction Building  
72111 Enlisted Unaccompanied Personnel Housing  
72210 Dining Facility



APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	2-Person Living Sleeping Module	A		300 NSF/module	135 NSF/PN		
Support	Module Bathroom	A			No lower limit		Shared by 2 Soldiers
Mission	Multi-Purpose Room	A		17 NSF/PN	No lower limit		
Support	Laundry	A		10 NSF/PN	No lower limit		Ratio of 1:8 (washers to student) and 1:6 (dryers to student)
Support	Scrub Room	A		7 NSF/PN	No lower limit		
Mission	Dining Facility	C					Located within a 1 mile radius and capable of feeding the NCO Academy population.
Presence Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as housing for unaccompanied senior enlisted personnel in grades E7 through E9. This space may be in a separate building or in designated areas within buildings other than the 721-series, Enlisted Personnel Unaccompanied Personnel Housing. Use this category when space for unaccompanied senior enlisted personnel is not provided under 72111, Enlisted Unaccompanied Personnel Housing.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

Honolulu District Center for Standardization

#### Proponent:

- ACSIM Housing

#### COS:

- Honolulu

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: SP  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

The primary unit of measure for this facility category is SF.

Report these facilities in GSF and program them in PN while their requirements are developed in SP.

## 5. Functional Areas

This facility, or this portion of a facility, provides housing for permanent party unaccompanied senior enlisted personnel (E7-E9). It consists of living areas, latrines, and equipment cleaning rooms (or mudrooms). These facilities may also include lounges, mail rooms, kitchens, closets, enclosed stairways, foyers, corridors, a janitor's closet, soldiers' laundry facilities, bulk storage, and a mechanical room. Allowances for this category code do not include dining facilities (category code 72210), unit administration (category codes 14185, 14183, or 14182), or unit supply areas.

Table 72170-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Bedroom	General	A
Living Room	Mission	D <sup>1</sup>
Private Bathroom	Support	A
Kitchen	Support	D <sup>1</sup>
Laundry Room	Support	A
Mudroom	Support	B
<b>Presence Requirements for Adequacy:</b>	<b>Notes:</b>	
A – Required, Collocated	<sup>1</sup> Required for E-9	
B - Required, Adjacent		
C - Required, Vicinity		
D - Not required, if present collocated		
F - Occupant Dependent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is the presence of unaccompanied personnel in grades E7 through E9 in designated OCONUS areas. Per ACSIM policy, senior enlisted personnel will not be allowed UPH in any location other than Korea.

The basis for calculation is the number of unaccompanied personnel in Korea not provided housing in 72111. This facility is allowed for all units with permanent party senior enlisted personnel in Korea only, and is quantified by identifying the number of personnel within the unit, by grade.

Criteria allow two barracks spaces per senior NCO.

## 2. Programmatic Application

RPLANS calculates allowances for senior enlisted NCO UPH at base level by multiplying the total number of senior NCO UPH by the unaccompanied rate, multiplying the result by 2, then by 366 GSF (34.0 GSM).

The gross area includes the total area of all functional areas required in a EUPH building within the outside building lines, including all floors, stairways, foyers, interior or exterior corridors, janitor's closets, and electrical, mechanical, communication equipment room space, etc. It does not include space for company operations functions (category code 14185, Company Headquarters Building).

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other than unit

### 2. Requirements Calculations

If the user knows locally applicable UPH rates, use them as the primary source rather than other sources for requirements development. Otherwise, obtain the planning numbers of senior NCOs from the base attributes report in RPLANS.

Plan the barracks to accommodate the calculated number of required spaces for unaccompanied E7-E9 personnel.

## 3. Assigning Space

### a. Guidance

AR 420-1 establishes minimum adequacy standards for existing, unrevitalized inventory for senior NCOs as follows:

- E-7 and E-8: Not less than 270 SF NLA, private room, private bath.
- E-9: Not less than 400 SF NLA, private bath, access to kitchen or officer dining facility receiving Appropriated Funds support.

See Chapter 3 for a discussion of net living area.

**b. Facility Utilization Metrics**

To establish utilization: Divide the actual occupancy by the design occupancy. Compare the resulting percentage with the ranges in Table 72170-2:

Table 72170 – 2: Utilization Rate Definitions	
Utilization Rate	Utilization Condition
<90%	Underutilized
90% - 95%	Optimally Utilized
96% - 100%	Fully Utilized

Utilization rates above 100 percent are not possible in this facility category without violating policy guidelines in AR 420-1.

**D. Programmable Increments****1. Standard Facilities**

The Honolulu District COS has not published a Standard Design for this CATCD.

Requirements may be met in current Standard Design barracks, CATCD 72111, if all adequacy standards are met.

**2. Programming Units**

Programming documents report these facilities in SP to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Senior NCO housing is compatible with Community, Professional/Institutional and Residential land use areas. Where authorized, this is a compatible with mixed-use development.

**2. Site Planning Considerations**

When authorized, plan senior NCO housing on the basis of centralized management and community dynamics.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Center of Standardization for barracks: the US Army Corps of Engineers Fort Worth District for latest design standards.

### **2. Exceptions**

None.

### **3. Reference**

AR 420-1 Army Facilities Management

12-FEB-08

### **4. See Also**

72122 Transient UPH, Advanced Skills Trainees (AST)

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used for housing trainees at Army training centers. Includes barracks for reception of new trainees, basic training, one-stop unit training, and AIT. The barracks portion of the “starship” facilities at Army training centers will be accounted for using this CATCD. Other parts of the facility will be accounted for separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

The Fort Worth District Center of Standardization governs the BT/OSUT Complex.

#### Proponent:

- ACSIM Housing

#### COS:

- Fort Worth

### 3. Complex

BT/OSUT barracks will normally be included in a BT/OSUT Complex. This complex encompasses living, dining, training, and administrative/command operations. The complex is composed of barracks, company operations facilities (B/COF), dining facilities (DFAC), battalion headquarters (BN HQ), and lawn equipment storage buildings (LEB).

#### Complex:

- BT/OSUT

See Chapter 4 for a discussion of the complexes.

### 4. Units of Measure

Primary: SF  
Secondary: SP  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

Report capacity (CAP) in SP, where spaces are the number of soldiers a sleeping room accommodates with NLT 72 NSF per person.

### 5. Functional Areas

Table 72181-1 lists the functional areas by type of the Trainee Barracks. See the functional adequacy matrix following this facility category discussion.

Table 72181-1 BT / OSUT Barracks	
Functional Area	Type
Sleeping Bays	Mission
Classrooms	Mission
Bath/Shower Rooms	Support
Laundry Room	Mission

Report the company operations, organizational storage, and organizational classroom space within a Trainee Barracks by their corresponding category codes.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize Trainee Barracks for units conducting basic training or one-station unit training. The criteria allow Trainee Barracks for reception stations. It is assumed that 100 percent of the trainees are classified as unaccompanied. If the student UIC ends in "B," "S," "T," or "R," the student is placed in the Trainee Barracks.

The basis for calculation is the number of trainees.

### 2. Programmatic Application

The RPLANS allowance calculation provides 167 GSF per space. RPLANS effective date is Version 30.

## C. Planning

### 1. Planning Level

The planning level is unit. The eligible population is the number of recruits processed for BT/OSUT and the number of BT/OSUT trainees.

Planning Level:

- Unit

### 2. Requirement Calculations

The Army conducts basic training and OSUT as company-level training. The training model uses a company of 240 trainees. To calculate requirements, determine the number of companies and multiply by 240 spaces.

Each barracks will contain: four sleeping bays for 60 personnel, four classrooms capable of training 60 personnel, four drill instructor rooms of NLT 250 NSF, TA-50 storage of NLT 640



NSF, and laundry rooms totaling 36 washers and 48 stackable dryers divided among the eight sleeping bays.

### 3. Assigning Space

BT/OSUT must meet the minimum assignment standards in AR 420-1 set at 72 NSF per trainee with a central bath/shower area.

#### a. Guidance

Unit integrity is critical to BT/OSUT. Assign existing facilities in company sets. Provide assignees required gender separation at Fort Leonard Wood and Fort Jackson, which may increase the number of spaces necessary to accommodate 240 trainees. When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

#### b. Facility Utilization Metrics

Training loads are cyclical. Almost 60 percent of requirements occur during 40 percent of the year. The most meaningful metric is the number of company sets required divided by the number of company sets available during the period of June through October. During this period, divide the actual occupancy by the design occupancy. Compare the resulting percentage with the four ranges given in Table 72181-2. Gender integration affects utilization.

Table 72181-2 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

## D. Programmable Increments

### 1. Standard Facilities

Housing managers develop workload and project requirements for all housing programs, for inclusion in the formal resource requests to HQDA (AR 420-1, paragraph 3-8 c). Consult ACSIM Housing and the Fort Worth District COS before programming facilities in this category code. Base the program on the current standard design available from the COS. Trainee Barracks may be programmed for other students, such as airborne, and ranger students, at installations where these Soldiers are permanently

assigned and required to live in UPH at a centralized training location. Base the requirement for these Soldiers on the daily average number of students required to reside in UPH.

Standard Design floor plans are available on the COS website at: [http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt\\_osut.aspx](http://mrsi.usace.army.mil/cos/fortworth/SitePages/bt_osut.aspx)

## 2. Programming Units

The standard design provides a company set of 240 spaces, the minimum programming unit for new construction.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

BT/OSUT barracks belong in a Troop land use in a BT/OSUT Complex.

### 2. Site Planning Considerations

Trainee Barracks are an integral part of an Army school complex. See the Chapter 4 discussion of school complexes. Locate training buildings and dining facilities near the barracks to minimize the time required for movement throughout the training day.

## F. Other Considerations

### 1. Special Instructions

Consult the COS Fort Worth District and HQ TRADOC.

### 2. Exceptions

None.

### 3. References

AR 420-1 Army Facilities Management	12-FEB-08
Army Standard Design for Basic Training and One Station Unit Training (Plot Sheets)	7-AUG-11
Army Standard for Basic Training and One Station Unit Training (BT/OSUT)	18-JAN-08

### 4. See Also

72111	Enlisted Unaccompanied Personnel Housing
72210	Dining Facility

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES  Minimum of 5,350 GSF of sleeping area. Periodic events require a surge capacity of 72 PN
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Sleeping Bays	A		60 spaces 89 NLA per occupant	72 NLA/PN		
Support	Bath/Shower Rooms	A		1 per sleeping bay	No lower limit		
Support	Laundry	B		36 washers 48 stackable dryers per B/COF	No lower limit		
Mission	Classrooms	A			No lower limit		
General	Drill Instructor Room	A		250 NSF	No lower limit		
Support	Drill Instructor Bathroom	A			No lower limit		
Support	TA-50 Storage	B		160 NSF	No lower limit		
Presence Requirements for Adequacy:							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A dining building with cafeteria-style dining operations for unaccompanied personnel, primarily those assigned to the installation. Serving lines include regular full menu and short order or fast food meals, and self-service areas for beverages, desserts, and salads. Use category 72212, Transient Training Dining Facility, when used to feed military personnel from other installations who are training on the installation.

***Note:** Effective October 2012, DOL maintenance and logistics responsibilities transferred from IMCOM to AMC. The U.S. Army Sustainment Command (ASC) is now the mission commander for the functions historically associated with DOL, including food service. Coordinate facilities planning and requirements analysis with the responsible Army Field Sustainment Brigade (AFSB), or with the AFSC DOL Directorate for installations not served by an AFSB.*

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

The Norfolk District Center of Standardization (COS) is responsible for all standard designs for dining facilities, regardless of the COS that has overall responsibility for a complex that includes dining facilities as part of the complex. Complexes that include dining facilities are BT/OSUT, AIT, NCO Academy, and Operational Readiness Training Centers (ORTC).

#### Proponent:

- DCS, G-4

#### COS:

- Norfolk

### 2. Complex

Dining facilities may be a part of the following complexes. The complexes that have a specific application are followed by the corresponding dining category code, and the responsible COS.

- Army School Complex
- Basic Training/One Station Unit Training (BT/OSUT) Complex (CATCD 72210, Fort Worth)
- Advanced Individual Training (AIT) Complex (CATCD 72210, Fort Worth)

#### Complex

- Army Schools
- BT/OSUT
- AIT
- NCO Academy
- ORTC

- NCO Academy (CATCD 72210, Norfolk)
- ORTC (CATCD 72122, Louisville)

Dining facilities support, but are not inherently part of, Brigade Complexes

See Chapter 4 for a discussion of the complexes.

### 3. Units of Measure

Primary: SF  
Secondary: PN  
FAC: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

The secondary unit of measure is PN, where PN is the serving capacity of the building. Normally, the serving capacity is based on three times the seating capacity.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

### 4. Functional Areas

Table 72210-1 lists the functional areas by type for a Dining Facility. See the functional adequacy matrix following this facility category discussion.

Table 72210-1 Dining Facilities	
Functional Area	Type
Dining Areas	Mission
Entrance Lobby	Support
Queuing Areas	Mission
Dishwashing Area	Mission
Can Wash	Mission
Food Serving Area	Mission
Kitchen	Mission
Non-Food Storage	Mission
Public Restrooms	Support
Locker/Break Room	Support
Refrigerated Storage	Mission
Dry Food Storage	Mission
Remote Beverage Room	Mission
Administrative Areas	General
Field Feeding Area	Mission
Materials Receiving Dock	Support
Janitor's Closet	Support
Mechanical/Electrical Room	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is an unaccompanied personnel population large enough to support the smallest standard design dining facility.

The basis of calculation is the number of unaccompanied soldiers and the utilization rates for various populations.

The criteria allow dining facilities based on the unaccompanied permanent party personnel assigned to the installation, enlisted TDY students, and trainees attending Basic Training/One Station Unit Training (BT/OSUT) and Advanced Individual Training (AIT). The TRADOC Noncommissioned Officer Academy Standard Facility Planning Criteria includes a dining facility in the standard NCO Academy.

### 2. Programmatic Application

RPLANS calculates the eligible population by applying population utilization rates to eligible populations. RPLANS uses the utilization rates in Table 72210-2. RPLANS divides the total eligible population by the capacity of the largest dining facility, and then multiplies the whole-number quotient by the GSF of a standard large dining facility. RPLANS then matches the remaining population to the appropriate-size dining facility and adds the programming size to the GSF of large dining facilities.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. At other-than-Army training centers and TRADOC schools, dining facilities are normally community-level facilities, even when assigned to brigades or other unit sponsors. The eligible population for permanent party dining facilities is unaccompanied personnel assigned to the installation, and for trainee dining facilities, the eligible population is the number of trainees or AIT students.

#### Planning Level:

- Other-than-unit

Inmate populations should be excluded from planning and programming for this CATCD because a dining facility is an included functional area in a confinement facility and not reported separately in the inventory. Soldiers in confinement facilities are not normally allowed to use installation dining facilities, and the

dining areas in the confinement facility are not generally open to the Soldier population at large.

## 2. Requirements Calculations

Determine facility service requirement for each building. To determine the maximum number of enlisted personnel served during each meal period, multiply the maximum utilization UEPH capacity by the applicable percentage(s) provided by in Table 72210-2. The resulting number determines the standard size dining facility to plan and program. When planning a new dining facility or retaining and modernizing permanent existing dining facilities, do not count enlisted personnel on separate rations, or officers and civilian personnel, except in OCONUS and remote locations where support is authorized.

Table 72210-2 lists the standard utilization rate for each type of mission/operation. Determine the proper utilization rate and apply it to Table 72210-3 to determine the size of the building needed.

Table 72210-2 DFAC Utilization Rates	
Mission/Operation	Utilization Rate (percent)
Basic Training, Recruit Training, Mobilization and Annual Training, Operational Readiness Training, Advanced Individual Training (AIT), and Warrior in Transition Complex	95
Permanent Party in Remote Locations	90
Service Schools and Recruit Reception Stations	85
Permanent Party Garrison (including TOE and TDA Units), Support Units, Construction Battalions, Weapons Plants	70
Personnel Transfer and Overseas Processing Centers	50
Confinement (should be applied against the maximum facility capacity for administrative, confinement, and security personnel to determine the serving requirement)	110

Table 72210-3 shows the net area programmed for new construction of standard dining facilities. Use these to help determine the capacity of existing facilities, or when evaluating candidates for conversions. Permanent party dining facilities have options with a drive-through. The total area is not adjusted for this option.

Table 72210-3 Space Sizing Guide

Area Description	Small PN	Medium PN	Large PN	1,300 PN Trainee	2,600 PN Trainee Two-Story
Kitchen	2,275	2,275	2,516	4,876	5,479
Dining	4,187	5,722	8,978	8,263	16,526
Servery/Self-Service Area	2,982	2,969	3,211	4,520	9,040
Dishwashing	599	599	797	1,135	2,270
Receiving Vestibule	180	180	383	247	504
Queuing	330	330	378		2,206
Public Restrooms	414	408	565 (2)	896	2,248
Men/Women Locker Room	287	334	287	648	729
Janitor	43	44	70	48	93
Storage	59	59	58	87	98
Vestibule (2)	166	166	179	594 (3)	2074 (6)
Corridors			1,143	605	1,210
Offices (2)	232	232	227	272	407
Refrigerator/Freezer	799	799	1,014	1,264	2,076
Field Feeding	251	251	363	726	1,125
Dry Storage	625	625	553	654	1,231
Paper/Nonfood Storage (2)	96	96	130	209	489
Bread Storage	82	82	149	205	386
Pots/Pans Wash					
Remote Soda	137	134	191	140	155
Carry-Out Kitchen	556	556	554		
Carry Out	445	445	352		
Carry-Out Storage	137	137	163		
Can Wash	103	103	100	84	87
Mechanical Room	476	434	574	946	817
Electrical Room	339	332	315 (2)	138	476
Communications Room	98	98	100	74	146
Headcount			408		



### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Coordinate closely with the director of logistics on any planning efforts concerning dining. Dining facilities are normally assigned to and operated by the AMC DOL activity at the installation, even when supporting distinct populations such as AIT.

Depending on student loads and proximity factors, one dining facility may support both community and AIT dining. It is not considered functionally adequate if it serves both AIT and general troop population but does not provide for separate queuing, entrances, restrooms, head-count stations, serving lines, dining rooms, beverage refill lines, self-serve lines, and exits to facilitate separate concurrent company operations.

#### b. Facility Utilization Metrics

The number of meals served on a daily basis determines utilization for dining facilities. If the average meal period headcount is consistently lower than the rated capacity for the dining hall, or is consistently higher, then take appropriate action.

For the utilization rate, take the highest daily meal headcount figure for the latest three-month period, average that figure, and compare it with the planning criteria. Special factors to consider are training holidays, field exercises, or any operation that might affect the meal headcount.

Acceptable utilization rates are generally from 65 percent to 100 percent. Initiate efforts to improve utilization, or consider closing the dining facility if rates fall below 65 percent.

## D. Programmable Increments

### 1. Standard Facilities

Permanent party dining facilities come in three standard capacities, as shown in Table 72210-3.

Trainee dining facilities have two standard facilities, a 1,300-person facility, and a 2,600-person facility. Both facilities are capable of serving their supported populations within 90 minutes.

Provide a separate area adjacent to the main dining area with 16 seats for use by the training staff.

Table 72210-4 Standard Facility Sizes in GSF				
Size/Serving Capacity	Base Size	w/Field Feeding	w/Carry Out	w/Both Options
Small (400-660 PN)	17,500	17,750	18,640	18,890
Medium (661-1056 PN)	18,900	19,150	20,040	20,290
Large (1057-1716)	26,600	26,970	26,970	28,100
NCO Academy	Varies	N/A	N/A	N/A
BT/OSUT and AIT 1,300	30,267	Included	N/A	N/A
BT/OSUT and AIT 2,600	57,800	Included	N/A	N/A
BT/OSUT and AIT 2,500 2 Story	60,000	Included	N/A	N/A

Standard Design floor plans are available on the COS website at:  
<http://mrsi.usace.army.mil/cos/norfolk/SitePages/EPDF.aspx>

## 2. Programming Units

The smallest unit the Army will program is 400-600 PN for 17,500 GSF. Program only standard facilities. Coordinate with the COS and installation food service when programming facilities.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This building normally belongs in proximity to UPH concentrations. In some instances, it may be appropriate in the community center.

### 2. Site Planning Considerations

Dining facilities associated with AIT or BT/OSUT complexes are an integral part of the complex. Locate dining facilities within walking distance of the other buildings associated with the complex. See Chapter 4, complexes, for diagrams of appropriate relationships.

While permanent party dining facilities are not a part of the Brigade Complex, locate them near the UPH facilities supporting the brigade.

If providing a drive-through, do not design the queue for the drive-through to interfere with traffic on main roads or the parking lot.

## F. Other Considerations

### 1. Special Instructions

Norfolk District is the center of standardization for dining facilities, even those included in complexes belonging to other districts.

Consult Center of Standardization Norfolk District for TOE and NCO academy applications.

Consult Center of Standardization Fort Worth District and Norfolk for AIT and BT/OSUT companies.

Provide natural gas for cooking equipment wherever possible. Provide capability for short-order, hot food, and specialty service lines. Provide accommodation for a 10-car queue at a drive-through, if present. Criteria authorize a drive-through when possible, but not as a required functional area.

### 2. Exceptions

None.

### 3. References

Enlisted Personnel Dining Facilities Army Standard	15-FEB-12
Enlisted Personnel Dining Facility (EPDF) (there are 16 Standard Designs - see <a href="https://eportal.usace.army.mil/sites/COS/EPDF/default.aspx">https://eportal.usace.army.mil/sites/COS/EPDF/default.aspx</a> for appropriate standard design	Multiple
AIT Complex Standard Design	10-APR-07
BT/OSUT Complex Standard Design	10-APR-07
AR 30-22 The Army Food Program	24-JUL-12

### 4. See Also

72121	Transient UPH, Advanced Individual Trainees (AIT)
72181	Trainee Barracks

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Kitchen	A		4,876	4,876		
Mission	Dining	A		8,263	8,263		
Mission	Servery / Self Service Area	A		4,520	4,520		
Mission	Dishwashing	A		1,135	1,135		
Support	Receiving Vestibule	A		247	247		
Support	Public Restrooms	A		896	896		
Support	Men / Women Locker Room	A		648	648		
Support	Janitor	A		48	48		
Support	Storage	A		87	87		
Mission	Vestibule (2)	A		594	594		
General	Offices (2)	A		272	272		
Mission	Refrigerator / Freezer	A		1,264	1,264		
Mission	Field Feeding	A		726	726		
Mission	Dry Storage	A		654	654		
Mission	Paper / Non-Food Storage (2)	A		209	209		
Mission	Bread Storage	A		205	205		

Mission	Remote Soda	A		140	140		
Mission	Can Wash	A		84	84		
Support	Mechanical Room	A		946	946		
Support	Electrical Room	A		138	138		
Support	Comm Room	A		74	74		1 per serving line
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Kitchen	A		5,479	5,479		
Mission	Dining	A		16,526	16,526		
Mission	Servery / Self Service Area	A		9,040	9,040		
Mission	Dishwashing	A		2,270	2,270		
Support	Receiving Vestibule	A		504	504		
Mission	Queuing	A		2,206	2,206		
Support	Public Restrooms	A		2,248	2,248		
Support	Men / Women Locker Room	A		729	729		
Support	Janitor	A		93	93		
Support	Storage	A		98	98		
Mission	Vestibule (2)	A		2074	2074		
General	Offices (2)	A		407	407		
Mission	Refrigerator / Freezer	A		2,076	2,076		
Mission	Field Feeding	A		1,125	1,125		
Mission	Dry Storage	A		1,231	1,231		
Mission	Paper / Non-Food Storage (2)	A		489	489		

Mission	Bread Storage	A		386	386		
Mission	Remote Soda	A		155	155		
Mission	Can Wash	A		87	87		
Support	Mechanical Room	A		817	817		
Support	Electrical Room	A		476	476		
Support	Comm Room	A		146	146		1 per serving line
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Kitchen	A		2,516	2,516		
Mission	Dining	A		8,978	8,978		
Mission	Servery / Self Service Area	A		3,211	3,211		
Mission	Dishwashing	A		797	797		
Support	Receiving Vestibule	A		383	383		
Mission	Queuing	A		378	378		
Support	Public Restrooms	A		565	565		
Support	Men / Women Locker Room	A		287	287		
Support	Janitor	A		70	70		
Support	Storage	A		58	58		
Mission	Vestibule (2)	A		179	179		
General	Offices (2)	A		227	227		
Mission	Refrigerator / Freezer	A		1,014	1,014		
Mission	Field Feeding	A		363	363		
Mission	Dry Storage	A		553	553		
Mission	Paper / Non-Food Storage (2)	A		130	130		



Mission	Bread Storage	A		149	149		
Mission	Remote Soda	A		191	191		
Mission	Carry Out Kitchen	A		554	554		
Mission	Carry Out	A		352	352		
Mission	Carry Out Storage	A		163	163		
Mission	Can Wash	A		100	100		
Support	Mechanical Room	A		574	574		
Support	Electrical Room	A		315	315		
Support	Comm Room	A		100	100		
Mission	Headcount	A		408	408		1 per serving line
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Kitchen	A		2,275	2,275		
Mission	Dining	A		5,722	5,722		
Mission	Servery / Self Service Area	A		2,969	2,969		
Mission	Dishwashing	A		599	599		
Support	Receiving Vestibule	A		180	180		
Mission	Queuing	A		330	330		
Support	Public Restrooms	A		408	408		
Support	Men / Women Locker Room	A		334	334		
Support	Janitor	A		44	44		
Support	Storage	A		59	59		
Mission	Vestibule (2)	A		166	166		
General	Offices (2)	A		232	232		
Mission	Refrigerator / Freezer	A		799	799		
Mission	Field Feeding	A		251	251		
Mission	Dry Storage	A		625	625		
Mission	Paper / Non-Food Storage (2)	A		96	96		

Mission	Bread Storage	A		82	82		
Mission	Remote Soda	A		134	134		
Mission	Carry Out Kitchen	A		556	556		
Mission	Carry Out	A		445	445		
Mission	Carry Out Storage	A		137	137		
Mission	Can Wash	A		103	103		
Support	Mechanical Room	A		434	434		
Support	Electrical Room	A		332	332		
Support	Comm Room	A		98	98		
Mission	Headcount	A		350	350		1 per serving line
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Kitchen	A		2,275	2,275		
Mission	Dining	A		4,187	4,187		
Mission	Servery / Self Service Area	A		2,982	2,982		
Mission	Dishwashing	A		599	599		
Support	Receiving Vestibule	A		180	180		
Mission	Queuing	A		330	330		
Support	Public Restrooms	A		414	414		
Support	Men / Women Locker Room	A		287	287		
Support	Janitor	A		43	43		
Support	Storage	A		59	59		
Mission	Vestibule (2)	A		166	166		
General	Offices (2)	A		232	232		
Mission	Refrigerator / Freezer	A		799	799		
Mission	Field Feeding	A		251	251		
Mission	Dry Storage	A		625	625		
Mission	Paper / Non-Food Storage (2)	A		96	96		

Mission	Bread Storage	A		82	82		
Mission	Remote Soda	A		137	137		
Mission	Carry Out Kitchen	A		556	556		
Mission	Carry Out	A		445	445		
Mission	Carry Out Storage	A		137	137		
Mission	Can Wash	A		103	103		
Support	Mechanical Room	A		476	476		
Support	Electrical Room	A		339	339		
Support	Comm Room	A		98	98		
Mission	Headcount	A		300	300		1 per serving line
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A dining building for military personnel and authorized civilians, to be used by Active Component and Reserve Component units from other installations conducting training at a host site such as a major training area.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4

#### Center of Standardization

This facility is managed by the Norfolk and Louisville Centers of Standardization.

### 3. Complex

The Transient Training (TT) Dining Facility will normally be a part of an Operational Readiness Training Complex (ORTC).

Refer to Chapter 4 for more information on this complex.

### 4. Units of Measure

The primary unit of measure for this facility category is SF.

Calculate NUA and capacity for general functional areas in accordance with Chapter 3 and Appendix A.

Primary:	SF	
Secondary:	PN	Serving capacity of the building
FAC:	SF	
Planning:	NSF	
Planning:	PN	
Other:	NUA	Total net usable area of general functional areas
Other:	NSF	
CAP:	PN	

#### Proponent:

- DCS, G-4

#### COS:

- Norfolk for the Dining Facility;  
Louisville for the ORTC

#### Complex:

- ORTC

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = NSF
- Planning UM = PN
- Other UM = NUA
- Other UM = NSF
- CAP = PN

## 5. Functional Areas

Table 72212-1 lists functional areas by type for a TT Dining Facility. See the functional adequacy matrix following this facility category discussion.

Table 72212-1 Functional Areas by Type	
Functional Area	Type
Dining Areas	Mission
Entrance Lobby	Support
Queuing Areas	Support
Dishwashing Area	Mission
Food Serving Area	Mission
Kitchen	Mission
Food Storage	Mission
Staging Area	Mission
Men's Restroom	Support
Women's Restroom	Support
Office	General
Receiving Dock	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

Current criteria allow for TT Dining Facilities at ORTC at installations where the Army expects major unit-level training to occur. The Army allows this building for predeployment training, annual training (AT) for National Guard and Reserve units, and major training centers such as Fort Polk or Fort Irwin. The TT Dining Facility is a portion of an ORTC Complex.

### 2. Programmatic Application

RPLANS calculates TT Dining Facility allowances based on below-the-line RC training loads from the ASIP for each installation. RPLANS allows 5,500 GSF for each 200 PN in the training load. RPLANS attributes the allowance to the real property site. The transient populations for rotational UICs are not included in the RPLANS calculations. The RPLANS calculations do not reflect the ORTC Standard Design. RPLANS effective date is APR-2004.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The mission to host transient units for training triggers the requirement.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Determine the population requiring dining facilities, and determine whether meal service will be in unit-operated facilities, garrison-operated facilities, or a mix. Some installations support training primarily for units with an organic capability to operate dining facilities. Others may support primarily units that rely on other organizations for field mess. The Directorate of Logistics (DOL) can provide historical information on feeding requirements and trends. Always include the DOL in planning dining facility requirements.

Calculate the TT Dining Facility to provide the capability to feed all supported personnel in 90 minutes, broken into three 30-minute shifts. The building should be capable of handling a 90 percent utilization rate.

The COS Standard Design allows 16,761 GSF for a 720 PN facility per battalion. It has a 1,428 PN option at 20,786 GSF to support two battalions.

Table 72212-2 provides a list of planning factors for each 720-person TT Dining Facility.

Table 72212-2 Functional Area 720-PN	
Functional Area	Allowance (NSF)
Dining Area	1,810
Dishwashing Area	460
Food Serving Area	1,000
Kitchen	2,490
Cold Storage	320
Dry Storage	350
Staging	230
Public Restrooms	634
Office	144
Receiving Dock	91



Table 72212-3 provides a list of planning factors for each 1,428-person TT Dining Facility.

Table 72212-3 Functional Area 1,429-PN	
Functional Area	Allowance (NSF)
Dining Area	7,154
Dishwashing Area	460
Food Serving Area	1,000
Kitchen	2,490
Cold Storage	320
Dry Storage	350
Staging	230
Public Restrooms	634
Office	144
Receiving Dock	91

The NG Pamphlet 415-12 allows TT Dining Facilities based on the authorized number of billeting spaces, with half of the allowance permitted in company-size (200-person) facilities, and the remainder in 400- or 800-person-capacity facilities. Table 72212-4 lists the net area allowed for each of these.

Table 72212-4 Net Area Allowed for ARNG TT Dining Facilities	
Capacity	Net Square Feet
200 Person	4,500 NSF
400 Person	8,400 NSF
800 Person	14,800 NSF

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign facilities by battalion to transient units.

Provide the receiving dock minimum dimensions of 17 feet long by 10 feet wide by 4 feet high. Locate a can-wash area adjacent to the receiving dock.

The dining area consists of two sections, with common access to a self-serve salad/beverage bar, and a dishwashing area. Provide each section its own entrance, serving line, and cashier station.

Adjacent to the kitchen, provide cold storage (two refrigerators and a freezer), dry storage, a staging area, pot wash, and an office.

Provide the kitchen access to a receiving dock. Provide a dedicated room for communications equipment.

Locate latrines with direct access from the dining area; locate a separate set of latrines with direct access from the kitchen area, for use by kitchen personnel.

#### **b. Facility Utilization Metrics**

Calculate utilization using average daily meals served divided by facility capacity.

Calculate availability by dividing the number of days per year each facility is assigned to an eligible user by the number of days available (350).

### **D. Programmable Increments**

#### **1. Standard Facilities**

The 720-person dining facility has a standard size of 16,761 GSF while the 1,428-person dining facility has a size of 20,786 GSF. See the Standard Design floor plans for the transient training dining facilities immediately following the functional adequacy matrix.

#### **2. Programming Units**

Program this facility with the assistance of the Louisville COS (ORTC) and the Norfolk COS (dining facilities).

### **E. Land Use and Site Planning Considerations**

#### **1. Land Use Considerations**

Locate in a land use compatible with the ORTC. The ideal ORTC requires approximately 30 acres per battalion area. See Chapter 4.

#### **2. Site Planning Considerations**

Site the TT Dining Facility in close proximity to other facilities supporting the battalion. These facilities include: barracks, COF, TEMF, vehicle hardstands, and the TT battalion HQ building. Site each Battalion Complex in close proximity to other Battalion Complexes in the brigade, the TT brigade HQ, and formation fields.

Provide POV parking for 10 percent to 25 percent of the ORTC Battalion Complex intended occupants.

## F. Other Considerations

### 1. Special Instructions

Contact the Center of Standardization (COS), Louisville District when programming new construction. Also, consult the Norfolk District, as the COS for UPH dining, when programming this facility.

### 2. Exceptions

None.

### 3. References

Operational Readiness Training Complex (ORTC) Standard Design	13-FEB-12
Revised Army Standard for Permanent Party Enlisted Personnel Dining Facilities (EPDF)	15-FEB-12

### 4. See Also

14184	Battalion Headquarters Bldg: Transient Training
14186	Transient Training Company Headquarters Bldg
14187	Transient Training Brigade Headquarters Bldg
17119	Organizational Classroom
21406	Vehicle Maintenance Shop: Transient Training
44224	Organizational Storage Building
72114	Transient Training Enlisted Barracks
72115	Mobilization Enlisted Barracks
72412	Transient Training Officers Quarters
85210	Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	#	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission		Dining Area	A	1,810 NSF	1,810 NSF	120 occupants per area
Support		Entrance Lobby	A		No lower limit	
Mission		Queuing Areas	A		No lower limit	1 per dining area
Mission		Dishwashing Area	A	460 NSF	460 NSF	
Mission		Food Serving Area	A	300 NSF each	300 NSF	1 per dining area
Mission		Salad/Beverage Self Serve	A	400 NSF	400 NSF	
Mission		Cashier	A		No lower limit	1 per dining area
Mission		Kitchen	A	2,490 NSF	2,490 NSF	
Mission		Cold Storage	D	320 NSF	No lower limit	
Mission		Dry Storage	A	350 NSF	350 NSF	
Support		Public Restrooms	A	634 NSF	No lower limit	
General		Office	A	144 NSF	144 NSF	
Mission		Receiving Dock	A	91 NSF	91 NSF	
Support		Mechanical Room	A	783 NSF	No lower limit	
Support		Janitor Closet	A	24 NSF	No lower limit	1 per kitchen, 1 per seating area, 1 per dishwashing area
Mission		Staging Area	A	230 NSF	230 NSF	
Mission		Can Wash	A	60 NSF	60 NSF	Next to receiving dock
<b>Presence Requirements for Adequacy:</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

### 1. DA Pam 415-28 Description / Definition

A detached building used as a laundry in UPH areas. Washers and dryers in this facility may or may not be coin-operated.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An enclosed garage building associated with UPH areas for privately owned vehicle (POV) parking.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A covered structure for parking privately owned vehicles (POVs) in proximity to unaccompanied personnel housing (UPH) areas.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A detached building used as a lounge by unaccompanied troops for informal entertainment and recreation activities. This building is designed to support a specific unit or units that are without dayroom facilities in their barracks. Also report soldier community buildings with this category.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

**Planning Level:**

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that meets or exceeds the minimum standards for assignment as permanent housing for unaccompanied officers, warrant officers, and authorized civilians.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

This facility category is managed by the Honolulu Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report these facilities in SF and program and develop their requirements in PN.

Primary: SF  
Secondary: PN  
FAC: SF  
Planning: PN  
Other: PN

#### Proponent:

- ACSIM Housing

#### COS:

- Honolulu

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = PN
- Other UM = PN

## 5. Functional Areas

Table 72410-1 lists the functional areas, their type and presence requirement for adequate facilities.

Table 72410-1 Functional Areas	
Functional Area	Type
Living and bedroom	Mission
Kitchen	Mission
Closet	Mission
Bathroom	Mission
Storage area	Support
Soldiers' laundry facilities	Support
Service space	Support
Vending and public phones	General
Lobby	General
Restrooms	Support
Enclosed stairwells / foyers / corridors	Support
Mechanical / electrical / telecom rooms	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

Per ACSIM policy, unaccompanied officers will not be allowed UPH in any location other than Korea. This facility is allowed for all units with permanent party unaccompanied officers in Korea only, and is quantified by identifying the number of officers within the unit, by grade, and applying planning factors.

### 2. Programmatic Application

RPLANS calculates gross area by multiplying the total number of officers by 840 GSF (78.0 GSM).

RPLANS lists the following officer grade brackets for gross area planning factors:

- O3 and below allowed 840 GSF (78.0 GSM)
- O4 and above allowed 1,000 GSF (92.9 GSM)

A TOE/SRC personnel line entry with a Remarks Code of 50 is not included in the unit strength, as this Remarks Code indicates that these people are counted toward housing elsewhere.

## C. Planning

### 1. Planning Level

The planning level is Other-than-unit.

### 2. Requirements Calculations

The master planner should obtain the “planning number” of unaccompanied officers from RPLANS, TDA, TOE, ASIP, or from documents provided to the master planner by the DRM.

If the user knows locally applicable UPH rates, use them as the primary source, rather than other sources for requirements development.

Plan the facility to accommodate the calculated number of required spaces for unaccompanied officers.

The calculated allowance by RPLANS includes the total area of all functional areas required, i.e., including the outside building walls; all stairways, foyers, and interior or exterior corridors; janitor's closets; and electrical, mechanical, and communications equipment rooms, etc.

Table 72410-2 lists the standard gross areas of buildings approved for construction in Korea. These gross areas include mechanical, electrical, and electronic equipment room space. No additional space will be added to these values.

Table 72410-2 – Standard UOPH Buildings for Korea				
# of Officers	Building Type	Unit Plan – See Notes	GSF	GSM
16	I	A	7,760	721.0
	II	A and B	9,184	853.0
	III	B	10,608	985.0
24	IV	A	11,640	1,081.0
	V	B	15,912	1,478.0
48	VI	A	23,280	2,163.0
	VII	B	31,824	2,956.0
32	VIII	A	15,520	1,441.0
<b>Notes:</b>				
1. Unit Plan A for O2 and below				
2. Unit Plan B for O3 and above				

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

To establish utilization, divide the actual occupancy by the design occupancy. Compare the resulting percentage with the four ranges given below:

Table 72114-3 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

## D. Programmable Increments

### 1. Standard Facilities

Under development.

### 2. Programming Units

Program one or more of the eight building types to meet the requirement. Programming documents report these facilities in PN to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The master planner must recognize the important role that barracks play in the quality of life of unaccompanied personnel. Thus, barracks, dormitories, and associated and support facilities need carefully studied relationships to community, administrative, and other duty stations. Generically referred to as the cantonment area, these related facilities and activities usually include the garrison (or higher) headquarters and “unit area(s)” for a number of Army organizations.

**a. Affinities:**

Unaccompanied officers require proximity to the commercial community center, and physical fitness and recreation facilities. Other uses compatible with housing include administration, recreation, dining, medical, and personal service facilities.

**b. Incompatibilities:**

The interests and schedules of unaccompanied officers may differ greatly from those of families and unaccompanied enlisted personnel. Therefore, separate the two types of unaccompanied personnel housing from each other, and from family housing. All housing types require separation from training areas, the airfield, maintenance land uses, and industrial land uses. Housing requires the absence of environmental hazards and aggravations.

**2. Site Planning Considerations**

Plan barracks on the basis of organizational and functional relationships. For example, all the barracks for a particular unit should be collocated in one area with the command and control facility and supporting facilities. Unaccompanied Officers Quarters do not need to be in the unit's area.

**F. Other Considerations****1. Special Instructions**

Consult the Center of Standardization for barracks: the US Army Corps of Engineers Honolulu for design standards under development.

**2. Exceptions**

None.

**3. References**

TI 800-01 Design Criteria Appendix B.2.c.(3) pages B-2 and B-3	20-JUL-98
AR 420-1 Army Facilities Management	12-FEB-08

**4. See Also**

- 14183    Battalion Headquarters Building
- 14185    Company Headquarters Building
- 44224    Organizational Storage Building
- 44262    Vehicle Storage Shed, Installation
- 44263    Vehicle Storage Building, Installation
- 72010    Army Lodging
- 72121    Transient UPH, Advanced Individual Trainees (AIT)
- 72122    Transient UPH, Advanced Skills Training (AST)

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building that houses unaccompanied officer personnel in Active Component and Reserve Component units training at sites other than their home station (in other words, annual training for Reserve Components). This CATCD may also be used for OCONUS annual training quarters.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Housing

#### Center of Standardization

This facility category is managed by the Louisville Center of Standardization.

#### Proponent:

- ACSIM Housing

#### COS:

- Louisville

### 3. Complex

The Transient Training (TT) Officers Quarters will normally be a part of an Operational Readiness Training Complex (ORTC).

Refer to Chapter 4 for more information on this complex.

#### Complex:

- ORTC

### 4. Units of Measure

The primary unit of measure for this facility category is SF.

Primary:	GSF	Total square feet of the building
Secondary:	PN	
FAC:	SF	
Planning:	PN	
CAP:	PN	Capacity based on the current criteria
Other:	None	

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = PN
- CAP UM = PN
- Other UM = None

## 5. Functional Areas

Table 72412-1 lists functional areas by type for a TT Officers Quarters. See the functional adequacy matrix following this facility category discussion.

Table 72412-1 TT Officers Quarters	
Functional Area	Type
Living Modules	Mission
Internet Café	Mission
Private Bathroom	Support
Laundry Room	Support
Activity Room	Mission

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for ORTC at installations where major unit-level transient training occurs. The complex supports predeployment training, annual training (AT) for National Guard and Reserve units, and major training centers such as Fort Polk or Fort Irwin. The TT Officers Quarters would be a portion of an ORTC. The criterion bases the allowance for TT Officer Quarters on the allowance for ORTC battalion complexes.

### 2. Programmatic Application

RPLANS calculates ORTC facilities for all units with officer personnel (O-1-O9, W1-W5) at 175 NSF per person for the total number of identified officer personnel in the unit. RPLANS adds a 25 percent space assignment to accommodate unit integrity. RPLANS provides this for SRCs to support planning for rotational or similar training at other-than-home station.

RPLANS assigns allowances for this facility category to installations based on the RC training load, a below-the-line population from the ASIP. RPLANS also provides this facility category to UICs in the ASIP identified by TDA Type 22 as transient loads. The RPLANS assignment is 243 GSF per person, and reflects an average grade distribution to account for different assignment standards for different military grades. RPLANS also includes units with TDA Type 22 (rotational or transient load) in allowance calculations.

RPLANS calculates and reports spaces in this facility category in F7242P (spaces) and converts the spaces to GSF.



## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

### 2. Requirements Calculations

Refer to Table 72412-2 for minimum adequacy standards for TT Officers Quarters in existing facilities. This facility category is also appropriate for E7-E9, as outlined in the Table72414-2.

A TT Officers Quarters building consists of a number of living modules with latrines and showers, a laundry room, and an activity room. Assign two company grade officers and senior enlisted (E7-E8) to a room consistent with the adequacy standards.

Table 72114-1 Space Standards	
Grade	UPH(TT)
Minimum: Comply with AR 420-1	Maximum
E1-E6	90 NSF living area per Soldier, open bay, central latrine/shower
E7-E8, WO1-CW3, and O1-O3	125 NSF living area per Soldier, not more than two per room, shared bath.
E9, CW4, CW5, and O4 and above	250NSF living area per Soldier, private room, private bath

To calculate requirements, determine the supported unit loads. DPTM should be able to provide historic data to establish supported populations at active installations. The state headquarters should be able to provide the data for ARNG installations.

### 3. Assigning Space

#### a. Guidance

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Use TT Officers Quarters to house personnel in grades E7-E9. These facilities may also serve as officer and senior NCO quarters for mobilization.

**b. Facility Utilization Metrics**

Divide the number of days per year each building is assigned to training units by 365 to determine the percent of days used. To establish utilization, divide the actual occupancy by the design occupancy. Compare the resulting percentage with the four ranges given in Table 72412-3.

Table 72412-3 Facility Utilization Metric Ranges	
Occupancy	Utilization
< 85%	Underutilized
> 85% but < 95%	Optimally Utilized (vacant rooms available for cyclic R&M)
> 95% but < 100%	Fully Utilized (rooms unavailable for cyclic R&M and at risk of deterioration)
> 100%	Overcrowded

**D. Programmable Increments****1. Standard Facilities**

See the Standard Design floor plans for this CATCD for ORTC at <http://mrsi.usace.army.mil/cos/louisville/SitePages/ortc.aspx>. The standard size TT Officers Quarters in an ORTC is 22,579 GSF. The standard building will house 80 senior enlisted/officers in double-occupancy rooms. Personnel in grades E9, W4, W5, and O4 and above are authorized a private room with access to a bathroom that is shared with not more than one other person.

Each room has a minimum area of 250 NSF with two 7 NSF closets and a private bath. Each module should have one exterior operable window with an insect screen.

**2. Programming Units**

The minimum building to program is 40 PN.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Locate in a land use compatible with the ORTC, ranges, and training. The ideal ORTC requires approximately 30 acres per battalion set. See Chapter 4.

## 2. Site Planning Considerations

This facility category is included in an ORTC. See Chapter 4 for information on complexes. Each ORTC is designed around six battalions.

Locate the TT Officers Quarters in close proximity to other facilities supporting the battalion. These facilities include: TT battalion HQ, COF, TEMF, vehicle hard stands, enlisted barracks, and a dining facility. Locate each Battalion Complex in close proximity to other battalion complexes in the brigade, the TT brigade HQ, and formation fields.

Provide POV parking for 10 percent to 25 percent of the ORTC Battalion Complex intended occupants.

## F. Other Considerations

### 1. Special Instructions

Contact the Center of Standardization, Louisville District.

### 2. Exceptions

None.

### 3. References

Operational Readiness Training Complex (ORTC) Standard Design	13-FEB-12
AR 420-1 Army Facilities Management	12-FEB-08

### 4. See Also

14184	Battalion Headquarters Bldg: Transient Training
14186	Transient Training Company Headquarters Bldg
14187	Transient Training Brigade Headquarters Bldg
17119	Organizational Classroom
21406	Transient Training Vehicle Maintenance Shop
44224	Organizational Storage Building
72115	Mobilization Enlisted Barracks
72212	Transient Training Dining Facility
85210	Organizational Vehicle Parking, Paved

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	#	DESCRIPTION	RQMTS	STANDARD	LOWER LIMIT	
Mission		Sleeping Room	A	90 NLA per occupant	90 NLA per occupant	Company Grade: E7 – E8, WO1, CWO2 – CWO3, O1 – O3 2 per room w/ 90 NSF / PN Field Grade: E9, CWO4 – CWO5, O4 and Above 180 NSF / PN
Mission		Private Bathroom	A	One toilet per 2 PN 1 shower stall per 2 PN	No lower limit	Company Grade share bathroom with not more than three others Field Grade share bathroom with not more than one other
Mission		Laundry Room	B	1 washer per 12 PN 1 dryer per 8 PN	No lower limit	
Mission		Activity Room	D	420 first floor 478 second floor	No lower limit	
Mission		Internet Café	D	270 NSF	270 NSF	
<b>Presence Requirements for Adequacy</b>						
A - Required, Collocated						
B - Required, Adjacent						
C - Required, Vicinity						
D - Not required, if present collocated						
E - Not required, if present: adjacent or vicinity						
F - Occupant Dependent						

### 1. DA Pam 415-28 Description / Definition

An enclosed hutment building used at major training areas or during an emergency or mobilization to house troops or serve as dining and/or other ancillary facilities. They are usually placed on a hard, prepared surface.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A pad structure that serves as a base for a tent that provides temporary housing, showers, dining facilities, and company/battalion administration in emergency or training situations.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that houses firefighting vehicles and equipment, as well as the operating personnel of firefighting companies. Also included are facilities housing fire and emergency rescue equipment and personnel at military airfields and heliports. Space for drying hoses is included. Also report this facility with unit of measure vehicles (VE). Data should be available from the installation fire chief. If not, conduct a physical count of stalls, and survey the building area. Each firefighting/rescue vehicle stall provided at the facility counts as one VE.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

### 3. Complex

This facility category normally supports installations and is also included in the Airfield Complex.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in VE.

Primary: SF  
Secondary: VE  
FAC: SF  
Planning: GSF  
Other: VE

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- Airfield Complex

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- Planning UM = GSF
- Other UM = VE

## 5. Functional Areas

Fire Stations are composed of three main elements: the apparatus area, the administrative/day function area, and the sleeping area. The apparatus area consists of the drive-through parking stalls and apparatus room for firefighting vehicles, with direct access to the medical supply room, hose-dryer room, equipment storage, and workroom/extinguishing agent storage. The administrative/day function area provides space for offices, the watch/fire alarm communications room, administrative supply storage, kitchen, dining, dayroom, and training room. Offices are provided for fire inspectors, shift leaders, and assistant fire chiefs, as required. At a headquarters station, a bedroom, shower, toilet, and office are provided for the fire chief. The sleeping area includes dormitory rooms, male and female toilets with showers, janitor's closet, linen storage, physical training room, and mechanical equipment room. All Fire Stations must be provided a standby generator with switch gear.

Firefighting vehicle stalls must accommodate the currently authorized major fire vehicles. Entrance/exit doors will be a minimum of 14 feet (4.3 m) wide by 14 feet high.

See the functional adequacy matrix after this write-up.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number of fire-fighting companies and the presence or absence of a fire chief at the specific location. The number of Apparatus Bays and Dorm Rooms are used to determine the overall size of the Fire Station Facility.

A standard one company fire station includes a two-bay apparatus at 4,095 SF net. A standard two and three company fire station includes a Three-bay apparatus at 5,642 NSF.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.



## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The installation leadership, in cooperation with IMCOM, will determine the type of Fire Station, based on the activity's mission. A decision will be made as to whether the station will be a one-company or a two-company building, and whether the building will be a headquarters station. By definition, headquarters stations will have a fire chief; satellite stations are without a fire chief. These designations apply to both one- and two-company buildings as descriptive terms. See Table 73010-1 for the sizes and types of stations.

Table 73010-1 – Area of Fire Stations				
Type and Number of Companies	HQ + One	HQ + Two	Satellite One	Satellite Two
Fire Chief's Suite	Yes	Yes	No	No
NSF	305.0	305.0	0	0
NSM	28.3	28.3	0	0
Vehicle stalls	2	3	2	3
<b>Maximum Area</b>				
GSF	5,950.0	8,400.0	5,550.0	8,000.0
GSM	552.7	780.4	515.6	743.2
NSF	4,176.0	6,009.0	3,950.0	5,792.0
NSM	388.0	558.3	367.0	538.1
<b>Notes:</b>				
Gross area includes the outside dimensions of the building				
Space requirements for mechanical equipment rooms will vary, based on the specific equipment sizes and clearances required for the project's geographic and climatic location. A variation allowance of 150 GSF (13.9 GSM) for one-company stations and 200 GSF (18.6 GSM) for two-company stations is already included in the gross area.				

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

A sample of floor plans may be found at <http://mrsi.usace.army.mil/cos/huntsville/SitePages/fs.aspx>.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Installations (including multiple activities serviced by a consolidated fire department) should be divided into fire demand zones (FDZ) (small areas that represent a single demand for fire services). Demand within any given FDZ is based on required fire flow and response-time criteria.

The number of full-time firefighter personnel and units of mobile equipment needed at any single installation to meet the standards in this instruction shall depend on the extent to which equivalent firefighting forces are available from outside sources. Installations shall include outside fire companies in determining compliance with these standards when those companies compare favorably with DOD standards in staffing and equipment, and can meet the prescribed response-time criteria.

The number of staffed pumpers required is determined on the basis of 750 gallons per minute (GPM), regardless of the actual pump capacity of the pumpers on hand, and is calculated by dividing two-thirds of the estimated fire flow by 750.

### **2. Site Planning Considerations**

The structure's location will provide for adequate vehicle access, pedestrian access, vehicle parking, vehicle and pedestrian circulation, and fire safety clearances.

Fire stations should be master planned and located to provide quick access to major roads, and should be able to produce response times less than the maximums shown in Table 73010-2.

**Table 73010-2 – Maximum Pumper Truck Response Times (Minutes)  
for Structural Fires**

<b>Facility</b>	<b>1<sup>st</sup> 50 percent of response</b>	<b>2<sup>nd</sup> 50 percent of response</b>
Administrative	7	14
BOQ, BEQ, Dormitories	7	14
Dining halls	7	14
Exchange and Commissary	7	14
Hangars	5	10
Hospitals	5	10
Isolated or scattered	15	20
Multifamily dwellings	9	18
Recreation and Assembly	7	14
Ship berthing	5	10
Shops and Industrial	5	10
Single or Duplex dwellings	9	18
Technical	5	10
Trailer Courts	9	18
Warehouses	5	10
<b>Notes:</b>		
Pumpers may be located to serve several or all areas if situated within the response time. Some areas may be served entirely by pumpers from other areas within the prescribed response times.		
DOD Components may increase response times when adequate fixed fire protection systems are provided.		

Each Fire Station requires a variety of parking spaces for the various vehicles associated with its mission. Table 73010-3 lists the number of stalls per person for each type of vehicle used to support the mission of these stations.

**Table 73010-3 – Parking Stalls**

<b>Use</b>	<b>Number of stalls per person</b>
Fire protection section	1.5
Administrative section	1
Fire prevention section	2
Visitors	See Note 1.
Customers	See Note 2.
Organizational vehicles	See Note 3
<b>Notes:</b>	
1. Provide 2 stalls - 1 in accordance with ADA	
2. Provide 1 stall	
3. Provide 1 stall (based on physical dimensions) for each organizational vehicle not assigned a space within the apparatus room	

## F. Other Considerations

### 1. Special Instructions

Firefighting and rescue training areas (category code 17981) will be made available to each central headquarters Fire Station at appropriate locations. Training areas should include a fire-training pit similar in size to a UH-type helicopter, with fuel piped in from three directions for simulated fires. For additional training facility requirements, see AR 420-90.

Consult the Center of Standardization USACE Huntsville Center for additional guidance. Before using floor plans, confirm their compliance with local building codes.

### 2. Exceptions

None.

### 3. References

The Army Standard for Fire Stations	March 2010
TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-13	11-APR-06
AR 420-90 Facilities Engineering Fire and Emergency Services	04-NOV-96

### 4. See Also

17981	Fire Fighting and Rescue Training Area
73011	Detached Fire Station Support Building

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA			PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
Apparatus, Equipment and Maintenance Areas						
Mission	Apparatus Bay	A	3,485 NSF	3,485 NSF	Notes 1. 2.	
Mission	Personal Protective Equipment Gear (PPE) Storage	A	48 NSF	48 NSF	Separate ventilation system - Note 3.	
General	Hose Storage	A	60 NSF	60 NSF	Note 3.	
Mission	Self-Contained Breathing Apparatus (SCBA) Maintenance Room	A	171 NSF	171 NSF	Work bench and storage shelving	
Support	Self-Contained Breathing Apparatus (SCBA) Compressor Room	A	48 NSF	48 NSF	STC >54 connect to SCBA Maint. Rm.	
Support	Protective Clothing Laundry	A	100 NSF	100 NSF	Large commercial-grade washers and dryers – Note 3.	
Mission	Equipment Wash / Disinfection	A	170 NSF	170 NSF	Notes 3. 4. Accessible from exterior	
Mission	Work Room / Equipment Maintenance	A	130 NSF	130 NSF	Note 3.	
General	Emergency Medical Services (EMS) Equipment Storage	A	30 NSF	30 NSF	Controlled access – near apparatus bay	
General	HAZMAT / CBRNE and spare PPE Storage	A	110 NSF	110 NSF	Shelving and logistics workstation	
General	Fire Extinguisher Inspection (Non Flight Line) Maintenance and Storage	A	145 NSF	145 NSF	Note 5.	
General	Fire Extinguisher (Flight Line) Maintenance and Storage	A	*	*	Note 5. – * not in 1-CO HQ – See “Additional Spaces”	
Notes for above Areas						
1. Support features for each vehicle include: exhaust collection system, overhead cold water fill, compressed air, cold water, floor drain,						
2. Heated, except in very temperate / tropical climates – air conditioned by authorized exception only						
3. Accessible from Apparatus Bay						

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA			PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
4. items removed from vehicle when returning from a working fire before entering the bay – include wash-off, repair bench, desalinization and						
5. Work bench, safety cage, scale, recharge kit, parts bins, tools, etc.						
Administration and Training Areas						
General	Fire Chief's Office	A	115 NSF	115 NSF	Note 6. – bedroom and toilet – only at HQ Station	
General	Fire Chief's Conference Room	A	144 NSF	144 NSF	Only at HQ Station	
General	Deputy Chief's Office	A	100 NSF	100 NSF		
General	Station Officer's Office / Watch Desk (Std' Design: Deputy Chief's Office)	A	100 NSF	100 NSF	Note 6. – adjacent to Chief's office	
General	Lobby	A	300 NSF	300 NSF	Visitor waiting area	
General	Assistant Chief / Shift Supervisor	A	110 NSF	110 NSF	Note 6. – and bedroom	
General	Administrative Assistant	A	* NSF	* NSF	Note 6. – * not in 1-CO HQ	
General	Assistant Chief for Fire Prevention	A	100 NSF	100 NSF	Notes 6. 7.	
General	Inspector(s) Office	A	180 NSF	180 NSF	Workstation / company	
General	EMS Office	A	90 NSF	90 NSF	Note 6.	
General	HAZMAT Safety Office	A	115 NSF	115 NSF	Note 6.	
General	General Administration Storage	A	75 NSF	75 NSF		
Mission	Department Training Room	A	250 NSF	250 NSF	Note 8.	
General	Training Officer's Office	A	100 NSF	100 NSF	Note 6. – Must control access to Computer Training / Testing Room	
General	Computer Training / Testing Room	A	150 NSF	150 NSF	Note 9.	
Notes for above Areas						

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA			PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
6. Office with workstation As dictated by mission requirement of four or more inspectors, must have office/workstation						
7. As dictated by mission requirement of four or more inspectors						
8. Size to accommodate entire on-duty staff each – with: desk, chair, phone and internet connections – room equipped with audiovisual system – adjacent storage room for audiovisual equipment, media, additional equipment and furnishings						
9. Size to accommodate entire on-duty staff each – with: workstation - study-carrel, chair, phone and internet connections – room equipped						
Support	Information Technology (IT) Room	A	90 NSF	90 NSF	Close to Dispatch	
Mission	Dispatch	A	130 NSF	130 NSF	Note 10.	
General	Dispatch Supervisor	A	*	*	Work area with workstation in proximity to Dispatch – * not in 1-CO HQ	
Support	Dispatch Toilet	A	50 NSF	50 NSF	ADA accessible	
Support	Dispatch Kitchenette	A	50 NSF	50 NSF		
Support	Additional IT Room	A	*	*	If mission required – * not in 1-CO HQ	
Residential and Living Areas						
Mission	Day / Training Room	A	585 NSF	585 NSF	Note 11.	
Support	Dorm Rooms	A	130 NSF	130 NSF	Note 12.	
Support	Bathroom / Shower / Changing	A	130 NSF	130 NSF	Used by one PN at a time	
Support	Fitness Room	A	500 NSF	500 NSF	Machines and equipment	
Support	Physical Therapy / Sauna	A	60 NSF	60 NSF		
Support	Laundry Room	A	80 NSF	80 NSF	For individual's use	
Support	Recreation Room	A	370 NSF	370 NSF	Accommodate up to two “game units”	
General	Vending	A	75 NSF	75 NSF	Two or more machines	
General	Linen Storage	A	*	*	Note 13. * not in 1-CO HQ	

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
Notes from above Areas						
10. Control console area - modular component work stations to accommodate computers, monitor screens, two-way radios and audio equipment, and recording system for all emergency radio and telephone messages, and ergonomically designed seating. Area must also provide wall-mounted installation grid coordinate map, map racks, book cases, safe for classified technical manuals and a secure drawer or cabinet for classified documents.						
11. Configured and furnish as large residential kitchen / dining / living room. Flexible arrangement to accommodate various informal meetings and group training for the number of companies on duty. Kitchen must be sized to provide ample room for meal preparation for the entire facility overnight population. Separate dry and cold food storage must be provided for each shift.						
12. Each room contains two each: beds, nightstands and closet. Assigned to one firefighter per crew / shift for private sleeping						
13. Not part of Design Standard – included in other criteria references						
Additional Spaces						
Support	Flightline Fire Extinguisher Secure Outdoor Covered Area	A	*	*	* Not in 1-CO HQ –Tank recovery area, spare tanks and spare gaseous agent re-	
Support	Patio	A	180 NSF	180 NSF		
Support	Staff Parking	A	TBD	TBD	Accommodate two shifts	
Support	Visitor Parking	A	TBD	TBD	Note 14.	
Support	Storage of Structural and Aircraft Rescue Firefighting (ARFF) Agent	A	TBD	TBD	Note 15.	
Support	Emergency Generator	A	TBD	TBD	Note 16.	
Support	Vehicle Wash	B	TBD	TBD	Note 17.	
Notes from above Areas						
14. Separate from staff parking and about 25-percent of staff parking stalls – include accessible spaces per Uniform Federal Accessibility Standard (UFAS)						
15. Single story structure located along the drive entrance to the Apparatus Bay. Storage area must be lighted and, were required, heated to prevent agent freezing. Storage structure may be either attached or unattached to the main facility.						



FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or		ASSIGN RATING / NOTES
			CAPACITY MINIMUM	for ACCEPTABILITY	
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
16. Maintain the following items at all times:					
• Lights in corridors leading to the Apparatus					
• Apparatus bay lights and over head doors					
• Dispatch					
17. Not necessarily collocated - approximately 1 AC (0.4 HA) with drive-through vehicular circulation – not part of Design Standard – included in other criteria references					
Presence Requirement for Adequacy:					
A - Required, Collocated					
B - Required, Adjacent					

### 1. DA Pam 415-28 Description / Definition

A detached building that may house firefighting vehicles and equipment, as well as the operating personnel of firefighting companies in facilities other than the main Fire Station (73010). Freestanding hose-drying buildings also should be reported under this CATCD.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

73010      Fire Station  
73012      Fire Tower

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A towerlike structure used to maintain a watch for fires. It typically consists of access stairs and an observation platform that may be enclosed. Report the area of the platform as SF.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

72520 Tent Pad

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for persons awaiting bus service. It includes the waiting area, a ticket sales area, and an administrative office. This category is for a completely enclosed building. Open shelters at bus stops should be reported as 73070, Miscellaneous Shed.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that houses personnel undergoing correctional custody, a form of nonjudicial punishment; pretrial confinement; post-trial confinement awaiting judicial action; or those personnel having sentences of less than five months in duration, in conjunction with discharge from military service. This category also refers to the disciplinary barracks at Fort Leavenworth, Kansas.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

### 3. Complex

None

### 4. Units of Measure

Report and program these facilities in GSF. Their requirements are developed in PN.

Primary: SF  
Secondary: PN  
FAC: SF  
Planning: SF  
Other: SF

#### Proponent:

- Deputy Chief of Staff, G-3 (DCS, G-3)

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Other UM = None

### 5. Functional Areas

Confinement Facilities, tents or buildings, provide sufficient space for housing, drilling and messing prisoners and personnel, and means to secure against escape. A small number of prisoners does not warrant the construction of separate buildings; the necessary Confinement Facilities will be consolidated into a single building. Table 73015-1 lists the functional areas and their requirements.

Table 73015-1 – Confinement Facility Functional Areas and Type of Space		
Functional Area	Type	Presence
Administration	General	B
Arms room and vault	Mission	B
Assembly	Mission	A
Barracks – See Note 1.	Mission	A
Chapel	Mission	B
Clinic	Support	B
Counseling	Mission	B
Dining	Mission	A
Key and lock	Mission	B
Library	Support	B
Processing and reception	Mission	A
Security (sentry house)	Mission	B
Sentry towers	Mission	B
Supply and storage	Support	B
Training	Mission	B
Visitors Area	Mission	A
Workshop(s)	Support	B
<b>Presence Requirements for Adequacy</b>		
A - Required, Collocated		
B - Required, Adjacent		
<b>Note:</b>		
1. Separate detainees by gender and officer versus enlisted status for sleeping, toilets, and showers.		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for existing facilities.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

When facilities are to include space for gainful and productive employment, they will be programmed on the basis of identified equipment requirements, but not to exceed 75 GSF (7 SM) per prisoner. Table 73015-2 lists the sliding scale for gross area.

Table 2 - Gross Area Per Prisoner		
Number of Prisoners	GSF	GSM
Up to 25	550	51
26 to 50	440	41
51 to 150	350	33
151 to 250	330	31
251 to 400	300	28
<b>Notes:</b>		
1. Mechanical equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Electrical and electronic/communications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
3. Includes administration, housing, training, and welfare. When designs are for capacities not shown, space allowances may be based on the nearest capacity.		

Table 73015-3 lists the allowances for mobilization facilities on larger installations.

Table 73015-3 - Mobilization Confinement Facilities on Installations of 10,000 to 20,000 Persons			
Facility Type	Number	GSF	SM
Administration	1	2,752	256
Assembly	1	2,880	268
Barracks	1	4,800	446
Processing and storage	1	1,792	166
Segregation	1	2,815	262
Sentry house	1	16	1.5
Sentry tower(s)	3	272	25
<b>Notes:</b>			
1. Mechanical, electrical and electronic equipment room space as required has been added to the gross areas.			
2. Additional space will not be added when determining a single gross area figure for each facility.			

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

The Army has not established minimum and maximum areas for programming new facilities under this category. Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The secure compound should be visually isolated, while convenient to an installation gate for secure movement of detainees, legal representatives, and for visitor access.

### 2. Site Planning Considerations

Provide security fencing, lighting, and detection systems for unauthorized intrusion or escape, including a vegetation-free zone surrounding the perimeter.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Table 5-4	20-JUL-98
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### 4. See Also

73016      Police/MP Station



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that houses the operations of a provost marshal and the services and operations of the military police (MP). The provost marshal is responsible for physical security, traffic, supervision of gate personnel, and law enforcement on Army installations. These facilities, as well as CIDC Field Operations (14114), should be reported separately if contained in a headquarters building and either area is greater than 1,000 GSF. Also report the number of jail cells in the building with unit of measure persons (PN). Data should be available from the provost marshal or MP personnel. If not, conduct a physical count of the cells, and survey the building area. Each cell counts as one PN.

See Table 73016-3 for clarification on reporting related facilities.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in PN.

Primary: SF  
Secondary: PN  
FAC: SF  
Planning: GSF  
Other: PN

#### Proponent:

- DCS, G-3

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = GSF
- Other UM = PN

## 5. Functional Areas

Adequate facilities require space collocated for (1) the provost marshal's office, (2) military police services – administration and operations, (3) military police operations – support and on-duty.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the composition of the appropriate unit.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 73016-1 provides programming guidance on sizing of a small facility for those installations with populations of less than 8,001. The Army does not have a design standard or Standard Design for facilities in this category code.

Table 73016-1 – Small MP Facility for Populations Below 8,001			
Function	Staff	GSF	SM
Provost Marshal activities	8	1,618	150.3
MP Services – admin	See Note 1.	1,830	170.0
MP Services – ops	8	3,913	363.5
MP Operations – support	22	4,807	446.6
MP Operations – On-Duty	12	5,716	531.0
1. Part-time occupancy, position not included in staff totals			

Table 73016-2 gives programming guidance for sizing Police/MP Stations on most installations. Consult IMCOM for guidance in programming for installations with populations of over 16,001.

**Table 73016-2 – Medium MP Facility for  
Populations Between 8, to 16,000**

<b>Function</b>	<b>Staff</b>	<b>GSF</b>	<b>SM</b>
Provost Marshal activities	10	1,980	164.0
MP Services – admin	See Note 1.	2,184	202.9
MP Services – ops	11	5,029	467.2
MP Operations – support	34	6,473	601.4
MP Operations – On-Duty	25	8,777	815.4
1. Part-time occupancy, position not included in staff totals			

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

Before assuming that new construction is the best alternative, other alternatives must be examined. Relocation from existing facilities does not automatically justify new construction. Complete relocation may require (1) conversion, (2) conversion and new construction, or (3) new construction.

The potential to upgrade depends on the physical character of the facilities in terms of nine hypothetical field conditions, as shown in Chart 73016-1. The most important physical factor to consider is the type of construction. Where temporary construction is in a significantly deteriorated or deficient state, such that functional deficiencies are increased or cannot be corrected, complete relocation would be an appropriate physical development strategy.

		Conversion				Rehabilitation						
		Totally New Construction	First Priority: Complete Relocation	Long-term: High Cost Upgrading	Second Priority: Partial Relocation	Short-term: Immediate Improvement	Middle-term: Low Cost Upgrading	Middle-term: High Cost Upgrading	Long-term: High Cost Upgrading	Long-term: Moderate Cost	Middle-term: High Cost Upgrading	Short-term: Low Cost Upgrading
Predominant Existing Conditions												Repair and Maintenance
1.	Building and Site Deterioration and Deficiency (Temporary Facilities)											
2.	Site Deterioration, Deficient Support Facilities (Temporary Facilities)											
3.	Building Deterioration (Temporary Facilities)											
4.	Building and Site Deficiency (Semi-Permanent Facilities)											
5.	Site Deficiency (Semi-Permanent Facilities)											
6.	Building Deficiency (Semi-Permanent Facilities)											
7.	Permanent Facilities, Major Physical Development Constraints											
8.	Permanent Facilities, Minor Physical Development Constraints											
9.	Minimal Evidence of Existing Building and Site Limitations											

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Most installations (except very small or low-usage and low-density ones) require a police station (provost marshal and investigations). Branch stations are allowed where unique missions or distances warrant an additional building. A physical security operations building should be located on installations with special security requirements. In general, police stations should be located near the main gate in a high-visibility location that allows for visitor access and control by gate personnel.

Military police and provost marshal personnel are usually located and billeted with other troops assigned to law enforcement activities in the community, and away from troop and family housing areas.

## 2. Site Planning Considerations

A secure, fenced parking area should be provided for organizational and impounded vehicles. Separate staff and visitor POV parking will be provided, based on the functions and staffing of the individual police station, at 35 SY (29 SM) per space.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5 / M059 in Table M- 18	20-JUL-98
Design Guide: 1110-3-146: Military Police Facilities	01-DEC-79
UFC 4-730-04AN: Military Police Facilities 03/01/05	01-MAR-05

### 4. See Also

73015      Confinement Facility

## 5. Notes

Table 73016-3 summarizes and clarifies reporting policies on the various types of space used by law enforcement activities.

<b>Table 73016-3 – Space Reporting Policy for Various Law Enforcement Activities</b>		
<b>Unit / Activity</b>	<b>Facility Category Code</b>	<b>Notes</b>
Criminal Investigation Division (CIDC)	14114 CIDC Field Operations Building	Responsible for felony investigations
Military Intelligence (MI)	61050 Administrative Building, General Purpose	Counter espionage and border liaison missions
Military Police - Customs	61050 Administrative Building, General Purpose	Customs inspections, violations, and information - assigned to 61050 because of customer service mission
Military Police - Site Security	73016 Police/MP Station	Operations personnel responsible for road patrols and apprehension
Provost Marshal - Installation	73016 Police/MP Station	Responsible for physical security, minor infractions, and traffic control
Provost Marshal - Division and above	61050 Administrative Building, General Purpose	Liaison and provides advice and policy to the command staff

## A. Reporting

### 1. DA Pam 415-28 Description/Definition

A chapel building or portion of a building used for formal religious services. Also report the number of seats or sitting places in this building as unit of measure seats (SE). Data should be available from the installation chaplain. If not, conduct a physical survey. Count the seating capacity of the Chapel for religious services to determine the SE. If collocated with a religious education building (73018), report the portion of the building used as worship space using this category separately from the education space.

### 2. Proponent and Center of Standardization

#### Proponent

Chief of Chaplains

#### Center of Standardization

This facility category is managed by the Omaha Center of Standardization.

#### Proponent:

- Chaplain

#### COS:

- Omaha

### 3. Complex

When the worship supporting component is combined in a project with another Chaplaincy facility type such as the religious education supporting component, it will be referred to as a Chapel Complex.

The IET Chapel is part of a BT/OSUT complex.

#### Complex:

- Chapel Complex
- BT/OSUT Complex

### Units of Measure

Report and program these facilities in GSF. Develop requirements in number of seats (SE).

Primary: GSF

Secondary: SE (The seating capacity of the main chapel, not including overflow seating.)

FAC UM: GSF

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = SE
- FAC UM = GSF

## 5. Functional Areas

Table 73017-1 shows the functional area types common to chapels. See Functional Adequacy Matrices for the three standard sizes of Chapels following this section.

Table 73017-1 Functional Areas	
Functional Area	Type
Worship Center	Mission
Immersion Baptistry	Mission
Activity Center	Mission
Worship Center/Activity Center Audiovisual System	Support
Administrative Offices	General
Multipurpose Room	Mission
Choir Room	Mission
Blessed Sacrament Room	Mission
Sacristy Suite	Mission
Kitchen Suite	Mission
Toddler and Infant Support Rooms	Mission
Entrance Areas	General
Coat Storage Room	Mission
Storage Rooms	General
Toilet Facilities	Support
Group Office	General
Meditation/Reconciliation	Mission
Choir Robes and Music	Mission
Nursing Mother's Room	Mission
Ed Directors Office	General
Equipment Rooms	Support
Janitor Closet	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations staffed to provide religious services to the base population.

The qualifying attributes are a chaplain authorized in the garrison TDA and a chaplain assistant in the grade of E5 or below authorized in the garrison TDA.



The basis for calculation is the size of the supported population, which includes active duty military and their family members in CONUS. US Civilians are included in the eligible population OCONUS. The eligible population is compared to Table 73017-2 to determine the authorized size.

An IET Chapel is authorized at when the TRADOC BT/OSUT mission exceeds 10,000 students, with an additional chapel for each increment of 10,000 students.

## **2. Programmatic Application**

WebRPLANS calculates an allowance for this facility category at Base Level if a Chaplain is authorized on the garrison TDA. WebRPLANS calculates the eligible population by adding the active duty military strength in the ASIP to a calculated dependent population for CONUS locations and, in addition, the US civilian direct hire population OCONUS. RPLANS compares to a lookup table that provides the authorized chapel allowance in GSF.

For Army Training Centers (Fort Sill, Fort Jackson, Fort Leonard Wood and Fort Benning) WebRPLANS provides an additional allowance for an IET chapel if the BT/OSUT population in the ASIP is greater than 10,000, and provides an additional chapel for each increment of 10,000 trainees.

## **C. Planning**

### **1. Planning Level**

The planning level is other-than-unit.

### **2. Requirements Calculations**

Calculate the total population served using the following formulas:

$$\begin{aligned}\text{Dep Pop} &= (\text{Mil Pop} - \text{UPH Population}) \times 2.5 \\ \text{CONUS total pop served} &= \text{Mil Pop} + \text{Dep Pop} \\ \text{OCONUS total pop served} &= \text{Mil Pop} + \text{Dep Pop} + \text{US Civ Pop}\end{aligned}$$

For calculating dependent population, only consider the military population included in Family Housing allowances in RPLANS.

Table 73017-2 lists the criteria and facility combinations based on population served. Use the table to determine the number of seats allowed and compare to available seats.

Table 73017-2 Installation wide Facilities Based on Population Served

Population Range	Required Seating	GSF	Type
Up to 7,100	345	25,000	Small
7,101 to 9,100	619	30,800	Medium
9,101 to 11,100	619	37,600	Medium
11,101 to 13,100	1,180	48,400	Large
Greater than 13,100	1,180	Varies	Large

There are three (3) basic sizes; small, medium and large for General Congregation Chapels. Each size has variations that require review. Garrisons with populations over 11,000 will have at least one Large Chapel and will determine additional chapel size requirements based on an analysis of the total square footage needed to support its population. The IET Chapel will be authorized when the TRADOC mission exceeds 10,000 students. One additional IET Chapel will be authorized for each additional 10,000 students

Exclude IET population at Army Training Centers from the ASIP Mil Strength when an IET chapel is authorized. Base general congregation chapels calculations on the remaining authorized military strength. Base

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison. IET chapels may be assigned to the supported training brigade or school.

#### b. Facility Utilization Metrics

(Required capacity) divided by (Actual capacity) X 100 =  
Percentage of programmatic allocation.

(Annual average attendance) divided by (Actual capacity) X 100 =  
Percentage of existing facility utilization.

## D. Programmable Increments

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at:  
<http://mrsi.usace.army.mil/cos/Omaha/SitePages/Chapels.aspx>.

### 2. Programming Units

Use the appropriate Standard Design when programming new facilities. When programming to fill an increment that does not meet the smallest Standard Design, determine the number of seats required and base program requirements on seats.

Programming UM:

- GSF

Do not program construction to satisfy shortfalls based solely on the calculations in this section. Verify with the chaplain that average weekly service attendance for one or more services each week exceeds 75 percent of the existing seating capacity for the largest existing chapel. Consider programming a chapel to meet the largest worship requirement and replace smaller chapels.

Ensure that the post chaplain is involved in any chapel programming.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Religious facilities should be located in the community center or in family housing areas. Ideally the chapel, the family life center and the religious education center should be collocated in a chapel complex.

### 2. Site Planning Considerations

Table 73017-3 provides the minimum parking and access drive requirements as well as land area for each size Standard Design. Site planning must accommodate maximum access for persons with disability to participate as fully as possible.

Table 73017-3 – Parking and Land Area Minimums			
	Small	Medium	Large
Number of stalls	158	258	387
SY of paving	7,600	11,500	16,800
Additional paving for extended entrance drives, maintenance areas and drop offs should be added to these paving areas.			

The Standard Design does not include outdoor worship or other special activity areas. These should be planned and programmed with input from the Chief of Chaplains Office.

## F. Other Considerations

### 1. Special Instructions

Consult the Omaha District USACE office Center of Standardization for guidance on this and related category codes.

Consult the Chief of Chaplains Office for assistance in developing programming data and current costs.

### 2. Exceptions

Deviation from chapel sizes due to existing facilities may be requested from DACH-4/6/8/EN/STRATCOM.

### 3. References

Army Standard for General Congregation Chapels	15-APR-10
Army General Congregation Chapel Standard Definitive Design	APR-04
Army Standard for Initial Entry Training Chapels	5-JAN-09
Army Standard Design Requirements For The Initial Entry Chapel Facility Type	JUL-12
Army Standard Design Requirements For The <3 Sizes> Enhanced Chapel Facility Type	JUL-12
Army Standard Design Requirements For The <3 Sizes> Compact Chapel Type	AUG-13

### 4. See Also

73018	Religious Education Facility
73019	Family Life Center

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX						
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS
	Small Chapel Capacity Medium Chapel Capacity Large Chapel Capacity			NLT 345 PN NLT 619 PN NLT 1,181 PN		
Mission	Worship Center	A		10,700 NSF 12,500 NSF 17,800 NSF	10,700 NSF 12,500 NSF 17,800 NSF	
Mission	Immersion Baptistery	A		700 NSF 800 NSF 1,300 NSF	700 NSF 800 NSF 1,300 NSF	
Mission	Activity Center	A		3,100 NSF 3,900 NSF 5,800 NSF	3,100 NSF 3,900 NSF 5,800 NSF	
Support	Worship Center / Activity Center Audiovisual System	A		200 NSF	200 NSF	
General	Administrative Offices	A		700 NSF 1,040 NSF 1,040 NSF	700 NSF 1,040 NSF 1,040 NSF	
Mission	Multipurpose Room	A		1,800 NSF 2,200 NSF 3,500 NSF	1,800 NSF 2,200 NSF 3,500 NSF	
Mission	Choir Room	A		360 NSF 500 NSF 700 NSF	360 NSF 500 NSF 700 NSF	
Mission	Blessed Sacrament Room	A		300 NSF	300 NSF	
Mission	Sacristy Suite	A		300 NSF	300 NSF	
				ASSIGN RATING / NOTES		
				Standard design chapels have three sizes as shown here. Functional area rows show allowed NSF or capacity of each.		
				1. Seating: fixed, padded pews with padded kneelers arranged in arc.		
				2. Provide separate male / female changing areas adjacent to Baptistery.		
				3. Separate from Worship Center		
				4. Multimedia projection capability for simultaneous use of both spaces by separate groups.		
				5. Provide NLT 2 chaplain offices for Small and NLT 3 for the Medium and Large.		
				6. NLT two rooms in each with total NLT space (added together) displayed		
				7. Choir Practice and Preparation Room		
				8. Single space with expansion capability to an adjacent storage/flex space via movable partition.		
				9. Sacristy storage cabinets, work counter and robe closet.		

Mission	Kitchen Suite	A		260 NSF 340 NSF 500 NSF	260 NSF 340 NSF 500 NSF	10. Kitchen will accommodate two separate food preparation and pantry areas in support of different groups.
Mission	Toddler and Infant Support Rooms	A		500 NSF 700 NSF 900 NSF	500 NSF 700 NSF 900 NSF	11. Provide Cry Room with glass viewing panels connected to the Worship Center-and NLT 3 other rooms.
General	Entrance Areas	A		Varies Varies Varies	Varies Varies Varies	12. Must have primary and secondary entry areas, covered porch, others as appropriate.
Mission	Coat Storage Room	A		Varies Varies Varies	Varies Varies Varies	Near primary entrance
General	Storage Rooms	A		1,740 NSF 2,060 NSF 3,030 NSF	1,740 NSF 2,060 NSF 3,030 NSF	13. Provide 14 storage rooms to store tables, chairs and portable stage.
Support	Toilet Facilities	A		730 NSF 870 NSF 1,320 NSF	730 NSF 870 NSF 1,320 NSF	14 Provide separate adult and children toilet facilities. NLT 4 separate adult and NLT 1 separate children's facility
General	Group Office	A		334 NSF 334 NSF 334 NSF	334 NSF 334 NSF 334 NSF	
Mission	Meditation / Reconciliation	A		75 NSF 75 NSF 75 NSF	75 NSF 75 NSF 75 NSF	
Mission	Choir Robes and Music	A		65 NSF 65 NSF 75 NSF	65 NSF 65 NSF 75 NSF	
Mission	Nursing Mother's Room	A		108 NSF 108 NSF 151 NSF	108 NSF 108 NSF 151 NSF	
General	Ed Directors Office	A		118 NSF 118 NSF 118 NSF	118 NSF 118 NSF 118 NSF	
Support	Equipment Rooms	A		409 NSF 420 NSF 614 NSF	409 NSF 420 NSF 614 NSF	

Support	Janitor's Closet	A		32 NSF 32 NSF 54 NSF	32 NSF 32 NSF 54 NSF		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building or portion thereof that provides dedicated space for religious education and for religious activities separately from space in the Chapel (CATCD 73017). If collocated in a Chapel building (73017), report the portion of the building used for religious education and classroom religious activities in this category, separately from the worship space (73017).

### 2. Proponent and Center of Standardization

#### Proponent

Office of the Chief of Chaplains

#### Center of Standardization

Omaha District Center of Standardization

#### Proponent:

- Chaplain

#### COS:

- Omaha

### 3. Complex

When the worship supporting component is combined in a project with another chaplaincy facility type such as the religious education supporting component, it will be referred to as a Chapel Complex.

#### Complex:

- Chapel

### 4. Units of Measure

Primary: SF

Secondary: None

FAC UM: SF

Planning: NSF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF



## 5. Functional Areas

Table 73018-1 lists the functional areas by type of a Religious Education Facility. See the functional adequacy matrix following this facility category code discussion.

Table 73018-1 Functional Areas by Type	
Functional Area	Type
Open Offices	General
Private Offices (See Appendix A for criteria)	General
Conference Room	General
Youth Ministry Center	General
Classrooms	General
Multipurpose Area	General
Break Room	General
Storage	General
Kitchen	Support
Showers	Support
Janitor's Closet	Support
File Storage	General
Mechanical Room	Support
Electrical Room	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria authorize the Religious Education Facility (REF) for bases/garrisons. The qualifying attribute is that at least one chaplain is present on the base/garrison TDA or assigned unit TDA/TOE.

The basis for calculation is the base population. The Omaha Center of Standardization maintains the authorized size by standard design.

### 2. Programmatic Application

RPLANS identifies the base TDA with a chaplain, and identifies the population of the base in calculating the allowance. The population is defined as:

Authorized Military Pop + Dependents Pop

Dependents Population = (Military Population – UPH Pop) X 2.5

The RPLANS base attributes contain the data.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The requirements for the functional areas are within the functional area matrix found after this section. Prior to planning for additional space, an interview with the garrison chaplain should be conducted to determine whether additional space is required per the standard designs.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Utilization Metrics

See Chapter 5 regarding utilization, and Appendix A regarding functional areas.

### 1. Standard Facilities

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/Omaha/SitePages/ref.aspx>. Use the DA Standard Design Package for REF, prepared by the Omaha District Engineer Office, when developing designs for REF.

### 2. Programming Units

Table 73018-2 lists the standard sizes for the REF.

Table 73018-2 Standard REF Sizes			
Size	Population	Seating	SF
Small	1,601 to 10,000	NMT 250	22,500
Medium	10,001 to 20,000	NMT 500	28,700
Large*	20,001 to 35,000	NMT 750	36,500
* Garrisons with populations over 20,000 will have at least one large REF, and will determine additional REF size requirements based on an analysis of the total square footage needed to support its population.			

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Community land use per master planning design guide.

### **2. Site Planning Considerations**

See 73017, Chapel. Site the REF in an area that is centrally located in relation to housing areas and chapel facilities on the garrison master plan. Ensure the site includes sufficient parking and a bike rack.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Chief of Chaplains Office for assistance in developing programming data and current costs.

### **2. Exceptions**

None.

### **3. References**

Army Standard for Religious Education Facilities	15-APR-10
Army Standard Design	Aug-2013

### **4. See Also**

73017 Chapel  
73019 Family Life Center

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
	1,601 to 10,000 PN 10,001 to 20,000 PN 20,001 to 35,000 PN			Small (22,500 SF) 250 SE Medium (28,700 SF) 500 SE Large (36,500 SF)* 750 SE			Garrisons with populations greater than 20,000 will have at least one Large - additional as required
General	Director of Religious Education Offices	A		NLT 300 NSF NLT 450 NSF NLT 600 NSF	NLT 150 NSF		2 offices in small, 3 offices in medium, 4 offices in large
Mission	Youth Ministry Center	A		NLT 840 NSF NLT 840 NSF NLT 1,232 SF	No lower limit		
Mission	Resource Center	A		NLT 840 NSF NLT 840 NSF NLT 1,232 SF	No lower limit		
Mission	Classroom (Small)	A		6,336 NSF 8,448 NSF 10,560 NSF	528 NSF		12 rooms; 528 SF each 16 rooms; 528 SF each 20 rooms; 528 SF each
Mission	Classroom (Large)	A		940 NSF 1,700 NSF 3,400 NSF	940 NSF 1,700 NSF 3,400 NSF		NLT 1 room; 940 SF NLT 2 rooms; 850 SF each NLT 4 rooms; 850 SF each
General	Conference Room	A		380 NSF 680 NSF 758 NSF	380 NSF 680 NSF 758 NSF		
Mission	Multipurpose Room	A		2,482 NSF 3,528 NSF 3,900 NSF	No lower limit		
General	Kitchen Suite	A		233 NSF 233 NSF 293 NSF	233 NSF 233 NSF 293 NSF		Residential type appliances
General	Reception Area	A		196 NSF 388 NSF 388 NSF	196 NSF 388 NSF 388 NSF		
Support	Lobby Area	A		644 NSF 1,013 NSF 1,422 NSF	644 NSF 1,013 NSF 1,422 NSF		

General	Storage Rooms	A		945 NSF 1,066 NSF 1,267 NSF	945 NSF 1,066 NSF 1,267 NSF		
Support	Janitor's Closet	A		22 NSF 22 NSF 28 NSF	22 NSF 22 NSF 28 NSF		
Support	Restrooms	A		1,419 NSF 1,440 NSF 1,570 NSF	1,419 NSF 1,440 NSF 1,570 NSF		Provide NLT 2 separate adult toilets facilities and 1 separate children's facility per
Support	Recycling/Vending Area	A		160 NSF 172 NSF 172 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that serves as the religious center used for family counseling, clerical/pastoral education, and community-based activities in support of the Command Master Religious Program.

### 2. Proponent and Center of Standardization

#### Proponent

Office of the Chief of Chaplains

#### Center of Standardization

Omaha District Center of Standardization

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in SF.

Primary: SF  
Secondary: None  
FAC UM: SF

#### Proponent:

- Chaplain

#### COS:

- Omaha

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

## 5. Functional Areas

Table 73019-1 lists the functional areas by type for the Family Life Center. See the functional adequacy matrix after this discussion.

Table 73019-1 Functional Areas by Type	
Functional Area	Type
Private Offices	General
Family Counseling Room	Mission
Counseling Room	Mission
Observation Room	Mission
Library/Resource Room	Mission
Activity Room	Mission
Waiting Room	General
Training Room	Mission
Kitchen	General
Recycle/Vending Area	General
Janitors Closet	Support
Mechanical Room	Support
Electrical Room	Support

## B. Criteria

### 1. Basis for Authorization and Calculation

Criteria authorize one Chaplain Family Life Center (CFLC) for each Army base/installation/site.

The qualifying attribute is that at least one Family Life Chaplain is authorized on the TDA.

### 2. Programmatic Application

Each CFLC produces an allowance of 5,330 GSF. On garrisons where a Division is attached an additional 550 GSF option for 2 additional offices for the Division Family Life Chaplain and Family Life NCO will be provided.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

On garrisons where a division is attached, an additional 550 GSF option for two additional offices for the division Family Life Chaplain and NCO will be provided. Other than this exception, there is no reason for the requirement to differ from the authorized allowance.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The standard-size facility provides a CFLC with primary office space and training for not more than 70 occupants.

## **D. Programmable Increments**

### **1. Standard Facilities**

Standard Design floor plans are available on the COS website at: <http://mrsi.usace.army.mil/cos/Omaha/SitePages/flc.aspx>.

### **2. Programming Units**

This category code facility is always built as a standalone facility. Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Religious facilities should be located in the community center or in family housing areas.

### **2. Site Planning Considerations**

The CFLC should be in a location that is easily identified yet away from high-traffic or command buildings, to allow anonymity to users.



## F. Other Considerations

### 1. Special Instructions

Consult the Chief of Chaplains Office for assistance in developing programming data and current costs.

Consult the Omaha District USACE office Center of Standardization for guidance on this and related category codes.

### 2. Exceptions

None.

### 3. References

Army Standard for Chaplain Family Life Centers	MAR-10
Army Standard Design for Chaplain Family Life Center	MAR-2012

### 4. See Also

73017	Chapel
73018	Religious Education Facility

APPENDIX F – FUNCTIONAL ADEQUACY MATRIX							
FUNCTIONAL AREA		PRESENCE		QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	RQMTS	STATUS	STANDARD	LOWER LIMIT	STATUS	
Mission	Family Counseling Room	A		235 NSF	No lower limit		
Mission	Counseling Room	A		190 NSF	No lower limit		
Mission	Observation Room	A		190 NSF	No lower limit		
Mission	Library / Resource Room	A		180 NSF	No lower limit		
General	Family Life Chaplain Office	A		220 NSF	No lower limit		
General	NCO Chaplain Assistant Office	A		235 NSF	No lower limit		Adjacent to entrance/lobby
General	Division Family Life Chaplain Office (option)	A		220 NSF	No lower limit		Provide when a Division Family Life Chaplain is authorized
General	Division Family Life Chaplain NCO Chaplain Assistant Office (option)	A		180 NSF	No lower limit		Provide when a Division NCO Chaplain Assistant is authorized and locate next to Division Family Life Chaplain's office
General	Waiting Room	A		147 NSF	No lower limit		
Support	Toilet facilities	A		*	No lower limit		Per code
Mission	Activity Room	A		280 NSF	No lower limit		
General	Activity Storage Room	A		50 NSF	No lower limit		
General	Kitchen	A		135 NSF	No lower limit		
Mission	Training Room	A		700 NSF	No lower limit		
General	Training Room furniture storage	A		**	No lower limit		

General	Training Room equipment storage	A		43 NSF	No lower limit		
General	Lobby	A		152 NSF	No lower limit		
Support	Janitor's closet	A		35 NSF	No lower limit		
General	Recycling / Vending Area	A		135 NSF	No lower limit		
<b>Presence Requirements for Adequacy:</b>							
A - Required, Collocated							
B - Required, Adjacent							
C - Required, Vicinity							
D - Not required, if present collocated							
E - Not required, if present: adjacent or vicinity							
F - Occupant Dependent							

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A fixed, centralized food service building that provides fresh bread and pastry.

### 2. Proponent and Center of Standardization

#### Proponent

AAFES

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
 Secondary: None  
 FAC: SF  
 Planning: GSF  
 Other: None

#### Proponent:

- AAFES

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = GSF

### 5. Functional Areas

Table 73021-1 lists the areas required for an adequate facility.

Table 73021-1 – Family Life Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Baking Room	Mission	A
Cooling and Finishing Room	Mission	A
Pan Washing Room	Mission	A
Finished Product and Issue Room	Mission	A
Storage Area	Support	A
Latrines	Support	A
Administrative Office	General	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations that house troops only when suitable commercial or common services are not available, or cannot be made available; or where the use of such commercial facilities would not be economically beneficial for the government.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The master planner should obtain the “planning number” of persons to be served, and plan for a facility based on the data in the tables above. The planning number equals the installation’s master plan’s maximum number of billeted persons.

Table 73021-2 lists the standard bread baking sizes and production capacities based on number of persons served.

Table 73021-2 - Bread Baking Facility Sizes and Production Capacities				
Persons Served	GSF	SM	lbs.	kg
3,000	4,500	418	1,500	680
8,400	5,200	483	4,200	1,905
16,000	8,200	762	8,400	3,810
26,900	10,000	929	13,425	6,090
<b>Notes:</b>				
1. Gross areas above do not include mechanical or electrical and electronic/communications equipment room space.				
2. Production capacity assumes one 8-hour shift per day; can serve double the number of persons if operated two shifts per day.				

Table 73021-3 lists the same information for pastry bakeries.

Table 73021-3 - Pastry Baking Facility Sizes and Production Capacities			
Persons Served	GSF	SM	Pastry Servings
2,550	1,800	167	5,000
5,000	2,950	274	10,000
10,000	3,350	311	20,000
20,000	4,859	451	40,000
<b>Note:</b>			
1. Table 73021-2 Notes apply to this table as well.			

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Program one of the standard sizes listed in the tables above. There are no design standards or Standard Designs for this facility.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Should a master plan include a production kitchen of this category code, locate it near industrial access for bulk delivery of ingredients.

## **2. Site Planning Considerations**

This facility receives raw ingredients in large tractor-trailers, and so needs vehicle access, maneuvering space for deliveries, and also for the vehicles delivering the finished products to the persons served. Separate access and parking should be provided for employees.

## **F. Other Considerations**

### **1. Special Instructions**

Establishment of bakeries is governed by DOD Instruction 4100.33.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-7	20-JUL-98
DoD Instruction 4100.33 Commercial Activities Program Procedures	06-OCT-95

### **4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A building used for offering substance abuse identification, prevention, and rehabilitation services to military personnel, Department of the Army civilians, and eligible family members. Patients do not reside at this type of facility.

**Proponent:**

- DCS, G-1

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that houses a large-scale laundry and/or dry cleaning operation at an installation. This category does not include coin-operated laundries.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM

#### Center of Standardization

None.

#### Proponent:

- ACSIM

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## 5. Functional Areas

Table 73030-1 lists the functional areas and type of space.

Table 73030-1 – Laundry / Dry Cleaning Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Boiler	Support	B
Clerical	General	A
Drying and Tumbling	Mission	A
Flatwork ironing	Mission	A
Maintenance	Support	A
Marking and Classifying	Mission	A
Pressing	Mission	A
Receiving	Mission	A
Shipping	Mission	A
Sorting	Mission	A
Washing	Mission	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B - Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations, depending on the population served, when off-post commercial alternatives do not meet the Army's needs.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Compute the total potential number of persons served by adding the Active Duty personnel and DA civilian employees.

Table 73030-2 gives data for Appropriated Fund laundry and dry cleaning plants. For installations where both Appropriated Fund and Nonappropriated Fund facilities are provided, the total space shall not exceed the criteria established for Appropriated Fund buildings.

Table 2 - Gross Area of Combined Laundry and Dry Cleaning Plants		
Number of Persons Served	GSF	SM
Up to 2,000	NONE	NONE
2,001 to 4,000	8,500	790
7,001 to 10,000	11,000	1,022
15,001 to 30,000	45,000	4,181
<b>Notes:</b>		
1. For intermediate numbers of persons served, plan for the next-smaller plant, and assume a two-shift operation.		
2. Mechanical equipment room space, including boiler plant space as required, will be added to the gross.		
3. Electrical and electronic/communications equipment room space as required will be add to the gross areas.		

Design of new construction should ensure that the air compressors, after-coolers, and air-handling and exhaust fans are located on the exterior of the building. Space for this equipment is not included in the space listed in Table 73030-2.

The dry cleaning system should be especially designed to use washer-extractors and recovery tumblers supplied with synthetic dry cleaning solvent. This type of equipment need not be separated from the rest of the plant by a fire wall. However, a separate room is required to ensure solvent recovery from the surrounding air.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to use this calculation: (Required capacity) divided by (available capacity) multiplied by 100 equals percentage of utilization.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Follow the Master Planning Technical Instruction (MPTI) for locating this facility in an Industrial land use area near the edge of the community facilities. Consider the noise of exterior equipment, and prevailing winds for dispersing heat and fumes from this facility.

### **2. Site Planning Considerations**

This facility receives cleaning supplies in large trucks, and this maneuver space should be separate from customer drop-off/pickup and walk-in parking. Employee parking should be separate from both of the above.

## **F. Other Considerations**

### **1. Special Instructions**

Establishment of laundries is governed by DOD Instruction 4100.33.

A fixed laundry is provided only when commercial laundry service is not available.

Exchange-operated laundry and dry cleaning plants normally do not perform Appropriated Fund laundering and dry cleaning.

### **2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-8	20-JUL-98
DoD Instruction 4100.33 Commercial Activities Program Procedures	9-SEP-85

**4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A building used for picking up and dropping off laundry/dry cleaning items, which are processed at a central plant either on or off the post.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for the schooling of family member children in kindergarten through grade 12. Dependent Schools may or may not contain all grades. Also report this building with unit of measure persons (PN), which is the student capacity. Data should be available from the local school board or DOD Dependent Schools personnel. If not, conduct a physical count. For preliminary estimates of PN, divide the gross area by the average allowance per student of 110 GSF.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF

Secondary: PN

FAC UM: SF

The requirements are developed in PN.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Other UM = PN

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

Coordinate all school planning, programming, and construction with: DoDEA Department of Defense Education Activity 4040 North Fairfax Drive, Webb Building, Arlington, VA 22203; [www.dodea.edu](http://www.dodea.edu).

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this Category Code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The planning of dependent school facilities will be based on a justified need for the facility to meet the needs of the projected enrollment, and will be directly related to the educational specifications stipulating the program to be carried out. Appropriate educational specifications will be developed before starting the design of a new facility, or an addition to or major renovation of an existing building. These specifications will reflect the requirements of the program and the required space to meet the program needs.

Estimate the number of potential students to attend using the following approach. First, determine the projected military service personnel population. Second, determine the percent of accompanied soldiers. Third, multiply these two numbers to determine the number of families providing students requiring education. Fourth, multiply the number of families by 1.5 to determine the number of children requiring education.

Use the above calculated number of students, or more accurate information, if available. Use Table 73046-1 to break down the total students into an age-grade distribution for facilities planning purposes.



Table 1 - Percentage Distribution of Students by Age - Grade	
Age-Grade	Percent
Preschool	40.00
Kindergarten	6.66
1 <sup>st</sup>	6.72
2 <sup>nd</sup>	6.24
3 <sup>rd</sup>	6.24
4 <sup>th</sup>	5.58
5 <sup>th</sup>	4.92
6 <sup>th</sup>	4.32
7 <sup>th</sup>	3.96
8 <sup>th</sup>	3.72
9 <sup>th</sup>	3.60
10 <sup>th</sup>	3.30
11 <sup>th</sup>	2.64
12 <sup>th</sup>	2.10
Total	100.00

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Site schools adjacent to family housing, community service facilities, and public access to the installation.

## 2. Site Planning Considerations

Provide two parking stalls per classroom, plus 15 percent of the auditorium seating capacity. Allow 35 SY (29 SM) per stall.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design      11-APR-06  
Criteria: Chapter 5, Page 5-11

### 4. See Also

74010 Auditorium, General Purpose  
74016 Child Development Center – School-Age Facility  
74017 Child Development Center – Under 6 Years of Age  
74025 Army Continuing Education System Facility  
74040 Library Branch  
74041 Library Main  
74066 Youth Center  
74068 Recreation Center  
75011 Court Area  
75018 Playground, General Purpose  
75020 Baseball Field  
75021 Softball Field  
75022 Multipurpose Athletic Field  
75024 Archery Range  
75027 Running Track  
75030 Outdoor Swimming Pool  
75060 Stadium  
75061 Grandstand/Bleachers  
75065 Jogging/Fitness/Bike Trail  
75088 Batting Cage

### 1. DA Pam 415-28 Description / Definition

An enclosed, reinforced space, generally within or beneath an existing building, that provides protection for personnel against air raids or nuclear fallout. Also report this building/space with unit of measure persons (PN), which is the number of persons that can be accommodated simultaneously in the shelter. Data should be available from emergency services personnel. If not, conduct a physical survey.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- Safety

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A permanently assigned enclosed building or enclosed space that provides protection from the weather for those personnel who choose to smoke. If a structure, use CATCD 73070, Miscellaneous Shed.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A covered but open shelter structure that protects from the weather various items such as mailboxes, bicycles, and passengers awaiting transportation. This category includes taxi stands and bus stops for both military and school buses. Also included are overhead protection facilities at museums, monuments, memorials, review stands, and so on.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that provides localized service to concentrations of personnel located at too great a distance from the main post office to make postal service practicable at their location. Also known as a postal finance office.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-1 (DCS, G-1)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Other: None

### 5. Functional Areas

See Category Code 73073, Post Office, Main.

#### Proponent:

- Deputy Chief of Staff, G-1 (DCS, G-1)

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category on an installationwide basis; allowances depend on the total population served.

CONUS Total Pop Served = Mil Pop  
OCONUS Total Pop Served = Mil Pop + U.S. Civilian Pop

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

Table 73072-1 applies to all facilities under both 73072 and 73073 combined.

Table 73072-1 Installationwide Gross Area Based on Population Served		
Population Range	GSF	GSM
Up to 500	400	37.2
501 to 1,000	600	55.7
1,001 to 2,500	1,755	163.0
2,501 to 4,500	2,925	271.7
4,501 to 7,500	4,500	418.1
7,501 to 11,500	6,325	587.6
11,501 to 16,500	8,250	766.5
16,501 to 22,500	10,125	940.6
22,501 to 28,500	12,525	1,163.6
28,501 to 34,500	14,925	1,386.6
34,501 to 40,500	17,325	1,609.5
40,501 to 46,500	19,725	1,832.5
46,501 to 52,500	22,125	2,055.5
52,501 to 58,500	24,525	2,278.4

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The supported population is made up of military personnel, DA civilians, military retirees, their family members, and transient personnel on TDY.

Facility space allocations are based on the total number of postal finance clerks required to provide postal services to the installation. Post Office Branches may also house other functional areas, such as the Custodian of Postal Effects (COPE), postal supply, Registered Mail sections, Unit Mail Call areas, etc. Space requirements would increase for each additional functional area (use space allocations as listed in category code 73073 Post Office, Main to determine additional space allowances).

Table 73072-1 lists the standard sizes based on the number of postal finance clerks.

Table 73072-1 - Space Allocation Based on Number of Postal Finance Clerks						
Postal Finance Clerks - UM	Lobby	Postal Finance	Mail Holding	Postal Admin	TOTAL	
One - GSF	80.0	100.0	70.0	0.0	250.0	
One - SM	7.4	9.3	6.5	0.0	23.2	
Two - GSF	250.0	200.0	100.0	75.0	550.0	
Two - SM	23.2	18.6	9.3	7.0	51.1	
Three - GSF	350.0	300.0	150.0	75.0	875.0	
Three - SM	32.5	27.9	13.9	7.0	81.3	
Four - GSF	500.0	400.0	150.0	75.0	1,125.0	
Four - SM	46.5	37.2	13.9	7.0	104.5	
Five - GSF	650.0	500.0	150.0	75	1,375.0	
Five - SM	60.4	46.5	13.9	7.0	127.7	
Six - GSF	700.0	600.0	200.0	0	1,575.0	
Six - SM	65.0	55.7	18.6	0	146.3	

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.



## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Postal buildings have a positive land use relationship with other community and commercial facilities. Post Office Branch buildings are normally located in service centers with other community support facilities.

### **2. Site Planning Considerations**

Postal buildings must be sited where sufficient docking space is available, providing adequate area for the maneuvering and parking of trucks. Parking is based on 1 percent of the number of post office boxes in the branch building. For additional site and land use planning criteria, refer to category code 73073, Post Office, Main.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix M, Page M-39	11-APR-06
Design Guide 1110-3-142: Community Activity Centers - Chapter 7	01-DEC-84

### **4. See Also**

73073      Post Office, Main

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

The central postal building on an installation. The maximum is one per installation/site.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-1 (DCS, G-1)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: SF  
Other: None

#### Proponent:

- DCS, G-1

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = SF
- Other UM = None

## 5. Functional Areas

Table 73073-1 lists the functional areas and types of space in adequate facilities.

Table 73073-1 – Postal Facility Functional Areas and Type of Space		
Functional Area	Type	Presence
Lobby and customer service counter	Mission	A
Mail sorting and staging for shipping	Mission	A
Mail receiving and holding area	Mission	A
Mail boxes for individual customers	General	A
Sales area for mailing merchandise	Mission	A
Employee break / vending area	General	A
Employee restrooms	General	A
Stamps, cash and pilferables vault	Mission	A
Loading dock	Mission	A
Janitor's closet	Support	A
Supplies storage	Support	A
<b>Presence Requirements for Adequacy and Note:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one Main Postal facility per installation. Allowances depend on population served.

CONUS Total Pop Served = Mil Pop

OCONUS Total Pop Served = Mil Pop + U.S. Civilian Pop

### 2. Programmatic Application

RPLANS uses a step function table based on population served. Table 73073-1 applies to all facilities under both 73072 and 73073 combined. Additional space may be provided when specialized functions are located at an installation, such as:

- Overnight vault storage for accountable mail
- Carrier delivery to military family housing units

- High mail volume customers:
  - Major and subordinate headquarters or commands
  - Personnel centers
  - Service schools or hospitals
  - Air materiel areas and supply depots
- Nonresident schools
- Post directory
- Self-service postal units installed in the lobby

Table 73073-1 Installationwide Gross Area Based on Population Served		
Population Range	GSF	GSM
Up to 500	400	37.2
501 to 1,000	600	55.7
1,001 to 2,500	1,755	163.0
2,501 to 4,500	2,925	271.7
4,501 to 7,500	4,500	418.1
7,501 to 11,500	6,325	587.6
11,501 to 16,500	8,250	766.5
16,501 to 22,500	10,125	940.6
22,501 to 28,500	12,525	1,163.6
28,501 to 34,500	14,925	1,386.6
34,501 to 40,500	17,325	1,609.5
40,501 to 46,500	19,725	1,832.5
46,501 to 52,500	22,125	2,055.5
52,501 to 58,500	24,525	2,278.4

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

Space allowances for post offices are shown in Table 73073-1. Additional space may be provided if a central post office serves specialized functions located on the military installation, such as post directory, nonresident schools, major and subordinate headquarters, service schools, hospitals, carrier delivery to family housing units, or self-service postal units installed within the lobby of the facility.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Siting of central post offices should provide convenient access to postwide retail and community service facilities at the main post center. Clustered or consolidated accommodation with such functions as banks, commissaries, PXs, and specialized retail outlets is recommended.

### **2. Site Planning Considerations**

Provide for large trucks delivering and receiving from this facility as well as small delivery vehicles parked at the building when not in use. Provide separate parking for employees and customers.

## **F. Other Considerations**

### **1. Special Instructions**

Postal Service Coordination: Determinations of specific total requirements and space provisions for specialized functions, as listed above, will be coordinated with the U.S. Postal Service Regional Postmaster General. This should be done during the initial planning stage to arrive at a mutually agreeable gross area.

The coordination with the U.S. Postal Service Regional Postmaster General should be annotated on the project DD Form 1391.

## **2. Exceptions**

None.

## **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Page 5-17	11-APR-06
Design Guide 1110-3-142: Community Activity Centers - Chapter 7	01-DEC-84

## **4. See Also**

73072 Post Office Branch

### 1. DA Pam 415-28 Description / Definition

A building, normally operated by the DOL, that is used for the inspection of POVs. This category also refers to a collocated driver testing facility. Also report this building with unit of measure vehicles (VE). VE is a count of the vehicle inspection capacity of the facility. A single bay is one VE, and a double bay is two VE. Data should be available from the installation safety office or the DOL. If not, conduct a physical survey.

**Proponent:**

- Safety

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A separate building that may contain sinks and/or showers in addition to toilets. This category includes toilet facilities located at training sites (such as a range, bivouac, or maneuver area) as well as those in general public use areas such as parks, picnic areas, pools, beaches, and athletic fields. Do not use when toilets are part of a larger building.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A ceremonial building that is used to conduct indoor ceremonies during periods of inclement weather. The facility is not a physical fitness center or auditorium, but is constructed in such a way that entire ceremonies can be conducted indoors.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

74010 Auditorium, General Purpose

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A nonappropriated fund (NAF) building for the sale and repair of audio, photo, sports, and other equipment for military and civilian members. The outlet also may include a private enterprise sales store (such as donut shops) at other-than-NAF facilities.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A bank building that normally provides essential services: checking and savings accounts, savings bonds, cashier checks, money orders and drafts, loans, personal check cashing, traveler's checks, foreign currency exchange, overdraft protection, and lines of credit. Also use this category for automatic teller machines (ATMs) operated by a bank, even if constructed as a separate structure or as a space in a building that is not a bank or a credit union (such as a PX).

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. See facility category code 74023.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74023      Credit Union

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An enclosed building for the storage and maintenance of canoes and boats.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

A building used to show movies, present live stage productions, and provide commanders an auditoriumlike enclosed area in which to assemble their personnel for group instruction. This building can house activities such as graduations, organizational meetings, troop information programs, officer and airmen calls, and club meetings. The facility also serves as a drama and music center, as well as an entertainment workshop. It may or may not include dressing rooms. Also report this building with unit of measure seats (SE) to reflect the seating capacity of the auditorium portion of the building. Data should be available from the DPCA. If not, conduct a physical survey.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

### 3. Complex

This facility category is not part of an ACSIM-defined complex.

#### Complex:

- None

### 4. Units of Measure

The primary unit of measure for this facility category is SF.

Primary:	SF	Total square feet of the building
Secondary:	SE	Number of seats
FAC:	SF	
Planning:	NSF	Total net square feet of mission and general functional areas
Planning:	SE	Number of audience seats
Other:	SE	

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF
- Planning UM = NSF
- Planning UM = SE
- Other UM = SE

## 5. Functional Areas

Table 74010-1 lists functional areas by type and adequacy requirements for an Auditorium.

Table 74010-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Seating Area	Mission	A
Stage	Mission	A
Dressing Rooms	Mission	D
Public Restrooms	Support	A
AV Control Room	Mission	A
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
D - Not required, if present collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at installations with a population more than 5,000; such installations are authorized one auditorium, which may take the form of a movie theater.

### 2. Programmatic Application

RPLANS calculates an allowance for CATCD 74010 via a step function based on population. If the population is less than or equal to 5,000, RPLANS does not calculate an allowance.

Population is determined by:

$$\text{Population} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) \text{ in CONUS,} \\ \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) + \text{U.S. Civilian Pop in} \\ \text{OCONUS}$$

The population-based step function is:

POPULATION	AREA
5,001 to 15,000	28,000
15,001 and over	40,000

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. The eligible population is composed of installation military personnel and their dependents.

Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

Use installation population as the basis for calculating requirements. Consider the level of use for the AAFES or other movie theater, if present.

NAF and MWR requirements are separate from Army School auditoriums. Calculate the size of the auditorium based on the number of anticipated users at one time. This criteria uses 13 SF = 1.2 SM per seat for net area, including related spaces. Auditoriums include spaces such as a vestibule, main seating area, stage, storage, and sound room. Projection rooms are not usually required because most presentations are computer-based.

Calculate requirements to support TRADOC Schools and installation conference centers separately from NAF/MWR requirements.

## **3. Assigning Space**

### **a. Guidance**

When assigning space in an existing building, assign NUA corresponding to the required NSF for each functional area.

Assign this building to the AAFES or NAF activity that manages the building.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or Standard Designs for this building.

### **2. Programming Units**

The Army does not have a minimum requirement for programming this building. Program to requirements.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

This building is associated with the community center or troop housing areas.

**2. Site Planning Considerations**

Consider opportunities to share parking with other community facilities.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

UFC 4-171-02A U.S. Army Service Schools	01-MAR-05
TI 800-01 Appendix D: Morale, Welfare, And Recreational Facilities (Appropriated Funds)	20-JUL-98

**4. See Also**

17120      General Instruction Building



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An indoor recreation building containing bowling alleys, equipment sales and repair, food sales, and amusement machines. Also, report the Bowling Center capacity with unit of measure lanes (LN) to reflect the total number of bowling lanes. Data should be available from the DPCA. If not, conduct a physical count of the lanes.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in LN.

Primary: SF  
Secondary: LN  
FAC: SF  
Planning: SF  
Other: LN

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = LN
- FAC UM = SF
- Planning UM = SF
- Other UM = LN

## 5. Functional Areas

Table 74011-1 lists the functional areas, their type and presence requirement for adequate facilities.

Table 74011-1 Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Bowling lanes	Mission	A
Equipment and storage space	Mission	A
Amusement machine area	Mission	A
Pro shop	Mission	A
Food and beverage serving area	Support	A
Food and beverage seating area	General	A
Administrative space	General	A
Concourse	General	A
Seating for bowlers	Mission	A
Seating for observers	Mission	A
Lockers for bowlers	Support	A
Latrines	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category depending upon installation population. In CONUS, the algorithm includes the military population and their dependents. For OCONUS, the algorithm also includes the local U.S. civilian strength. Military population is defined as Active Duty military personnel assigned to the installation, plus 40 percent of their dependents.

### 2. Programmatic Application

RPLANS uses the step function criteria in TI 800-01. The maximum allowance for Bowling Centers in CONUS is 33,100 SF.

Installation allowances are not calculated for CONUS installations classified as Ammunition Storage, Port, Depot, Medical Center, Industrial, or Production installations. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS. Unit allowances are not calculated for bowling facilities.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Bowling Center allowances depend on the total population served.

$$\begin{aligned}\text{CONUS} &= \text{Mil Pop} + (\text{Dependents Pop} \times 0.40) \\ \text{OCONUS} &= \text{Mil Pop} + (\text{Dependents Pop} \times 0.40) \\ &\quad + \text{U.S. Civilian Pop}\end{aligned}$$

The gross area and number of lanes that may be provided for Bowling Centers are shown in Table 74011-2.

Table 74011-2 Gross Area for Bowling Centers – See Notes 1. – 3.			
Military Population	Number of Lanes	GSF	SM
All Locations			
Up to 250	2	2,700	251
251 to 1,000	4	4,500	418
1,001 to 1,800	6	6,600	613
1,801 to 2,500	8	8,500	790
2,501 to 3,200	10	10,750	999
3,201 to 3,800	12	12,800	1,189
CONUS Locations			
3,801 to 4,900	14	14,600	1,356
4,901 to 6,300	16	16,500	1,533
6,301 to 7,700	18	18,400	1,709
7,701 to 9,800	24	24,700	2,295
9,801 to 12,600 See Note 4.	30	31,000	2,880
OCONUS Locations			
3,801 to 4,900	16	16,500	1,533
4,901 to 6,300	20	20,500	1,904
6,301 to 7,700	24	24,700	2,295
7,701 to 9,800	32	32,800	3,047
9,801 to 12,600 See Note 4.	40	40,700	3,781
Notes			
1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.			
2. CONUS areas include space for equipment and storage. For each increment of four lanes, an additional 300 GSF (27.9 SM) gross area may be added for a game room for amusement games, billiards, and pool.			

**Table 74011-2 Gross Area for Bowling Centers – See Notes 1. – 3.**

<b>Military Population</b>	<b>Number of Lanes</b>	<b>GSF</b>	<b>SM</b>
3. OCONUS areas include space for equipment and storage. For each increment of four lanes, an additional 500 GSF (46.5 SM) gross area may be added for a game room for amusement games, billiards, and pool.			
4. For each increment increase of 700 military population above 12,600, two additional lanes totaling 1,900 GSF (177 SM) gross area may be provided. Additional lanes will not be provided for any increase below a full increment, and no additional lanes will be provided at installations in the 48 contiguous states without a complete and full study of the needs and the economic factors involved.			

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code. It is suggested to calculate utilization using this formula: (Required capacity divided by actual capacity) multiplied by 100 equals percentage of requirement fulfilled.

(Total number of hours lanes are used) divided by ([hours of operation] multiplied by [number of lanes]) multiplied by 100 equals percentage of bowling activity.

## D. Programmable Increments

### 1. Standard Facilities

Under development by COS – See section F.1., Special Instructions.

### 2. Programming Units

RFP Manual, Non Appropriated Fund Procurement Manual for Bowling Centers, September 1989, will be used when soliciting proposals for the design and construction of a new Nonappropriated Fund bowling facility using a design-build (One-Step Competitive Negotiation “Turnkey”) process. Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Typically, a Bowling Center would be located in the community center.

### 2. Site Planning Considerations

Adequate parking for maximum utilization during tournament season necessitates sufficient parking dedicated to the Bowling Center. It may share parking with facilities that do not ordinarily attract evening customers.

## F. Other Considerations

### 1. Special Instructions

Consult the Huntsville Center USACE office Center of Standardization for guidance on this category code.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix E, Pages E-5 -- E-6	20-JUL-98
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### 4. See Also

73056	Smoking Shelter
74010	Auditorium, General Purpose
74021	Commissary
74022	Skill Development Center, Nonautomotive
74023	Credit Union
74025	Army Continuing Education System Facility
74028	Physical Fitness Center
74033	Army Community Services Center
74041	Library Main
74050	Exchange Branch
74066	Youth Center
74068	Recreation Center
74069	Community Fitness Center
74070	Indoor Roller Skating Rink
74072	Indoor Swimming Pool
74082	Indoor Ice Skating Rink

### 1. DA Pam 415-28 Description / Definition

A building that serves as a non-AAFES cafeteria and cafeteria-type building in which the food operation is contracted out. Customers are served from a central serving line and are provided a seated eating or dining area. This category does not include AAFES-managed cafeterias (74051) or fast-food/snack bar exchange concessions such as Burger King (74062). Also report the seating capacity of the eating area in the building with unit of measure seats (SE). Data should be available from the DPCA. If not, conduct a physical count of the seats.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74013      Canteen  
74060      Break/Lunch Room  
74064      Post (Installation) Restaurant

### 1. DA Pam 415-28 Description / Definition

A building serving food and beverages primarily for use by local nationals. These are generally located outside the United States.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74012 Cafeteria  
74060 Break/Lunch Room  
74064 Post (Installation) Restaurant

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building providing before- and after-school care during the duty day, summer, school-out days, and holidays. The purpose of this facility is to support readiness by reducing lost duty time caused by conflicts between parental responsibilities and unit mission requirements. Services are generally provided on a regularly scheduled daily basis for before-school and after-school care, as well as on a full-day basis during the summer, school-out days, and holidays. This facility may also be referred to as a “School-Age Facility,” and different sizes of Standard Designs are available. Also report the number of children who can be supported simultaneously in this facility with unit of measure persons (PN). Data should be available from the program director. If not, conduct a physical survey during child programs.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in PN.

Primary: SF  
 Secondary: PN  
 FAC: SF  
 Planning: GSF  
 Other: PN

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = GSF
- Other UM = PN

### 5. Functional Areas

See Appendix B and the functional adequacy matrix immediately following this discussion.



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category depending on the population served. If the number of children determined to require these facilities is less than 25, then these facilities are not authorized at the installation. Factors are applied to the numbers of married military PN and the U.S. Civilian strength. The population served (Pop Srv) becomes the entry point for a step function table. First the Mil Pop is adjusted:

$$\text{Mil Pop} = \text{Mil Pop} - \text{Trainees} - \text{UPH}$$

$$\text{Pop Srv} = \text{Mil Pop} \times 0.20 + (\text{U.S. Civilian Pop} \times 0.025)$$

$$\text{USAREUR Pop Srv} = \text{Pop Srv} \times 1.10$$

### 2. Programmatic Application

RPLANS follows TI 800-01. Multiple facilities may be authorized at installations where the population warrants. The table is entered as many times as necessary to satisfy the population to be served with the largest possible facilities being provided each time. The total installation allowance is the sum of the multiple facilities. Unit allowances are not calculated for Child Development Centers. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Divide the population served into increments of the Standard Design sizes and locate these expeditiously to serve the intended users.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

See Appendix E for the standard floor plan.

**2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

This facility should be within walking distance of family housing without crossing major traffic arteries.

**2. Site Planning Considerations**

The Child Development Center (CDC) will be sited a minimum of 150 feet (45 m) from the installation perimeter and 82 feet (25 m) from trash containers, roadways, and parking lots. If these standoff distances are not provided, the CDC will be hardened as described in “DoD Antiterrorism Minimum Construction Standards for Buildings.

As a facility designed for both indoor and outdoor use, site selection requires safe open areas (avoid ravines, craggy topography, dense underbrush, and other natural or man-made hazards). The site requires an open landscape for visual security.

**F. Other Considerations****1. Special Instructions**

Consult the Huntsville Center USACE office Center of Standardization for guidance on this category code.

**2. Exceptions**

None.

**3. References**

Army Design Standard – CDC 6-10	31-OCT-04
Army Standard Design – CDC 6-10	12-MAR-08

**4. See Also**

73046    Dependent School  
74017    Child Development Center – Under 6 Years of Age

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / FIELD NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
General	Central Counter / Reception Desk	A	125 NSF	125 NSF	1. and 2.
General	Patron / Visitor Waiting Area	A	260 NSF	260 NSF	For parents and visitors adjacent to the central counter / reception desk
General	Directors Office	A	190 NSF	190 NSF	Located near reception desk and waiting area - See Note 2.
General	Training Area	A	235 NSF	235 NSF	3. and 4.
General	Staff Lounge	A	405 NSF	405 NSF	4. and 5.
Support	Staff / Public H.C. Toilet	A	60 NSF	60 NSF	Handicapped accessible for use by adults - separate from children's
Support	Staff Toilet / First Aid	A	60 NSF	60 NSF	In Standard Design – not specifically in Design Standard
Mission	Computer Lab	A	525 NSF	525 NSF	2., 6. and 7.
Mission	Homework Center	A	525 NSF	525 NSF	2., 4., 7., 8. and 9.
Mission	4 Activity Rooms	A	675 - 720 NSF EA	675 NSF	2., and 10.
Mission	Open Activity Area(s) (Atrium)				2. and 11.
	Main Atrium	A	1,515 NSF	1,515 NSF	
	Secondary Atrium 1	A	1,255 NSF	1,255 NSF	Std Design next to Teaching Kitchen
	Secondary Atrium 2	A	1,845 NSF	1,845 NSF	
Notes:					
1. For clerk to view / observe people flow - include small area for sick-child rest area - maintained configuration and functional relationship between main entry and central counter / reception desk					
2. Vision panels are interior windows for monitoring and provide additional risk prevention measure					
3. Minimum of two workstations with computers and Internet connectivity					
4. Not required in "60 to 75 Capacity Wing Addition"					
5. Adjacent to the Training Area - include refrigerator and counter w/ sink - provide space for staff to secure belongings					
6. Adjacent to main entry - 15 children (35 SF per child) and 15 computer workstations					
7. In "75 PN Capacity Wing Addition" and "135 PN Capacity Facility" dual function of Computer Lab and Homework Center w/ 7 computer workstations					
8. 15 children (35 SF per child) - adjacent to Computer Lab					
9. Homework Center only required in 180 PN- and 225 PN Capacity Facilities					
10. 15 children (45 SF per child) = 675 NSF (Standard Design includes 4 areas 2 @ 700 NSF / room & 2 @ 720 NSF / room = 16 PN)					

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / FIELD NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
11. Must have open activity area adjacent to Teaching Kitchen in the 135-, 180- and 225-child capacity facilities. Each open area provides 45 NSF per child for 15 children ~ = 40 FT by 16 FT plus circulation space: 8 FT = 2.4 m to provide a minimum of 6 FT = 1.8 m clear for circulation around each activity area. Clerestory windows provide natural lighting. Skylights are not an acceptable means of meeting natural lighting requirement.					
Mission	Gathering Area	A	530 NSF	530 NSF	12.
Mission	Arts / Science Activity Room	A	695 NSF	695 NSF	2. and 12.
Mission	Performing Arts Activity Room	A	730 NSF	730 NSF	
Mission	Commercial Grade Kitchen	A	630 NSF	630 NSF	13.
Mission	Dry Food Storage	A	75 NSF	75 NSF	Not mentioned in Design Standard – required for any Commercial Kitchen
Mission	Walk-In Cooler	A	65 NSF	65 NSF	
Mission	Teaching Kitchen	A	315 NSF	315 NSF	Incorporate into an activity room in the "75-Child Capacity Wing"
Mission	Multipurpose Room	A	3,440 NSF	3,439 NSF	2., and 14.
Mission	Storage and Issue	A	825 NSF	825 NSF	Accessible to multi-purpose room and exterior with roll-up doors to both
General	Secure Storage.	A	65 NSF	65 NSF	Accessed from Computer Lab in Standard Design – See Note 12.
Support	Closet	A	15 NSF EA	15 NSF EA	Standard Design includes one (1) each for Staff Lounge and Training Room
General	Storage	A	120 NSF	120 NSF	Accessed from Multipurpose Room –See Note 4.
General	Supply Storage	A	215 NSF	215 NSF	Accessed from Main Atrium
Support	Male / Female Toilet Areas for Children	A	925 NSF	925 NSF	NSF for both genders at two locations each (total four restrooms)
Support	Toilet(s)	A	120 NSF	120 NSF	NSF for two adult toilets – adjacent to Multipurpose Room – See Note 12.
Support	Janitorial Closet	A	60 NSF	60 NSF	Adjacent to children's toilet area
Support	Laundry Room	A	120 NSF	120 NSF	Space for one residential grade washer and dryer - Dryer vented to outside
Support	Video Monitor	A	125 NSF	125 NSF	See Note 12.

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / FIELD NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
Notes:					
12. Not in Design Standard					
Exterior:					
Support	Covered Entry	A	165 NSF	165 NSF	
Presence Requirements for Adequacy:					
A- Required, Collocated					
General Notes:					
13. In the 135-, 180- and 225-child capacity facilities - include dry storage area and pass-through window between kitchen and Teaching Kitchen					
14. With electrically operated drop divider curtain in 135-, 180- and 225-child capacity facilities - in 75-child capacity wing provide 2,250 NSF = 209 Nm2 - Provide unmarked athletic flooring and 5 FT = 1.525 m high shatterproof mirror on exterior wall					
15. Two-way intercom system capable of allowing program staff to only communicate with main reception desk					
16. Video monitoring system (to deter and reduce risk of child abuse and protect staff from unwarranted allegations of abuse) for all usable rooms – see standard design floor plans for camera locations					
17. Outdoor activity space must be provided to support wide range of program activities. Outdoor activity space for children must consist of the following: * Hard surface area * Open field area * Shaded area * Swings * OPTIONAL: Age-appropriate play structure(s), hose bibs, water fountains, and out-door electrical outlet are required. Outdoor Activity Area must be fenced. All fencing must be vinyl coated chain-link security type.					
18. Parking for patrons and staff is required. Provide a sidewalk that leads from the car directly to the front entry without crossing traffic lanes. School buses to deliver and pick up children curbside on sidewalk that leads directly into the facility.					
19. Service road / drive must be provided on the side of the building adjacent to the mechanical room, providing vehicular access to the kitchen service entry, mechanical yard, electrical room and storage room. The service drive will have a controlled access point with a controlled structure.					
20. A security system must be installed to facilitate entry into the facility (e.g. buzzer).					

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building housing one or more of the following programs for children 6 weeks to 5 or 6 years of age (and may include kindergarten-age children) within a Child Development Center (CDC): full-day programs; part-day programs; and hourly care programs. Different sizes of Standard Designs are available to accommodate different child capacities. Also report the number of children who can be supported simultaneously in this facility with unit of measure persons (PN). Data should be available from the program director. If not, conduct a physical survey during child programs.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in GSF. Their requirements are developed in PN.

Primary: SF  
Secondary: PN  
FAC: SF  
Planning: GSF  
Other: PN

#### Units of Measure:

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF
- Planning UM = GSF
- Other UM = PN

### 5. Functional Areas

See Appendix B and the functional adequacy matrix immediately following this discussion.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category depending upon the population served. If the number of children determined to require these facilities is less than 25, then these facilities are not authorized at the installation.

Factors are applied to the numbers of married military PN and the U.S. Civilian strength. The population served (Pop Srv) becomes the entry point for a step function table. First the Mil Pop is adjusted:

$$\text{Mil Pop} = \text{Mil Pop} - \text{Trainees} - \text{UPH}$$

$$\text{Pop Srv} = \text{Mil Pop} \times 0.20 + (\text{U.S. Civilian Pop} \times 0.025)$$

$$\text{USAREUR Pop Srv} = \text{Pop Srv} \times 1.10$$

### 2. Programmatic Application

RPLANS follows TI 800-01. Multiple facilities may be authorized at installations where the population warrants. The table is entered as many times as necessary to satisfy the population to be served with the largest possible facilities being provided each time. The total installation allowance is the sum of the multiple facilities. Unit allowances are not calculated for Child Development Centers. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Divide the population served into increments of the Standard Design sizes and locate these expeditiously to serve the intended users.



### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

See Appendix E.

Facilities covered in the standard are for the Child Development Centers for children 6 weeks through 5 years of age, with the following child capabilities:

Small	126-child capacity
Medium	232-child capacity
Large	338-child capacity

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility should be within walking distance of family housing without crossing major traffic arteries.

### **2. Site Planning Considerations**

The Child Development Center (CDC) will be sited a minimum of 150 feet (45 m) from the installation perimeter and 82 feet (25 m) from trash containers, roadways and parking lots. If these standoff distances are not provided, the CDC will be hardened as described in “DoD Antiterrorism Minimum Construction Standards for Buildings.”

As a facility for both indoor and outdoor use, site selection requires safe open areas (avoid ravines, craggy topography, dense underbrush, and other natural and man-made hazards). The site requires an open landscape for visual security.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Huntsville Center USACE office Center of Standardization for guidance on this category code.

### **2. Exceptions**

None.

### **3. References**

Army Design Standard – CDC 0-5	12-MAR-08
Army Standard Design – CDC 0-5 Small	31-OCT-07
Army Standard Design – CDC 0-5 Medium	14-NOV-07
Army Standard Design – CDC 0-5 Large	3-OCT-08

### **4. See Also**

73046	Dependent School
74016	Child Development Center – School-Age Facility

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
			Small			
			Medium			
			Large			
General	Lobby / Central Counter / Reception Desk	A				1.
General	Patron / Visitor Waiting Area	A				For parents and visitors adjacent to the central counter / reception desk
General	Director's Office	A				Adjacent to reception / waiting area – see Note 2.
General	Administrative Office Space	A				
General	Staff Lounge / Training Room	A				Counter / sink, refrigerator, vending machines, 2 computer workstations, tables and chairs
Support	Staff / Visitor Restrooms	A				Separate from youth restrooms – 1 toilet per 15 full time equivalent (FTE) staff on largest shift
General	Assistant Director(s)'s Office(s)	A				2. Vision panels are interior windows for monitoring and provide additional risk prevention measure
Support	Public Toilets	A				
Notes:						

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
1. For clerk to view / observe people flow – maintain configuration and functional relationship between main entry and central counter / reception desk					
General	Staff Lounge	A			Comfortable seating for 25 percent of staff. Provide kitchen area, vending machines and full-height lockers
General	Training Room	A	262 NSF 465 NSF 650 NSF	262 NSF 465 NSF 650 NSF	Two workstations (minimum) for Training and Curriculum Specialist (TACS) – See Notes 2. and 3.
Support	Staff Toilets	A	2 at 40 NSF 5 at 40 NSF 6 at 40 NSF	2 at 40 NSF 5 at 40 NSF 6 at 40 NSF	One water closet per 15 staff on largest shift. Locate near Children's Activity Rooms
General	Central Storage and Interior Storage Closets	A	12 at 42 NSF 15 at 45 NSF 18 at 45 NSF	12 at 42 NSF 15 at 45 NSF 18 at 45 NSF	Interior storage closets for program materials – locate adjacent to children's rooms
Mission	Infant / Pre-Toddler / Toddler Activity Room	A	4 at 730 NSF 8 at 728 NSF 12 at 728 NSF	490 NSF	Up to 14 children at 35 NSF floor area each – built-in diaper changing station – continued with Note 4.
General	Infant Buggy Storage Area(s)	A	1 at 42 NSF 2 at 67 NSF 3 at 67 NSF	33 NSF	“Bye-bye” buggies approximately 76 in. X 26 in. – One buggy per two rooms – two buggies per storage area
Mission	Preschool / Pre-K / Kindergarten Activity Rooms	A	3 at 1,116 NSF 6 at 1,116 NSF 9 at 1,116 NSF	840 NSF	Up to 24 children at 35 NSF floor area each – continued with Note 5.
Mission	Active Play Room	A	0 1 at 1,066 NSF 1 at 1,070 NSF	1,080 NSF	Up to 24 children at 45 NSF floor area each – continued with Note 6.
<b>Notes continued:</b>					
3. Also provide space for work counter for three (maximum) computers for training / distance learning					
4. Provide food prep and art counters w/ two sinks and under-counter refrigerator. Exterior doors swing-out 110-degrees for crib evacuation. Two pediatric toilets w/o automatic flush valve (rim 10 in AFF) exhaust to outside and two wall-hung child sinks (rim 17 in. AFF) w/ unbreakable mirrors above sinks. One drinking fountain (rim 17 in AFF). Fourteen cubbies for children's belongings.					

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
	5. Provide food prep and art counter w/ two sinks and under-counter refrigerator. Exterior doors swing-out 110-degrees for evacuation. Two ADA accessible pediatric toilets w/ automatic flush valve (rim 13 in AFF), floor drain, exhaust to outside and two wall-hung child sinks (rim 20 in. AFF) w/ unbreakable mirrors above sinks. One drinking fountain (rim 20 in. AFF). Twenty four cubbies for children's belongings. Two children's computer workstations.				
	6. Cased opening to pediatric toilet (rim 13 in. AFF) w/ toilet partition and sink (rim 20 in. AFF). Supply and equipment storage. Exit to outdoors.				
Mission	Outreach / Transition Care Room	A	1 at 1,000 NSF 1 at 1,116 NSF 1 at 1,116 NSF	840 NSF	Same requirements as Preschool – Kindergarten Activity Room – continued with Note 7.
Support	Commercial Grade Kitchen	A	932 NSF 1,044 NSF 1,044 NSF	932 NSF 1,044 NSF 1,044 NSF	Door to hall swings out into hall 180- degrees – door to exterior equipped with air curtain
Support	Janitorial Closet	A	30 NSF 30 NSF 42 NSF	30 NSF 30 NSF 42 NSF	Door swings out into hall 180-degrees. Space for mop sink, mop drying racks, equipment and supplies.
Support	Laundry Room	A	90 NSF 185 NSF 185 NSF	90 NSF 185 NSF 185 NSF	Heavy-duty commercial equipment: Small CDC 2 each, Medium and Large CDCs 3 each – continued with Note 8.
Support	Camera Equipment Room	A	60 NSF 96 NSF 96 NSF	60 NSF 96 NSF 96 NSF	Equipment racks: 48 in. wide X 30 in. deep X 84 in. high – continued with Note 9.
Support	Communication Room	A	77 NSF 80 NSF 80 NSF	77 NSF 80 NSF 80 NSF	Size to meet DOIM requirements
Support	Mechanical / Electrical Room(s)	A	840 NSF 1,890 NSF 2,094 NSF	840 NSF 1,890 NSF 2,094 NSF	No direct access to interior or to playgrounds for safety, noise and environmental considerations
<b>Notes continued:</b>					
	7. Also provide diaper changing station and one toilet and one sink (matching and duplicating Infant – Toddler Activity Room's requirements).				
	8. Provide laundry tub and counter for folding clean items. Wall and base cabinets for storing laundry supplies. Self-priming floor drain.				

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
9. Maintain temperature between 70 and 86 degrees F. Video monitoring system (to deter and reduce risk of child abuse and protect staff from unwarranted allegations of abuse) for all usable rooms – see standard design floor plans for camera locations					
Exterior					
Support	Playground / Outdoor Play Areas	A	NA	NA	See Design Standard for detailed requirements
General	Exterior Storage Rooms	A	4 at 42 NSF	4 at 42 NSF	Built into the facility adjacent to each play area
			7 at 42 NSF	7 at 42 NSF	
			10 at 42 NSF	10 at 42 NSF	
General Notes:					
10. All doors, except adult toilets, include half-height glass and 12 in. wide side-lite from 54 in. AFF to top of door frame, all w/ tempered glass. For side-lites at activity room doors see Note 11.					
11. View Windows: required for children to look into and out of activity rooms. Begin 18 in. to 24 in. AFF and extend to door height; side-lites at doors also match these dimensions; all w/ safety glass.					
12. Intercom system: two-way system connecting all usable rooms – front desk can contact rooms individually or all simultaneously					
13. Intrusion alarm: audible warning device capable of being heard at reception desk actuates when any exterior door opens (except to fenced areas, front or kitchen door).					
14. Parking is required: 1 per 4 patrons and 1 for each full-time staff. Provide a sidewalk that leads from the car directly to the front entry without crossing traffic lanes. School buses to deliver and pick up children curbside on sidewalk that leads directly into the facility.					
15. Exterior lighting systems for parking areas, sidewalks, service yards, service drives, building entrances and perimeter.					
16. Service road / drive must be provided on the side of the building adjacent to the mechanical room, providing vehicular access to the kitchen service entry, mechanical yard, electrical room and storage room. The service drive will have a controlled access point with a controlled structure.					
17. A controlled entry access. Security system must be installed to facilitate entry into the facility (e.g. buzzer).					
Presence Metric:					
A - Required, Collocated					

### 1. DA Pam 415-28 Description / Definition

An enclosed building containing a coin-operated car wash not managed by AAFES. Also report the vehicle capacity of the facility with unit of measure vehicles (VE). A single bay is one VE, and a double bay is two VE (in other words, vehicles and bays are used interchangeably for this facility). Data should be available from the DPCA. If not, conduct a physical survey. Report car washes managed by AAFES as category 74059, Exchange Car Wash.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74019 MWR Car Wash

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A coin-operated car wash structure managed by an MWR activity, not by AAFES. This structure is not an enclosed building. Report the area under the roof, or, if no roof, the area where vehicles are parked during washing operations. Do not include covered or uncovered vehicle waiting areas. Also report the capacity of the car wash as the number of vehicle bays that are provided at the facility with unit of measure vehicles (VE). A single bay is one VE, and a double bay is two VE (in other words, vehicles and bays are used interchangeably for this facility). Data should be available from the DPCA. If not, conduct a physical survey. Report AAFES-managed car washes as 74059, Exchange Car Wash.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74018 MWR Car Wash Building



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An AAFES-operated store building used for sales of uniforms, insignia, and a variety of personal clothing and equipment items. This store may include services for alterations and fittings.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

### None.3. Complex

None.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Other: None

#### Proponent:

- DCS, G-4

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

## 5. Functional Areas

Table 74020-1 lists the functional areas and types of space in adequate facilities.

Table 74020-1 – Functional Areas and Type of Space		
Functional Area	Type	Presence
Lobby and customer service counter	Mission	A
Sales area	Mission	A
Cashier and checkout area	Mission	A
Stock room	Support	A
Sorting and trash management area	Support	A
Employee break / vending area	General	A
Employee restrooms	General	A
High-value items vault	Mission	A
Loading dock	Support	A
Janitor's closet	Support	A
Supplies storage	Support	A
<b>Presence Requirements for Adequacy and Note:</b>		
A - Required, Collocated		

## B. Criteria

### Basis for Authorization and Calculation

The criteria authorize this facility category based on military population served.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

For mobilization facilities, building number M058 (Mobilization Design number M 740-20-A) is permitted 4,960 GSF (461.0 SM) (including mechanical, and electrical and electronic equipment room space) must be fully justified to obtain approval.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Locate with similar AAFES facilities in the community center.

### **2. Site Planning Considerations**

Consult with AAFES when developing a Small Area Plan.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI 800-01 Tables M-17 and M-18

20-JUL-98

### **4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A store building that provides food and household items to military personnel, retirees, authorized civilian employees, and family members. This building is similar to civilian supermarkets and retail food stores.

#### Proponent:

- DeCA

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. Contact the Defense Commissary Agency for requirements.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A workshop building that provides space for basic art and crafts instruction and services. In addition, facilities are provided for group and club meetings, gallery display, computer graphics, administrative tasks, tool issuance and storage, retail sales, project storage, and furniture finishing. Specific activities are oriented to provide community instruction, such as ceramics and pottery, drawing and painting, jewelry and metal art, model design and construction, photography, woodworking, computer graphics, picture framing, and general crafts. Services provided include picture framing, engraving, trophies, and gallery sales consignment. The facility may also be known as a craft shop.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

Table 74022-1 identifies the functional spaces and gives their relative percentage of the net floor area.

Table 74022-1 – Skill Development Center - Functional Areas and Requirements			
Functional Area	Percent	Type	Presence
General Arts and Crafts:			
Drawing and Painting	40	Mission	A
Jewelry and Art Metal		Mission	A
Pottery and Ceramics		Mission	A
Sculpture and 3-dim Design		Mission	A
Weaving, Textiles and General Handicrafts		Mission	A
Photography	10	Mission	A
Woodworking and Repair	35	Mission	A
Support Activities	15	Support	A
<b>Presence Requirement for Adequacy:</b>			
A - Required, Collocated			

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category is dependent on the population served. These facilities are not authorized where the population is 100 or less. The military population and their dependents contribute to the calculation of population served in CONUS and OCONUS adds the US civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dep Pop} \times 0.70)$$

$$\text{OCONUS} = \text{Mil Pop} + (\text{Dep Pop} \times 0.70) + \text{U.S. Civilian Pop}$$

### 2. Programmatic Application

RPLANS uses a step function table to determine the area based on the population served.

Unit allowances are not calculated for nonautomotive skill center facilities. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 74022-2 lists the step-function table for sizing facilities based on the population served, i.e. Mil Pop + (Dep Pop X 0.7 ). For populations up to 100, these functions must be accommodated in another facility.

Table 74022-2 Space Criteria Based on Population Served		
Population	GSF	GSM
101 to 250	2,000	186.0
251 to 500	3,000	279.0
501 to 1,000	4,000	372.0
1,001 to 3,000	6,000	557.0
3,001 to 5,000	7,500	697.0
5,001 to 7,000	10,000	929.0
7,001 to 10,000	14,000	1,301.0
10,001 to 15,000	20,000	1,858.0
15,001 to 20,000	25,000	2,323.0
20,001 to 25,000	30,000	2,787.0
25,001 to 30,000	35,000	3,252.0

For populations over 30,000, the area may be increased by 5,000 GSF (465.0 GSM) for each additional 10,000 population served.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

These facilities should be located in the community center.

### **2. Site Planning Considerations**

See 85216 for parking requirements.

## **F. Other Considerations**

### **1. Special Instructions**

Note: UFC 4-740-09AN incorporates DG 1110-3-124 mentioned in TI 800-01.

### **2. Exceptions**

None.

### **3. References**

UFC 4-740-09AN Arts and Crafts Centers	1-MAR-05
TI 800-01 Design Criteria	20-JUL-98

### **4. See Also**

None.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building operated by a private organization to provide Credit Union services not under the control of the DOD. A federal Credit Union facility may be established on any military installation for the convenience of the installation military personnel, civilians, their family members, and other personnel as permitted in the approved bylaws of the Credit Union. More than one Credit Union may be provided on an installation. ATMs operated by the Credit Union are included in this CATCD even if constructed as a separate facility. Use this category also for an ATM operated by a Credit Union even if constructed as a separate structure or as a space in a building that is not a bank or a Credit Union (for example, a PX).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

Table 74023-1 lists spaces for these facilities.

Table 74023-1 Credit Union Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Conference rooms	General	A
Employee lounge	General	A
Interview space	Mission	A
Lobby and reception	General	A
Management office	General	A
Operations	Mission	A
Record-holding	Support	A
Tellers' area	Mission	A
Vault	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the number of members, number of transactions per day, and number of employees for a specific installation. When added together, these factors form the basis for sizing a Credit Union.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 74023-2 lists the step functions for each of the three factors.  
Add these together to find the required area in Table 74023-3.

Table 74023-2 Factors for Sizing Credit Unions					
Members	Factor	Employees	Factor	Transactions	Factor
Up to 1,000	2	2 to 5	1	Up to 99	1
1,001 to 2,500	4	6 to 9	2	100 to 299	2
2,501 to 7,500	6	10 to 13	3	300 to 499	3
7,501 to 12,000	8	14 to 17	4	500 to 749	4
12,001 to 20,000	10	18 to 21	5	750 to 999	5
Each additional 10,000 or portion	2	Each additional 3	1	Each additional 500	1

Table 74023-3 Credit Union Area Based on Sum of Factors		
Total Factors	GSF	GSM
Minimum	800	74.0
5	1,000	93.0
6	1,300	121.0
7	1,700	158.0
8	2,200	204.0
10	2,800	260.0
12	3,500	325.0
14	4,300	399.0
16	5,200	483.0
18	6,200	576.0
19	7,200	669.0
20	8,200	762.0
21	9,200	855.0
22	10,200	948.0
23	11,200	1,040.0
24	12,200	1,133.0
25	13,200	1,226.0
Each additional 1	1,000	93.0

Requirements for mechanical, electrical, and electronic equipment rooms will be added to the gross areas shown above. These total gross areas may be increased by 10-percent to allow for future business expansion. The area may also be divided among multiple facility locations.

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

None.

**2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Credit Unions should be located in the community center or in housing areas.

**2. Site Planning Considerations**

See 85216, Nonorganizational Vehicle Parking, Unpaved, for parking requirements.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TI 800-01 Design Criteria, page 5-10 and 5-11      20-JUL-98

**4. See Also**

74006      Bank

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that provides space for basic automotive service and cleaning operations performed by the vehicle owner, with or without limited guidance. Automotive craft activities that are oriented toward, but go beyond, the repair and maintenance of personal automobiles, trucks, trailers, motorcycles, and bicycles (such as car clinics, safety inspections, demonstrations, and competitions) are conducted. In addition, building space is provided for instructional programs, club meetings, administrative tasks, tool issuance and storage, and limited automotive parts sales. Steam cleaning facilities for use by vehicle owners may also be provided. Also report the vehicle capacity of the center with unit of measure vehicles (VE). A single bay is one VE, and a double bay is two VE (in other words, vehicles and bays are used interchangeably for this facility). Data should be available from the DPCA. If not, conduct a physical survey.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in GSF. Develop requirements in VE.

Primary: SF  
Secondary: VE  
FAC: SF  
Planning: GSF  
Other: VE

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- Planning UM = GSF
- Other UM = VE

## 5. Functional Areas

Table 74024-1 lists the areas required for an adequate facility.

Table 74024-1 Automotive Skills Center Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Entrance lobby	General	A
Office	General	A
Classroom	Mission	A
Secure sales	General	A
Small tools and parts	Support	A
Machine shop	Mission	A
Welding shop	Mission	A
Body shop	Mission	A
Paint booth	General	A
General repairs and tune-ups	Mission	A
Muffler and tire shop	Mission	A
Lubrication shop	Mission	A
Steam cleaning	Mission	B
Secure parking	Support	B
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category depending upon population. This facility is not authorized where the installation population is 25 or less. The military population and their dependents contribute to the calculation of population served in CONUS, and OCONUS adds the U.S. civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.10)$$

$$\begin{aligned} \text{OCONUS} &= \text{Mil Pop} + (\text{Dependents Pop} \times 0.10) \\ &\quad + \text{U.S. Civilian Pop} \end{aligned}$$

### 2. Programmatic Application

RPLANS determines the allowance from step- function criteria and tables in TI 800-01.

Unit allowances are not calculated for auto skill centers.

Installation allowances are not calculated for ARNG installations.

Installation allowances for USAR installations are calculated only

for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 74024-2 lists the area based on population served.

Table 74024-2 Automotive Skill Center Area Base on Population Served		
Population Served	GSF	GSM
Up to 25	N / A	N / A
26 to 50	1,000	93.0
51 to 100	1,500	139.0
101 to 250	2,250	209.0
251 to 500	3,000	279.0
501 to 1,000	4,200	390.0
1,001 to 3,000	6,000	557.0
3,001 to 5,000	9,000	836.0
5,001 to 7,000	12,000	1,115.0
7,001 to 10,000	15,000	1,394.0
10,001 to 15,000	18,000	1,672.0
15,001 to 20,000	21,000	1,951.0
20,001 to 30,000	24,000	2,230.0
30,001 or more an additional	+ 6,000	+ 557.4

Requirements for mechanical, electrical, and electronic equipment rooms will be added to the gross areas shown above. Gross areas are based on 500 GSF (46.5 GSM) per automobile in the facility. Outdoor work stalls (covered, open, or shielded) are not included in authorized space.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Considerations

### 1. Land Use Considerations

This facility and its exterior land use give it an industrial nature.

### 2. Site Planning Considerations

Provide access for tow trucks, delivery vans, and customer vehicles. Secure storage should be visually screened from public circulation and adjacent land uses.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Design Criteria: page E-4 and E-5	20-JUL-98
UFC 4-740-10AN Auto Craft Centers	1-MAR-05
DG 1110-3-126 Auto Craft Centers	AUG-76

### 4. See Also

None.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building designed to advance the academic, technical, and occupational skills of Soldiers, family members, and authorized civilians. These programs are often included as part of the Army Continuing Education System (ACES). The facility is often referred to as the Education Center. Programs are planned and conducted to support the recruitment, retention, and readiness needs of both the individual and the Army. Included are the university classrooms associated with off-campus college degree programs, but not university regional offices that, if located on post, are reported as 61050, Administrative Building, General Purpose.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-3 (DCS, G-3)

#### Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- DCS, G-3

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

Report and program these facilities in SF.

## 5. Functional Areas

Table 74025-1 lists the functional areas and types of space that may be required in an ACES facility. Not all functional areas are required at every ACES facility. Report all space as 74025, except Classroom XXI Level 3 or higher. Classify these as 17136, Automation Aided Instruction Building, regardless of size.

Table 74025-1 Army Continuing Education System Facility Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
<b>Education Spaces</b>		
Traditional Classroom	Mission	
Multipurpose Classroom	Mission	
Seminar Model Classroom	Mission	
Consolidated Training Configuration	Mission	
Video- Tele Training Classroom	Mission	
Classroom XXI	Mission	
NCO Training Space	Mission	
Digital Training Access Center	Mission	
Resource Center	Mission	
<b>Administrative Spaces</b>		
Information/Reception	General	
Instructor Office	General	
Director Office	General	
Administrative Office	General	
Building Managers Office	General	
Conference Room	General	
Network Operations Center	Mission	
Computer Maintenance Area	Mission	
Loading Dock		
Transient Storage	Mission	
Record Storage	Mission	
Copy Room	General	
Supply Room	Mission	
<b>Special Functional Areas</b>		
Small-Arms Training Room	Mission	
Arms Vault	Mission	
Auditorium	Mission	
Multi-Purpose Auditorium	Mission	
College Office	General	
Counselors Office	General	
Testing Room	Mission	
Testing Control Room	Mission	
Testing Administrator Office	General	
Broadcast Studio	Mission	
Applied Instruction Module	Mission	

Table 74025-1 Army Continuing Education System Facility Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
<b>Support Space</b>		
Vestibule	Support	
Student Break/Vending Area	General	
Staff Break Area	General	
Restrooms	Support	
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		

## B Criteria

### 1. Basis for Authorization and Calculation

The basis for authorization is a combination of an Active Component military population of greater than 250 personnel, and an education services officer on the garrison TDA.

### 2. Programmatic Application

RPLANS calculates allowances at base level based on military strength defined as Permanent Party Military. RPLANS generates allowances in accordance with the step functions in Table 74052-2.

Table 74025-2 Area Based on Military Population	
Population	GSF
251 to 1,000	4,925
1,001 to 3,000	9,700
3,001 to 5,000	14,700
5,001 to 7,000	17,500
7,001 to 10,000	21,500
10,001 to 15,000	28,500
15,001 to 20,000	34,500
20,001 to 25,000	39,500
25,001 to 30,000	44,200
30,001 to 40,000	52,200
40,001 to 50,000	59,700
50,001 to 60,000	65,200

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

## **2. Requirements Calculations**

Develop requirements using the interactive worksheet titled GIB\_or\_ACES\_Programming\_Worksheet-16Sep08\_v21.xls, which is available from the COS website:  
<http://mrsi.usace.army.mil/cos/norfolk/SitePages/gib.aspx>.

Use the garrison TDA to identify the authorized personnel in the ACES staff. Verify contractors and college personnel working in continuing education. Use historic records to assess the numbers of classrooms required. The worksheet can serve as both an interview outline and documentation of the calculated requirement. The worksheet provides both net and gross area in square feet or square meters.

Not all items in the worksheet are required at every installation.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Program facilities to the delta between existing adequate facilities and requirements. Use the programming worksheet and supporting documentation to justify the scope.

Land Use and Site Planning Considerations

### **3. Land Use Considerations**

This education facility serves both unaccompanied and married soldiers, and needs to be convenient to both. It is similar to an administrative function and should be near the library and other activities in the community center that don't produce noise.

#### 4. Site Planning Considerations

The design guide lists the following considerations:

- Convenience of access for pedestrians and drivers of service vehicles
- Direction of prevailing wind and sun angles
- Land forms, grading, drainage, and tree coverage
- Views (desirable and undesirable)
- Size, location, and sufficiency of utility connections
- Future expansion

### E. Other Considerations

#### 1. Special Instructions

None.

#### 2. Exceptions

The space planning criteria in the design guide predates many current Army programs. Use the programming worksheet for determining requirements. However, the design guide contains valuable information about spatial relationships and site planning.

#### 3. References

The Army Standards for General Instruction Buildings (GIB) and Army Continuing Education System Facilities	14-DEC-08
General Instruction Building (GIB) and Army Continuing Education System (ACES) Standard Design v2.1—	16-SEP-08
GIB_or_ACES_Programming_Worksheet_	16-SEP-08
AR 621-5 Army Continuing Education System with Rapid Action Revision 6-SEP-09	11-JUL-06
DG 1110-3-112 Design Guide Army Continuing Education System Centers	MAY-79

#### 4. See Also

17120	General Instruction Building
17136	Automation Aided Instructional Building

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A gymnasium or other type building for the physical training, conditioning, and recreation of military personnel, authorized civilians, and their family members. The facility includes one or more of the following areas: indoor basketball/volleyball courts, fitness/weight area, exercise/aerobics rooms, other optional sports/fitness areas, locker rooms, and offices. Indoor pools are accounted for separately under 74072, Indoor Swimming Pool.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

### 5. Functional Areas

See the functional adequacy matrix (FAM) at the end of this section for functional areas, types of space, and Army standard areas for adequate facilities.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category depending upon population. This facility is not authorized where the installation population is 250 or less. Physical fitness facility (PFF) buildings are allocated on the basis of authorized population (AP), which includes 100 percent of Active Duty military and 25 percent of their dependents. Retirees are not counted in the AP at this time. DOD civilians are included at 10 percent only if they exceed 60 percent of the total workforce for CONUS installations. OCONUS installations are authorized at 100 percent of the civilian population in their AP.

To calculate the PFF building program for APs that exceed 10,000, an “Increment” building program is provided to increase the Large building program. The Increment program is intended to serve each additional 5,000 persons over 10,000, and includes 30,677 SF. Thus, a total AP of 20,000 would require a Large PFF of 89,448 SF plus two 30,677 SF “Increments,” for a total of 150,802 SF.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25)$$

$$\text{OCONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) + \text{U.S. DOD Pop}$$

$$\text{CONUS}[e] = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) + (\text{U.S. DOD Pop} \times 0.10)$$

### 2. Programmatic Application

RPLANS allows space for these facilities based on a step function table in the Army standard.

For each population increment of 5,000 above 10,000, an additional 30,677 GSF is allowed.

Unit allowances are not calculated for PFFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 74028-1 lists the step function for sizing Physical Fitness Centers (PFCs). For each authorized population increment of 5,000 PN above 10,000, additional PFC space of 30,677 GSF gross area shall be added.

Table 74028-1 PFC Space Criteria and Sizes		
Population Served	Size	GSF
Up to 250	NA	NA
251 to 1,000	X-Small	27,771
1,001 to 3,000	Small	44,347
3,001 to 6,000	Medium	64,799
6,001 to 10,000	Large	89,448
Each additional 5,000	Add Increment	30,677

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

There are currently no Standard Designs; however, there is an Army standard and Standard Design criteria titled “Technical Criteria for U.S. Army Physical Fitness Facilities.”

### 2. Programming Units

The Army design standard specifies that PFFs be programmed in “Increments” (depending on the deficiencies at the site). See the FAM at the end of this section.

Programming documents report these facilities in GSF to make cost comparisons between projects.



## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility should be located near other recreation facilities, particularly outdoor activities.

### 2. Site Planning Considerations

Provide sufficient space for outdoor fitness activities as well as staff and customer parking.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

Revised Army Standard

Army Standard for Physical Fitness Facilities

7-NOV-12

Technical Criteria for U.S. Army Physical Fitness Facilities

JUN-10

American College of Sports Medicine (ACSM)

2013

### 4. See Also

74010 Auditorium, General Purpose

74016 Child Development Center – School-Age Facility

74017 Child Development Center – Under 6 Years of Age

74025 Army Continuing Education System Facility

74041 Library Main

74066 Youth Center

74068 Recreation Center

75060 Stadium

75065 Jogging/Fitness/Bike Trail

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE METRIC	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION		STANDARD	LOWER LIMIT		
General	Control Desk	A	X-Small			
			Small			
			Medium			
			Large			
			X-Large			
			Increment			
			(each 5,000 over 15,000)			
Mission	Fitness Module	A	300 NSF	300 NSF		
			512 NSF	512 NSF		
			725 NSF	725 NSF		
			938 NSF	938 NSF		
			1,151 NSF	1,151 NSF		
			213 NSF	213 NSF		
Mission	Cardiovascular Area	A	550 NSF	550 NSF		
			1,350 NSF	1,350 NSF		
			2,550 NSF	2,550 NSF		
			4,000 NSF	4,000 NSF		
			6,000 NSF	6,000 NSF		
			2,000 NSF	2,000 NSF		
Mission	Circuit Area	A	800 NSF	800 NSF		
			1,350 NSF	1,350 NSF		
			1,650 NSF	1,650 NSF		
			2,300 NSF	2,300 NSF		
			3,300 NSF	3,300 NSF		
			1,000 NSF	1,000 NSF		
			975 NSF	975 NSF		
Mission	Free Weight Area	A	1,885 NSF	1,885 NSF		
			3,055 NSF	3,055 NSF		
			5,200 NSF	5,200 NSF		
			7,995 NSF	7,995 NSF		

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE METRIC	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION		STANDARD	LOWER LIMIT		
Note 2 continued: • Group Exercise Rooms, • Entrance to Locker Rooms, • Entrance to Racquetball Courts. 3. Lockable storage for towels, balls and other equipment issued from this desk.						
General	Receiving / Equipment Repair / Storage	A	233 NSF	233 NSF	8. Minimum 8'-0" wide doors opening to both exterior for vehicular deliveries and to fitness module	
			459 NSF	459 NSF		
			726 NSF	726 NSF		
			1,150 NSF	1,150 NSF		
			1,730 NSF	1,730 NSF		
Mission	Fitness Assessment	A	580 NSF	580 NSF	9. Used for fitness testing, consultation and stretching	
			225 NSF	225 NSF		
			400 NSF	400 NSF		
			575 NSF	575 NSF		
			750 NSF	750 NSF		
Mission	Exercise Module	A	925 NSF	925 NSF	10. One room divisible into two with movable wall (divisible into three parts for X-Large)	
			175 NSF	175 NSF		
			1,200 NSF	1,200 NSF		
			1,650 NSF	1,650 NSF		
			2,800 NSF	2,800 NSF		
General	Exercise Storage	A	4,500 NSF	4,500 NSF		
			6,750 NSF	6,750 NSF		
			2,250 NSF	2,250 NSF		
			120 NSF	120 NSF		
			165 NSF	165 NSF		
Mission	Gymnasium Module	A	280 NSF	280 NSF	11. In facilities with more than two basketball courts: may provide a primary and secondary gymnasium 12. Minimum 10-foot safety zone	
			450 NSF	450 NSF		
			675 NSF	675 NSF		
			225 NSF	225 NSF		
			9,775 NSF	9,775 NSF		
Mission	Gymnasium	A	17,400 NSF	17,400 NSF		
			25,200 NSF	25,200 NSF		
			33,000 NSF	33,000 NSF		

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE METRIC	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION		STANDARD	LOWER LIMIT	
General	Storage for gymnasium	A	41,400 NSF	41,400 NSF	around courts to walls, bleachers, etc. Minimum 15-foot between courts
			8,400 NSF	8,400 NSF	
			700 NSF	700 NSF	
			1,050 NSF	1,050 NSF	
Mission	Indoor Jogging Track	A	1,400 NSF	1,400 NSF	13. A 3-lane indoor jogging track with banked corners is required in at least 1 PFF on an installation. 14. Area shown is calculation of half actual area in accordance with Army criteria
			1,750 NSF	1,750 NSF	
			2,100 NSF	2,100 NSF	
			350 NSF	350 NSF	
			1,500 NSF	1,500 NSF	
			2,100 NSF	2,100 NSF	
Mission	Structured Activities	A	2,650 NSF	2,650 NSF	15. Activities may include: Combatives room, Racquetball Courts, Climbing wall, Spinning Classroom, Health and wellness offices, Concessions area, Child care and others such as spectator area, saunas and steam rooms, etc.
			3,200 NSF	3,200 NSF	
			3,200 NSF	3,200 NSF	
			0 NSF	0 NSF	
			4,740 NSF	4,740 NSF	
			5,183 NSF	5,183 NSF	
Support	Sauna, Lockers, Showers, Toilets	A	6,310 NSF	6,310 NSF	16. Separate spaces for male and female shall be provided to include: Locker / dressing area, Grooming area, Shower area with private shower stalls and drying
			8,002 NSF	8,002 NSF	
			12,104 NSF	12,104 NSF	
			4,102 NSF	4,102 NSF	
			2,400 NSF	2,400 NSF	
			3,800 NSF	3,800 NSF	

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE METRIC	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION		STANDARD	LOWER LIMIT	
Support	Laundry	A	3,000 NSF	3,000 NSF	booths, Sauna OR steam room, Restroom facilities
			180 NSF	180 NSF	17. Provide for mechanical / electrical for industrial-style washers (extractors) and dryers (tumblers), utility sink, folding table, storage for supplies, laundry cart(s) etc.
			180 NSF	180 NSF	
			230 NSF	230 NSF	
			315 NSF	315 NSF	
			385 NSF	385 NSF	
General	Administration	A	70 NSF	70 NSF	18. See Design Standard for individual space allowances for: Director's office, Program Mgr's office, Support staff workstations, Copy / file / work / break room, Storage, Classroom / training room and its storage
			428 NSF	428 NSF	
			617 NSF	617 NSF	
			1,148 NSF	1,148 NSF	
			1,226 NSF	1,226 NSF	
			1,324 NSF	1,324 NSF	
Support	Lobby	A	99 NSF	99 NSF	19. In proximity to main entrance, control desk and public restrooms – accommodate approximately 5% of total participants at any one time.
			230 NSF	230 NSF	
			440 NSF	440 NSF	
			650 NSF	650 NSF	
			880 NSF	880 NSF	
			1,090 NSF	1,090 NSF	
Support	Public Toilets	A	210 NSF	210 NSF	20. In proximity to lobby and gymnasium – primarily for use by spectators.
			287 NSF	287 NSF	
			515 NSF	515 NSF	
			851 NSF	851 NSF	
			1,280 NSF	1,280 NSF	
			1,367 NSF	1,367 NSF	
Support	Miscellaneous (Mechanical / electrical, Circulation, Structure, etc.)	A	96 NSF	96 NSF	21. PFFs must be heated and air conditioned unless a waiver is granted.
			4,629 NSF	4,629 NSF	
			7,391 NSF	7,391 NSF	
			10,800 NSF	10,800 NSF	
			14,908 NSF	14,908 NSF	
			20,021 NSF	20,021 NSF	22. Drinking fountains must be in or accessible to each functional

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE METRIC	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION		STANDARD	LOWER LIMIT		
			5,113 NSF	5,113 NSF		
TOTAL GROSS AREA						
Total Gross Area			29,272 NSF	29,272 NSF		
			46,447 NSF	46,447 NSF		
			67,450 NSF	67,450 NSF		
			92,649 NSF	92,649 NSF		
			123,317 NSF	123,317 NSF		
			30,678 NSF	30,678 NSF		
Presence Metrics:						
A - Required, Collocated						

### 1. DA Pam 415-28 Description / Definition

An enclosed greenhouse building constructed of glass or similar material in which the temperature and humidity can be controlled/improved for producing or protecting plants.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that provides space for locker rooms, a sports lounge, a snack bar, a pro shop sales area, and storage of golf clubs and other sports equipment.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

An enclosed building for the storage and maintenance of grounds equipment required at a golf course. This building also stores private and government-owned golf carts. Report open sheds and canopies on golf courses using CATCD 75052, Recreational Shelter.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established criteria or allowances for this facility category code. RPLANS sets allowances equal to assets for this facility category code. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

## **A. Reporting**

### **1. DA Pam 415-28 Description / Definition**

A building where staff and volunteers provide information, guidance, and assistance in solving problems of a personal nature for military personnel and their dependents. This assistance may provide information on career counseling, emergency leave, family advocacy, grants, handicapped children, housing, insurance, legal matters, loans, military separation, passports, personal financial management, retirement, social work services, transportation, and voting. Living space also may be included for battered spouses and their families. Space within this category may be used as a family resource center to serve as a nonreligious meeting point for spouses of deployed Soldiers and/or as a Women, Infants, and Children office.

#### **a. Huntsville USACE COS – Army Community Services Center**

“The Army Community Service Center (ACSC) is a comprehensive social readiness program designed to assist the commander by identifying emerging readiness issues and provide comprehensive, coordinated and responsive services which promote self reliance, resiliency and stability of soldiers, retirees, civilian employees and their families.”

#### **b. Huntsville USACE COS – Soldier Family Support Center (SFSC)**

“The SFSC will be a hub or all encompassed “Campus” includes the essentials of 5 main buildings: Military Personnel Department (MPD), Army Community Service Building (ACS), Reception Barracks Building (RBB), Soldier Readiness Processing Center (SRPC), and Family Readiness Center (FRC). These buildings will service and employ full time staff, part time staff and volunteers.”

The standard for this facility is under development as of January 2010. See subsection E. 2. for additional information.

**c. Fort Worth USACE COS – Warriors in Transition  
(WT) Complex – Soldier Family Assistance Center  
(SFAC)**

“The Soldier Family Assistance Center (SFAC) serves as a transitional facility, which bridges the gap between in the transition between family assistance and assisting the soldier in personal adjustments. Soldier assistance by family members is critical element in the recovery from injuries.”

Child care areas, financial assistance, meeting rooms, kitchenettes, a chaplain, and other assistance-type functions to accommodate Soldiers and their families are provided in this facility.

## **2. Proponent and Center of Standardization**

### **Proponent**

ACSIM Facilities

### **Center of Standardization**

This facility category is managed by the Huntsville Center of Standardization and the Fort Worth Center of Standardization.

## **3. Complex**

None for ACSC and SFSC.

Warriors in Transition (WT) Complex for SFAC.

## **4. Units of Measure**

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

## **5. Functional Areas**

See the ACSC functional adequacy matrix following this write-up.

See the SFAC functional adequacy matrix following this write-up.

### **Proponent:**

- ACSIM Facilities

### **COS:**

- Huntsville, Fort Worth

### **Complex ACSC**

- None

### **Complex SFSC**

- None

### **Complex SFAC**

- WT

### **Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorization for this facility category is based on the number of military personnel and their dependents. The calculation of population served in CONUS and OCONUS adds the U.S. civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25)$$

$$\text{OCONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) + \text{U.S. Civilian Pop}$$

### 2. Programmatic Application

RPLANS determines the allowance from step function criteria and tables in TI 800-01.

At installations where the population is less than or equal to 1,000, these facilities are not authorized.

Unit allowances are not calculated for Army Community Services Centers. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 74033-2 lists the area based on population served and the maximum staffing level. With populations of 1,000 or fewer PN, these functions should be accommodated in another related facility.

Table 74033-2 Army Community Services Center Area Based on Population Served and Staffing Levels				
Population Served	Size	GSF	GSM	Staffing
Up to 1,000	Ex-Small	See Note		N/A
1,001 to 3,500	Small	4,130	383.0	Up to 14
3,501 to 10,000	Medium	10,896	1,012.0	Up to 28
10,001 to 15,000	Large	17,215	1,599.0	Up to 47
15,001 and over	Ex-Large	22,939	2,131.0	Up to 67
<b>Note:</b> Accommodate this requirement in another facility				

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

See the ACSC standard floor plans at  
<http://mrsl.usace.army.mil/cos/huntsville/SitePages/acsc.aspx>.

See the SFSC standard floor plans at  
<http://mrsl.usace.army.mil/cos/huntsville/SitePages/sfsc.aspx>.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility should be in the community center area of the installation. Consideration should be given to the personal nature of the services provided; hence, the parking and entrance should not be near major traffic arteries and, when possible, the parking should be integrated with parking for other community service facilities to reduce the visibility of customers using the facility.

### **2. Site Planning Considerations**

Appropriate landscaping, parking, and access should be included when planning these ACSC and AFAC facilities.

For the Small SFAC, provide 20 parking spaces with two handicap accessible; for the Large SFAC, provide 36 parking spaces, with three handicap accessible.

For the SFAC, provide site entrances, exists, service drives, and special circulation areas sized to accommodate the largest vehicle that uses the area. A service road/drive must be provided on the side of the building adjacent to the mechanical room. The service drive will have a controlled access point with a control structure.

The SFSC campus must include areas for child care services; military in-processing and out-processing; youth activity-related functions; areas in which to perform basic medical and dental care; military housing, financial, and legal consultations; areas in which to inquire about and obtain leisure travel, recreation, and theme park tickets; locations for fast food eateries; and lodging for government and military personnel.

## **F. Other Considerations**

### **1. Special Instructions**

Consult the Huntsville Center USACE office Center of Standardization for guidance on SFSC and ACSC.

Consult the Fort Worth USAC office Center of Standardization for guidance on SFAC.

### **2. Exceptions**

None.

### 3. References

Army Standard for Army Community Service Center	24-OCT-06
DA Form 7419 Army Community Service – Accreditation Checklist	AUG-07
<a href="https://eportal.usace.army.mil/sites/COS/ACSC/Shared%20Documents/Army%20Standard%20-%20ACSC%20(May%2008).pdf">https://eportal.usace.army.mil/sites/COS/ACSC/Shared%20Documents/Army%20Standard%20-%20ACSC%20(May%2008).pdf</a>	24-OCT-2006
<a href="https://eportal.usace.army.mil/sites/COS/WTC/Shared%20Documents/17%20-%20SFAC%20Army%20Standard%20-%2018Jan08.pdf">https://eportal.usace.army.mil/sites/COS/WTC/Shared%20Documents/17%20-%20SFAC%20Army%20Standard%20-%2018Jan08.pdf</a>	18-JAN-08
<a href="https://eportal.usace.army.mil/sites/COS/ACSC/Shared%20Documents/Standard%20Drawings%20-%20ACSC%20(Oct%2009).pdf">https://eportal.usace.army.mil/sites/COS/ACSC/Shared%20Documents/Standard%20Drawings%20-%20ACSC%20(Oct%2009).pdf</a>	OCT-09
<a href="https://eportal.usace.army.mil/sites/COS/WTC/Shared%20Documents/WT%20Standard%20Design%20July09%20color.pdf">https://eportal.usace.army.mil/sites/COS/WTC/Shared%20Documents/WT%20Standard%20Design%20July09%20color.pdf</a>	JUL-09
TI - 800-01 - Technical Instructions, Design Criteria: Appendix M, Page M-39	11-APR-06

### 4. See Also

None.

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
			Small	Small	Medium	
			Medium			
			Large	Large		
			X-Large	X-Large		
Mission	Classroom(s)	A	Not in F I Pl	Not in F I Pl		Locate near entrance and lobby. Use movable partitions to accommodate a maximum of 70 students. Equip with wiring for student computers.
General	Family Advocacy Program (FAP) Office(s)	A	120 NSF	120 NSF		♦ See note at mark below Group with Victim Advocacy Program (VAP) – in rear of facility with separate entrance.
			388 NSF	388 NSF		
			1,080 NSF	1,080 NSF		
			95 NSF ♦	95 NSF ♦		
			144 NSF	144 NSF		
General	Decompression Waiting Room(s)	A	270 NSF	270 NSF		Adjacent to FAP and VAP Entrance
			270 NSF	270 NSF		
			Not in F I Pl	Not in F I Pl		
			187 NSF	187 NSF		
			280 NSF	280 NSF		
Support	Lending Closet /Lending Locker(s)	A	360 NSF	360 NSF		Locate near entrance to accommodate moving large and bulky items.
			32 NSF	32 NSF		
			76 NSF	76 NSF		
			84 NSF	84 NSF		
			84 NSF	84 NSF		
Support	Secure Storage	A	32 NSF	32 NSF		Secure Storage and Storage Area(s) must account for a minimum of 1- to 3 percent of overall building GSF.
			32 NSF	32 NSF		
			32 NSF	32 NSF		
			32 NSF	32 NSF		
			180 NSF *	180 NSF *		
Mission	Computer Resource and Display Area	A	165 NSF +	165 NSF +		* 4 PN minimum + 6 PN minimum ** 8 PN minimum
			520 NSF **	520 NSF **		
			470 NSF **	470 NSF **		
			169 NSF	169 NSF		
			185 NSF	185 NSF		
General	Relocation Readiness Program (RRP) Office(s)	A	168 NSF	168 NSF		
			175 NSF	175 NSF		



**FUNCTIONAL ADEQUACY MATRIX (FAM)**

FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
Mission	Deployment or Mobilization and Stability and Support Operations (SSOs)	A	Not in FI Pl 837 NSF	Not in FI Pl 837 NSF		● includes 4 Classrooms ■ includes 10 offices at 100 NSF ea and 6 Classrooms
General	Copy / Graphics and Work area	A	1,805 NSF ●	1,805 NSF ●		
			4,105+■	4,105+■		
			16 NSF	16 NSF		◀ Included at mark ◀ Included at mark ◀ Included at mark
						Residential range & refrigerator. Commercial sized microwave. Tables & chairs for demonstrations and training. (None of FI Pls meet reqmt.)
General	Kitchen(s) / Teaching Kitchen / Break Area(s)	A	100 NSF	100 NSF		
			103 NSF	103 NSF		
			273 NSF	273 NSF		
			660 NSF	660 NSF		
General	Staff Office(s)	A	Not in FI Pl	Not in FI Pl		
			90 NSF	90 NSF		
			515 NSF	515 NSF		
			1144 NSF	1144 NSF		
General	Exceptional Family Member Program (EFMP) Office(s)	A	◆	◆		◆ Included at mark – not per Standard
			103 NSF	103 NSF		
			228 NSF	228 NSF		
			210 NSF	210 NSF		
General	Financial Readiness Program (FRP) Office(s)	A	105 NSF ◆◆	105 NSF ◆◆		◆◆ Includes marked spaces – not per Std
			132 NSF	132 NSF		
			150 NSF	150 NSF		
			150 NSF	150 NSF		
Mission	Interview Room(s)	A	Not in FI Pl	Not in FI Pl		Near lobby with privacy for screening prior to referrals * Combine with Conference Room
General	Lobby / Front Desk / Security Desk (Waiting Area * + ** ++)	A	195 NSF *	195 NSF *		* for 4 PN
			387 NSF +	387 NSF +		+ for 12 PN
			555 NSF ** ◆	555 NSF ** ◆		** for 18 PN ◆ Includes Copy / Graphics
			555 NSF ++ ◆	555 NSF ++ ◆		++ for 24 PN ◆ Includes Copy / Graphics
General	Administrative	A	180 NSF	180 NSF		

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	ASSIGN RATING / NOTES
	Assistant(s)		180 NSF ◀	180 NSF ◀	
			220 NSF	220 NSF	
			220 NSF	220 NSF	
General	Director's Office(s)	A	180 NSF	180 NSF	
			210 NSF	210 NSF	
			220 NSF	220 NSF	
			220 NSF	220 NSF	
General	Employment Readiness Program (ERP) Office(s)	A	96 NSF	96 NSF	
			157 NSF	157 NSF	
			200 NSF	200 NSF	
			200 NSF	200 NSF	
General	Army Family Action Plan (AFAP) Office(s)	A	120 NSF ◆◆◆	120 NSF ◆◆◆	◆◆◆
			115 NSF	115 NSF	
			220 NSF	220 NSF	
			220 NSF	220 NSF	
General	Army Family Team Building (AFTB) Office(s)	A	◆◆◆	◆◆◆	◆◆◆ Included at mark – not per Standard
			115 NSF	115 NSF	
			170 NSF	170 NSF	
			170 NSF	170 NSF	
General	Vending	A	18 NSF	18 NSF	Adjacent to Lobby – See “Army Standard for General Instruction Building” (GIB)
			18 NSF	18 NSF	⊙ Includes 21 NSF with Kit / Break Rm
			72 NSF ⊙	72 NSF ⊙	◆ Included at mark – not per Standard
			72 NSF ⊙	72 NSF ⊙	
General	New Parent Support Program (NPS) Office(s)	A	◆	◆	
			137 NSF	137 NSF	
			175 NSF	175 NSF	
			175 NSF	175 NSF	
General	File Room(s)	A	Not in F1 Pl	Not in F1 Pl	
			125 NSF	125 NSF	
			78 NSF	78 NSF	
			78 NSF	78 NSF	
Support	Public Toilets	A	2 @ 68 NSF ea	2 @ 68 NSF ea	
			680 NSF	680 NSF	

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY			ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
			1,176 NSF	1,176 NSF		
			1,192 NSF	1,192 NSF		

Support	Janitor's Closet	A	Not in FI PI	Not in FI PI	
			54 NSF	54 NSF	
			80 NSF	80 NSF	
			80 NSF	80 NSF	
General	Volunteer Office(s)	A	Not in FI PI	Not in FI PI	
			150 NSF	150 NSF	
			135 NSF	135 NSF	
			135 NSF	135 NSF	
Support	Storage Area(s)	A	15 NSF	15 NSF	See "Secure Storage"
			76 NSF	76 NSF	
			436 NSF	436 NSF	
			540 NSF	540 NSF	
General	Army Volunteer Coordinator (AVC) Office(s)	A	◆◆◆	◆◆◆	◆◆◆ Included at mark – not per Standard
			155 NSF	155 NSF	
			150 NSF	150 NSF	
			150 NSF	150 NSF	
General	Army Emergency Relief (AER) Office(s)	A	◆◆	◆◆	◆◆ Included at mark – not per Standard
			175 NSF	175 NSF	
			143 NSF	143 NSF	
			143 NSF	143 NSF	
Support	Staff Restroom(s)	A	Not in FI PI	Not in FI PI	* per fixture – maximum of two unisex toilets. Restrooms accessible to staff with disabilities.
			1 @ 56 NSF	1 @ 56 NSF	
			1 @ 64 NSF	1 @ 64 NSF	
			1 @ 64 NSF	1 @ 64 NSF	
General	Information and Referral Specialists (I&R) Office(s)	A	Not in FI PI	Not in FI PI	Included in Army Standard
General	Conference Room	A	100 NSF	100 NSF	Locate next to classroom with movable partitions. Maximum of four
			188 NSF +	188 NSF +	

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
General	IT / Video Conference	A	210 NSF +	210 NSF +	Not in FI PI	conference rooms in any facility. + Next to Dir's Office  Audio visual system with multimedia projection capability to communicate with CONUS and OCONUS
			210 NSF +	210 NSF +		
Support	Machine & Elec & Comm Rooms	A	600 NSF	600 NSF		
			1,433 NSF	1,433 NSF		
			1,880 NSF	1,880 NSF		
			2,236 NSF	2,236 NSF		
Mission	Stage Area	A	Not in FI PI	Not in FI PI		Not in Army Standard
			Not in FI PI	Not in FI PI		
			225 NSF	225 NSF		
			225 NSF	225 NSF		
General	Victim Advocacy Program (VAP) Office(s)	A	90 NSF	90 NSF		Group with Family Advocacy Program
			194 NSF	194 NSF		
			305 NSF	305 NSF		
			305 NSF	305 NSF		
Optional Spaces (include 20-percent building factor)						
Mission	Developmental Play Area	A	Not in FI PI	Not in FI PI		Not in Army Standard
Mission	Short Term Alternative Child Care	A	Not in FI PI	Not in FI PI		Not in Army Standard
Presence Requirement for Adequacy:						
A - Required, Collocated						

### 1. DA Pam 415-28 Description / Definition

A single enclosed building or portions of multiuse facilities that house(s) a combination of community activity functions otherwise coded as 74022, 74068, 74011 (12 lanes or less), 74010, and 74040 on a reduced basis to meet the needs of the installation. Also included are such activities as dining, catering, training, conference facilities, and other community activities for either the troop area or family housing area. Also report the meeting/training capacity of any conference or meeting space with unit of measure persons (PN). Data should be available from the DPCA. If not, conduct a physical survey.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = PN
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74066 Youth Center

### 1. DA Pam 415-28 Description / Definition

A building that is used for the display of sound environmental conservation practices, and that is open to the public and to the military.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used to provide hotel/motel-type housing to military personnel, authorized civilians, their families, and retired military personnel while they use recreational facilities or are in an off-duty status. These facilities are typically located at Armed Forces Recreational Centers and other MWR recreational areas, and are not generally located within cantonment areas. Include hotels on installations that may allow nonmilitary occupants. Also report the capacity as the number of guest rooms provided at the facility, and count each room as one space (SP). Data should be available from the DPCA. If not, conduct a physical survey of or estimate the number of rooms.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 721xx, 723xx, 724xx, and 725xx for related facility category codes.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building located away from the main library but operated under the direction of a main library staff or librarian. It offers a full range of materials and services to patrons. It has a separate staff with a permanent basic collection, but relies on the main library for major support.

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-1 (DCS, G-1)

#### Center of Standardization

None.

#### Proponent:

- Deputy Chief of Staff, G-1 (DCS, G-1)

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC: SF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

### 5. Functional Areas

See 74041, Library, Main.

## B. Criteria

### 1. Basis for Authorization and Calculation

For CONUS, the criteria authorize this facility category for an installation depending on the number of military personnel and their dependents; OCONUS adds the U.S. civilian strength.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.



## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Branch libraries, not exceeding 4,000 GSF (372 GSM) in gross area, may be provided in support of an education center or for each increment of 3,000 military strength over 10,000. When military concentrations permit consolidation, the gross area authorized for each increment of 3,000 military strength over 10,000 may be combined into one branch library. The space allocation for branch libraries is in addition to the space criteria for main libraries.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Branch libraries may support selected populations rather than the installation as a whole, and, thus, should be located near the population they support, e.g. family housing, UPH, schools, etc.

### 2. Site Planning Considerations

Provide easy access and conspicuous facility placement to attract customers and create a safe environment for day and night access.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 5, Page 5-13 11-APR-06

United Facilities Criteria (UFC) Installation Master Planning UFC 2-100-01 15 May 2012

AR 420-90 Facilities Engineering Fire and Emergency Services 04-NOV-96

**4. See Also**

74041 Library Main

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that houses the primary installation/community library system and provides a full range of materials in all media that are selected, organized, and made accessible to support the information needs of an installation's community. The main library provides complete services to patrons and branch libraries. It normally houses administrative offices and technical services that support the main collection, branch libraries, field libraries, and bookmobiles. The main library typically also serves as the library services center, where library materials are received, catalogued, processed, recorded, distributed, and redistributed to library branches, as well as held in reserve for use as needed.

### 2. Proponent and Center of Standardization

#### Proponent

DCS, G-1

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- DCS, G-1

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

Table 74041-1 lists the functional areas of these facilities. This table also applies to 74040.

Table 74041-1 Library Main Functional Areas and Adequacy Requirements		
Functional Area		Presence
Public Services	Mission	A
Information Services	Mission	A
Children's Area	Mission	A
Administrative Area	General	A
Technical Services	Mission	B
Support Areas	Support	B
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		
B – Required , Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on population. The military personnel and their dependents contribute to the calculation of population served in CONUS; OCONUS adds the U.S. civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.40)$$

$$\begin{aligned} \text{OCONUS} = & \text{Mil Pop} + (\text{Dependents Pop} \times 0.40) \\ & + \text{U.S. Civilian Pop} \end{aligned}$$

### 2. Programmatic Application

RPLANS calculates these allowances from a step-function table in TI 800-01. Unit allowances are not calculated for library facilities. Installation allowances are not calculated for CONUS installations classified as Ammunition Storage, Port, Depot, Industrial, or Production installations. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are only calculated for USAR installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

While existing space may not easily lend itself to clearly subdivided areas with single functions, all libraries require spatial divisions within reasonable proportions. Table 74041-2 gives the ranges of space distribution from UFC-4-740-20, and also applies to 74040.

Table 2 – Range of Percentage of Spatial Distribution Across Various Size Libraries		
Functional Area		Largest
Public Services	60 percent	59 percent
Information Services	7 percent	9 percent
Children’s Area	7 percent	8 percent
Administrative Area	10 percent	3 percent
Technical Services	5 percent	4 percent
Support Areas	11 percent	17 percent

The proportions in Table 74041-2 exclude “nonassignable” space used by patrons and staff, including the entry area, lobby, corridors, stairs, elevators, restrooms, janitorial rooms, and mechanical and electrical rooms, etc.

Space allowances for main libraries are shown in Table 74041-3. Space allowances may be increased by 10 percent when the facility is designated as a command reference center. Space allowances include provisions for an installation library service center for centralized processing of library materials. If one or more bookmobiles is/are operated from the main library, a minimum of 300 GSF (28 GSM) per bookmobile will be required in addition, for sorting the bookmobile collections, book trucks, and workspace for the bookmobile staff.

**Table – 74041-3 Space Allowances for  
Main and Branch Libraries**

<b>Military Population</b>	<b>Main Libraries</b>		<b>Branch Libraries</b>	
				<b>GSM</b>
Up to 500 See Note 3.	2,500	235	N/A	N/A
501 to 1,500	4,500	420	N/A	N/A
1,501 to 2,500	6,250	580	N/A	N/A
2,501 to 4,000	8,000	745	N/A	N/A
4,001 to 6,000	10,500	975	N/A	N/A
6,001 to 8,000	12,000	1,115	N/A	N/A
8,001 to 12,000	18,000	1,675	4,000	373
12,001 to 16,000	20,000	1,860	8,000	746
16,001 to 20,000	24,000	2,230	12,000	1,119
20,001 to 26,000	30,000	2,790	20,000	1,492
26,001 to 32,000	36,000	3,345	28,000	2,611
32,001 to 40,000	44,000	4,090	40,000	3,730
40,001 to 50,000	54,000	5,015	52,000	4,849
50,001 to 60,000	64,000	5,945	64,000	5,968
60,001 to 70,000	72,000	6,765	80,000	7,460
70,001 to 80,000	81,000	7,525	92,000	8,579
80,001 to 90,000	90,000	8,360	104,000	9,698
90,001 to 100,000	98,000	9,105	120,000	11,190
<b>Notes:</b>				
1- Military population is defined as Active Duty military personnel assigned to the installation, plus 40 percent of their dependents.				
2- Mechanical, electrical, and electronic equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.				
3- This requirement should be accommodated in other facilities.				
4- Branch Libraries for military populations over 10,000 are computed at 4,000 GSF per 3,000 additional population – See 74040.				

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

None.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The main library should be sited in the Community land use, with priority placed on easy access for both vehicles and pedestrians. It also needs to relate to other similar (quiet, individual, or small-group) service facilities. These should also offer indoor activities to reduce the possibility of exterior noises distracting library patrons.

When possible, libraries (main and branches) should be within walking distance of DODDS, indoor recreation centers, and shopping facilities.

### **2. Site Planning Considerations**

Provide easy access and conspicuous facility placement to attract customers and create a safe environment for day and night access.

## **F. Other Considerations**

### **1. Special Instructions**

None.

**2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D, Page D-6	18-JUN-02
UFC 4-740-20 LIBRARIES	1-MAY-06
DG 1110-3-110, Design Guide for Libraries	1-FEB-83

**4. See Also**

74040      Library Branch



## 1. DA Pam 415-28 Description / Definition

A building used for off-duty dining and relaxation for club members and their guests. A consolidated open dining facility is intended for use by all military ranks and civilian grades. It is also referred to as a community club, all-ranks club, or consolidated club. Also report the seating capacity of the eating areas within the facility with unit of measure seats (SE). Data should be available from the DPCA. If not, conduct a physical survey.

### Proponent:

- ACSIM Facilities

### Complex:

- None

### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF

### Planning Level:

- Other-than-unit

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. See facility category codes 74047, Enlisted Open Dining Facility, and 74048, Officer Open Dining Facility.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. However, RPLANS has a calculation method:

CONUS GSF of Consolidated Open Dining Facilities = (Permanent Party Military + Permanent Party Dependents + Permanent Party Other) X 4.9 GSF per PN

OCONUS GSF of Consolidated Open Dining Facilities = (Permanent Party Military + Permanent Party Dependents) X 4.9 GSF per PN

## 4. See Also

- 74047 Enlisted Open Dining Facility
- 74048 Officer Open Dining Facility

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for off-duty dining and relaxation for club members and their guests. This category includes separate facilities, or any combination thereof, intended for use by NCOs, junior enlisted personnel, or equivalent civilian grades. It is also referred to as an NCO club or an enlisted club. Also report the seating capacity of the eating areas within the facility with unit of measure seats (SE). Data should be available from the DPCA. If not, conduct a physical survey.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in SE.

Primary: SF  
Secondary: SE  
FAC: SF  
Planning: GSF  
Other: SE

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF
- Planning UM = GSF
- Other UM = SE

## 5. Functional Areas

Table 74047-1 lists the functional areas of these facilities. This table also applies to 74048.

Table 74047-1 Enlisted Open Dining (NCO Club) Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Dining, Bar and Party rooms	Mission	A
Kitchen	Mission	A
Multi-use and Recreation rooms	Mission	A
Administration	General	A
Storage	General	A
Maintenance	Support	A
Mechanical / Electrical / Electronic	Support	A
Lockers	Support	A
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category is based on population. The military population and civilian strength (U.S. strength in OCONUS) form the basis for the allowance.

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

Unit allowances are not calculated for open dining facilities. Installation allowances are not calculated for CONUS installations classified as Port, Depot, or Production installations. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

To calculate the population served, multiply it by the appropriate factor, as shown in the formulas:

$$\text{CONUS GSF} = (\text{Mil Pop} + \text{Civilian Pop}) \times 4.9$$

$$\text{OCONUS GSF} = (\text{Mil Pop} + \text{U.S. Civilian Pop}) \times 4.9$$

Table 74047-2 lists the area based on population served. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.

Table 74047-2 Enlisted Open Dining (NCO Club) Area Base on Population Served		
Population Served	GSF	GSM
Up to 500	N / A See Note 1.	
501 to 1,000	10,000	929.0
1,001 to 3,000	19,000	1,765.0
3,001 to 5,000	30,000	2,787.0
5,001 to 7,000	40,000	3,716.0
7,001 to 10,000	50,000	4,645.0
10,001 to 15,000	60,000	5,574.0
15,001 to 20,000	70,000	6,503.0
20,001 to 25,000	80,000	7,432.0
25,001 to 30,000	90,000	8,361.0
30,001 to 40,000	110,000	10,219.0
40,001 to 50,000	130,000	12,077.0
50,001 to 60,000	150,000	13,935.0
<b>Note:</b>		
1. Accommodate in other facilities at 30 GSF (2.8 GSM) per member		

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Because this facility caters primarily to unaccompanied PN, it should be located in the community center area in proximity to UEPH.

### 2. Site Planning Considerations

Landscaping and parking should be appropriate for the community center area. To minimize conflicts with pedestrians, plan and provide night lighting for security and safe vehicular movement.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

Revised Army Standard for Permanent Party Enlisted Personnel Dining Facilities (EPDF)	115-HEB-112
TI - 800-01 - Technical Instructions, Design Criteria: page E-9 and E-10	20-JUL-98

### 4. See Also

74046	Consolidated Open Dining Facility
74048	Officer Open Dining Facility

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for off-duty dining and relaxation for club members and their guests. This category includes separate facilities, or any combination thereof, intended for use by officers or equivalent civilian grades. It is also referred to as an officers' club. Also report the seating capacity of the eating areas within the facility with unit of measure seats (SE). Data should be available from the DPCA. If not, conduct a physical survey.

### 2. Proponent

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Norfolk Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF. Their requirements are developed in SE.

Primary: SF  
Secondary: SE  
FAC: SF  
Planning: GSF  
Other: SE

### 5. Functional Areas

Table 74048-1 lists the functional areas of these facilities. This table also applies to 74047.

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF
- Planning UM = GSF
- Other UM = SE

Table 74048-1 Officer Open Dining (O Club) Functional Areas and Adequacy Requirements		
Functional Area		Presence
Dining, Bar and Party rooms	Mission	A
Kitchen	Support	A
Multi-use and Recreation rooms	Mission	A
Administration	General	A
Storage	Support	A
Maintenance	Support	A
Mechanical / Electrical / Electronic	Support	A
Lockers	Support	A
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		

## B. Criteria

### 1. Basis of Allowance

The military population and civilian strength (US strength in OCONUS) contribute to the calculation of population served. That population is multiplied by a factor to compute GSF.

$$\text{CONUS GSF} = (\text{Mil Pop} + \text{Civilian Pop}) \times 4.9$$

$$\text{OCONUS GSF} = (\text{Mil Pop} + \text{U.S. Civilian Pop}) \times 4.9$$

### 2. Programmatic Application

RPLANS sets allowances equal to zero for this CATCD.

Unit allowances are not calculated for open dining facilities. Installation allowances are not calculated for CONUS installations classified as Port, Depot, or Production installations. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 74047-2 lists the area based on population served. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility. The space

criteria will be reduced by the following percentages depending on the distances to major metropolitan areas with a population of 100,000 or more:

More than 30 miles (48 km): 0 percent  
 Less than above, but \* more than 15 miles (24 km): 5 percent  
 Less than 15 miles (24 km): 10 percent  
 \* TI 800-01 includes the word “not” at this point

Table 74047-2 Enlisted Open Dining (NCO Club) Area Base on Population Served		
Population Served	GSF	GSM
Up to 50	N / A See Note 1.	
51 to 150	4,400	409
151 to 250	8,000	743
251 to 400	12,000	1,115.0
401 to 750	16,000	1,486.0
751 to 1,000	22,000	2,044.0
1,001 to 2,000	27,800	2,583.0
2,001 to 3,000	36,000	3,344.0
3,001 to 4,000	42,500	3,948.0
4,001 to 5,000	48,500	4,506.0
5,001 to 6,000	53,900	5,007.0
6,001 to 7,000	59,500	5,528.0
7,001 to 8,000	64,000	5,946.0
8,001 to 9,000	68,000	6,317.0
9,001 to 10,000	72,700	6,754.0
<b>Note:</b>		
1- Accommodate in other facilities at 44 GSF (4.1 GSM) per member.		

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.



## 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Since this facility caters primarily to a predominantly married member, it should be located in the community center area in proximity to officer housing.

### 2. Site Planning Considerations

Landscaping and parking should be appropriate for the community center area. To minimize conflicts with pedestrians, plan and provide night lighting for security and safe vehicular movement.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

Revised Army Standard for Permanent Party Enlisted Personnel Dining Facilities (EPDF)	115-HEB-112
TI - 800-01 - Technical Instructions, Design Criteria: page E-10 and E-12	20-JUL-98
DG 1110-3-134 Commissioned and Non- Commissioned Officers Clubs	APR-79

### 4. See Also

74046	Consolidated Open Dining Facility
74047	Enlisted Open Dining Facility

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An enclosed or partially enclosed stable-type building used to board horses, both privately owned and those in the recreation services horse rental program. This category also includes the space necessary for storage of saddles, harnesses, and other tack. Also report the capacity of this building as the number of stalls with unit of measure spaces (SP). The terms “spaces” and “stalls” are used interchangeably in describing the capacity of this facility. Data should be available from the DPCA. If not, conduct a physical survey.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in SF. Develop requirements in SP.

Primary: SF  
Secondary: SP  
FAC: SF  
Planning: GSF  
Other: SP

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF
- Planning UM = GSF
- Other UM = SP

## 5. Functional Areas

Table 74049-1 lists the functional spaces and their type of area.

Table 74049-1 Riding Stables Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Single stalls	Mission	A
Box or double stalls	Mission	A
Hay storage	Support	A
Grain room	Support	A
Quarantine areas	Support	B
Treatment stalls	Support	B
Administration offices	General	B
Quarters for one operator	Support	B
Tack room	Support	B
Tack lockers	Support	B
Toilet facilities	Support	B
Sweat-pad and blanket drying area	Support	B
Washing and grooming area	Support	C
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		
B – Required, Adjacent		
C – Required, Vicinity		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category when there is a mission for horses and the population is greater than 100.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 74049-2 lists the gross area for Riding Stables based on the military population served.

Table 74049-2 – Gross Space Depending on Military Population Served			
Military Population See Note 1.	No. of Stalls	GSF	GSM
Up to 100	None	None	None
101 to 1,000	5	2,100	195.0
1,001 to 3,000	7	2,500	232.0
3,001 to 5,000	12	3,600	334.0
5,001 to 7,000	16	4,700	337.0
7,001 to 10,000	21	5,900	548.0
10,001 to 15,000	29	7,700	715.0
15,001 to 20,000	37	9,600	892.0
20,001 to 25,000	43	11,250	1,045.0
25,001 to 30,000	50	12,800	1,189.0
30,001 to 40,000	60	17,800	1,654.0
40,001 to 50,000	72	18,600	1,728.0
50,001 to 60,000	85	20,400	1,895.0
60,001 to 70,000	91	22,800	2,118.0
70,001 to 80,000	105	24,900	2,313.0
80,001 to 90,000	110	27,000	2,508.0
90,001 to 100,000	124	29,000	2,694.0
<b>Notes:</b>			
1- Military population is defined as Active Duty military personnel assigned to the installation, plus 25 percent of their dependents.			
2- Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.			

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Horses require exercise and social interaction within the herd. Depending on local climate, soil type, growing season, and other factors, grazing in pastures proves less costly and is generally healthier for horses. For planning purposes, provide one acre of pasturage per horse.

### **2. Site Planning Considerations**

Other site development features may include round pens, practice and competition arenas (with or without grandstands), special event areas (outside of pasture-acreage) for large tents, “county fair-” and rodeo-type activities, parking, public restrooms, etc.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix E, Page E-14, Table E-12

20-JUL-98

### **4. See Also**

75036 Riding Arena

### 1. DA Pam 415-28 Description / Definition

A building housing the retail branch of a main exchange that stocks a limited range of goods to support a resident population that does not have convenient access to a major retail store. Use this CATCD to report “Foodlands” and “Shoppettes,” and any of the authorized exchange facilities or service outlets. Branch exchanges may be used for any of the authorized exchange facilities or service outlets.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7405x for related facility category codes.

#### Proponent:

- AAFES

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A cafeteria-type building that provides either self-service or counter service, and a choice of daily-changing main course meals. AAFES operates and manages exchange cafeterias. Also report the seating capacity of the eating areas within the building with unit of measure seats (SE). Seating capacity should be available from the AAFES manager. If not, conduct a physical count of the seats within the eating space within the building.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7405x for related facility category codes.

#### Proponent:

- AAFES

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building managed and operated by AAFES for the retail sale of gasoline, automotive accessories, and auto parts, and for the provision of automotive repairs, maintenance, and inspections. Also report the fuel-dispensing capacity of these facilities with unit of measure outlets (OL). The number of outlets is the number of nozzles provided for the transfer of fuel (in other words, one dispensing nozzle is the equivalent of one outlet). Data should be available from the AAFES manager. If not, conduct a physical survey. This category does not include a mechanical drive-through car wash or coin-operated self-service car wash; report those as an Exchange Car Wash (74059). Use 12450 to report the underground fuel storage tanks associated with an exchange automotive service station, and 14179 to report an overhead protection structure (canopy) as part of a multiuse facility.

**Proponent:**

- AAFES

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = OL
- FAC UM = SF

### 1. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

### 2. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 3. See Also

See 7405x for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A building housing the primary retail store (similar to a civilian department store) operated by AAFES that offers a full spectrum of consumer goods to authorized personnel.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7405x for related facility category codes.

#### Proponent:

- AAFES

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A maintenance building specifically equipped for the inspection, maintenance, and repair of to inspect, maintain, and repair exchange (AAFES-owned) equipment, fixtures, tools, and vehicles. Generally, existing space is used for this purpose, rather than custom-designed, newly constructed facilities.

**Proponent:**

- AAFES

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 7405x for related facility category codes.

**Planning Level:**

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

A separate building, or a warehouse area in another building, preferably within the main exchange facility, to accommodate backup storage to support exchange sales. This category includes exchange-operated warehouses, which are either local warehouses supporting exchange activities at the installation, or central warehouses for bulk backup storage (exchange stock and operating supplies) to supply exchange activities at one or more installations. Also report the capacity of this building with unit of measure cubic feet (CF). Cubic feet is the storage capacity of the facility, and is determined by multiplying the net usable storage area by the appropriate stacking height (net usable area x stacking height = CF). Data should be available from the AAFES manager. If not, conduct a physical survey.

## 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code..

## 4. See Also

See 7405x for related facility category codes.

### Proponent:

- AAFES

### Complex:

- None

### Units of Measure:

- Primary UM = SF
- Secondary UM = CF
- FAC UM = SF

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses specialty retail outlets operated by AAFES and normally as an adjunct to the Exchange Main Retail Store (74053). Generally, the main function of a retail outlet is to provide customer services and specialty retail sales to military and authorized civilian personnel and their family members. These retail outlets typically consist of one or more of the following: Stars and Stripes news shop, barber shop, coin-operated laundry, portrait studio, optical shop, personal services, beauty shop, amusement center, pickup point, tailor shop, four seasons shop, shoe repair shop, electronics repair/rental shop, watch repair shop, valet shop, beverage shop, flower shop, and/or a vending machine area.

#### Proponent:

- AAFES

#### Units of Measure

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Planning Level:

- Other-than-unit

### 4. See Also

See 7405x for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A building typically provided as an adjunct to the Exchange Main Retail Store (74053), and not operated directly by AAFES. Concessionaires provide for a subsidiary business or service collocated at the AAFES facility. Examples include taxi services, a new-car sales point, and a stock investment office.

**Proponent:**

- AAFES

### 2. Criteria

The Army has not established planning criteria for this facility category. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

See 7405x for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure housing a mechanical drive-through or coin-operated self-service car wash managed by AAFES. This structure is not an enclosed building. Report the area under the roof, or, if no roof, the area where vehicles are parked during washing operations. Do not include covered or uncovered vehicle waiting areas. Also report the capacity of the car wash as the number of vehicle bays that are provided at the facility with unit of measure vehicles (VE). A single bay is one VE, and a double bay counts as two VE (in other words, vehicles and bays are used interchangeably for this facility). Data should be available from the AAFES manager. If not, conduct a physical survey. Report car washes managed by MWR as CATCD 74018 or 74019.

**Proponent:**

- AAFES

**Units of Measure:**

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF

**Complex:**

- None

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7405x for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A freestanding building or an area within an existing building in which workers relax during break periods and consume food brought from home or purchased from vending machines.

### 2. Criteria

The Army has not established criteria or allowances for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. See Also

### 4. See Also

74012 Cafeteria  
74013 Canteen  
74064 Post (Installation) Restaurant

#### Proponent:

- AAFES

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building staffed and operated by/for AAFES that is smaller than a cafeteria (AAFES cafeteria is 74051 and non-AAFES cafeteria is 74012), and that may provide a limited selection of grill items. Fast-food facilities in this category may also be operated by civilian welfare programs, contractors, and so on. This category includes the fast-food exchange concessions such as Burger King. Also report the seating capacity of the eating area within this building with unit of measure seats (SE). Data should be available from the facility manager. If not, conduct a physical count of seats, bar stools, and places at a table for chair seating. Do not count standing-only eating space.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = SE
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code. Contact AAFES for requirements.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74013      Canteen  
74060      Break/Lunch Room



### 1. DA Pam 415-28 Description / Definition

A restaurant building that is not operated by AAFES. Customers are provided a seating area for dining, and are served at a table. Also report the seating capacity of the eating areas within this building with unit of measure seats (SE). Data should be available from the DPCA or restaurant manager. If not, conduct a physical count of seats at tables.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74012 Cafeteria  
74013 Canteen  
74060 Break/Lunch Room

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM =SFG
- Secondary UM = SE
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for management of the community's recreational programs, including indoor storage space and issue counters or checkout for recreational and athletic gear and for outdoor recreational equipment. It may include an indoor area for minor repairs of recreational equipment. This category does not include separate outdoor secure storage space for outdoor recreational equipment and repair.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

Table 74065-1 lists the areas required for an adequate facility.

Table 74065-1 – Family Life Functional Areas and Adequacy Requirements		
Functional Area	Type of Area	Presence
Checkout area	Mission	A
Administrative area	General	A
Equipment storage	Mission	B
Recreation supplies storage	Support	A
Equipment repair	Mission	C
Restrooms	Support	C
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		
C – Required, Vicinity		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on population. Military personnel and their dependents contribute to the calculation of population served in CONUS; OCONUS adds the U.S. civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.25)$$

$$\begin{aligned}\text{OCONUS} &= \text{Mil Pop} + (\text{Dependents Pop} \times 0.25) \\ &\quad + \text{U.S. Civilian Pop}\end{aligned}$$

### 2. Programmatic Application

RPLANS determines the allowance from step function criteria and tables in TI 800-01. Unit allowances are not calculated for these facilities. Installation allowances are not calculated for installations classified as Ammunition, Port, or Production installations. Allowances are not calculated for installations in Korea. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for USAR standalone installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 74065-2 lists the gross space allocation depending on the military population served.

Table 74065-2 – Space Criteria for MWR / Recreation Supply / Support Facilities		
Military Population	GSF	GSM
Up to 1,000	3,500	325
1,001 to 2,000	5,000	465
2,001 to 4,000	7,500	695
4,001 to 8,000	10,000	930
8,001 to 12,000	12,500	1,160
12,001 to 20,000	16,000	1,485
20,001 to 50,000	20,500	1,905
50,001 to 100,000	30,000	2,790
<b>Notes:</b>		
1- Military population is defined as Active Duty military personnel assigned to the installation, plus 25 percent of their dependents.		
2- Administrative space shall be not less than 80 NSF (7.5 NSM), and not less than 90 NSF (8.5 NSM) per employee.		
3- Mechanical, electrical, and electronic equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility should be located in the recreational land use.

### 2. Site Planning Considerations

Coordinate the location of this facility and combine it with similar customer service activities and facilities.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

ACSIM Memorandum, Subject: Revised Army Standard for Physical Fitness Facilities (PFF)	07-NOV-11
Technical Criteria for U.S. Army Physical Fitness Facilities, Standard Criteria, Updated	JUNE 2010
TI - 800-01 - Technical Instructions, Design Criteria: Appendix D, Page D-8	18-JUN-02

**4. See Also**

74009	Boat House
74029	Greenhouse
74030	Sports Pro Shop
74035	Conservation Building
74049	Riding Stable
74069	Community Fitness Center
74070	Indoor Roller Skating Rink
74072	Indoor Swimming Pool
74075	Recreational Support Building
74076	MWR Kennel
74087	Recreation Park Service Building
75024	Archery Range
75028	Outdoor Roller Skating Rink
75036	Riding Arena
75070	Recreational Pier/Platform
75071	Outdoor Community Fitness Center
75084	Marina Facilities

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that accommodates indoor social, cultural, and physical activities of children ages 6 to 19 years (grades 1 through 12). This building provides area for dancing, shows, parties, minor food and beverage service, games, music, television, meetings, and other related youth activities.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in GSF.

Primary: SF  
Secondary: None  
FAC UM: SF  
Planning: GSF  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = NONE
- FAC UM = SF
- Planning UM = GSF
- Other UM = NONE

### 5. Functional Areas

See Appendix B and the functional adequacy matrix following this discussion.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on population. The youth population is determined by multiplying military strength and eligible civilians by the accompanied rate (1-Unaccompanied [Unacc] Rate) and average number of children per household (1.5) to obtain the number of children. This product is then multiplied by a factor (72.4 percent) to obtain the population of youths from ages 6 to 19. The youth population is then used to enter the step function table.

$$\begin{aligned} \text{CONUS Youth Population} = \\ (\text{Mil Pop} - \text{TDY Students} - \text{Trainees}) \times \\ (1 - \text{Unacc Rate}) \times 1.5 \times 0.724 \end{aligned}$$

$$\begin{aligned} \text{OCONUS Youth Population} = \\ (\text{Mil Pop} - \text{TDY Students} - \text{Trainees} + \text{U.S. Civilian Pop}) \times \\ (1 - \text{Unacc Rate}) \times 1.5 \times 0.724 \end{aligned}$$

### 2. Programmatic Application

RPLANS uses a step function table from TI 800-01. At West Point and Fort Monmouth, all USMA and USMA Prep cadets are considered unaccompanied TDY students, and are subtracted from the military population used in calculating the youth population.

At installations where the population is less than or equal to 250, these facilities are not authorized. Unit allowances are not calculated for youth support facilities. Installation allowances are not calculated for ARNG installations. Installation allowances for USAR installations are calculated only for UASR installations designated as primary installations in HQIFS.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit



## 2. Requirements Calculations

Table 74066-1 lists the standard sizes of the Army Standard Designs. These standards include options for subdividing activity rooms as well as outdoor activity areas.

Table 74066-1 – Gross Area (Including Exterior Masonry Walls)		
Size	GSF	GSM
Small	17,848	1,658
Medium	20,221	1,879
Large	24,241	2,252

When considering conversion, recognize the location requirements for siting a Youth Center. Consider only permanent facilities for conversion to a Youth Center. Exceptions may be made for other buildings that are in excellent condition, subject to the location determinants.

Consider adaptability to the intent of the building program. For instance, can the building accommodate a multipurpose room? Does it have site space for the outdoor activity area and the teen patio? Whether planning a conversion, alteration, addition, or new construction, antiterrorism requirements must be taken into account. Also consider barrier-free design requirements.

Once the need for the youth program area has been determined, the size is classified by the number of youths to be accommodated in the primary program spaces. Additional youths may be accommodated in such optional spaces as the multipurpose room. Each size provides appropriate space in the commons and support areas, as well as the appropriate number of activity rooms. Table 74066-2 lists the number of primary program spaces. “Specific Use” rooms provide accommodations for a wide range of activities such as yoga, dance, martial arts, crafts, and small group learning.

Table 740662 – Number of Primary Program Spaces Based on Number of Youths Served			
Youth	Activity Room(s) General and Specific Use	Computer Room	Home- work Room
Up to 60	1	1 Combined Room	
61 to 105	2	1	1
106 to 150	3	1	1
151 to 170	4	1	1

Once the need for the teen program area has been determined, program in increments as follows:

- Up to 15
- 15 to 30
- 31 to 44
- 45 to 60

UFC 4-740-06 Youth Centers distinguishes between programming for youths and programming for teens. The Standard Designs accommodate both age groups when sized accordingly.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

See Appendix E.

### **2. Programming Units**

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Youth Centers should be located near other community and recreation facilities.

## 2. Site Planning Considerations

The Standard Design includes outdoor patio and activity space, so the master planner must assume this facility will generate loud music and voices during large gatherings outdoors. Table 74066-3 lists parking per Standard Designs.

Table 74066-3 – Parking by Use by Size of Center			
	Small	Medium	Large
Accessible	4	5	5
Patrons	19	29	40
Staff	12	16	20
Sporting Events	60	60	60
Total POV parking stalls	95	110	125
Bus parking spaces	2	2	2

## F. Other Considerations

### 1. Special Instructions

Consult the Huntsville Center USACE office Center of Standardization for guidance on this category code at <http://mrsi.usace.army.mil/cos/huntsville/SitePages/yac.aspx>.

### 2. Exceptions

None.

### 3. References

UFC 4-740-06 Youth Centers, Page 7	12-JAN-06
UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings	9-FEB-12
Army Standard for Youth Centers	12-MAR-08
DG 1110-3-122 Interior Design Guide and Installation Design Guide Standards	SEP-97

**4. See Also**

73019	Family Life Center
74006	Bank
74011	Bowling Center
74023	Credit Union
74034	Community Activities Center
74040	Library Branch
74041	Library Main
74065	Recreational Equipment Checkout
74069	Community Fitness Center
74072	Indoor Swimming Pool
74082	Indoor Ice Skating Rink
75011	Court Area
75017	Outdoor Ice Skating Rink
75020	Baseball Field
75021	Softball Field
75022	Multipurpose Athletic Field
75028	Outdoor Roller Skating Rink
75029	Skateboard Park
75030	Outdoor Swimming Pool
75031	Aquatic Center: Recreational
75045	Miniature Golf Course
75052	Recreational Shelter
75071	Outdoor Community Fitness Center
75088	Batting Cage

FUNCTIONAL ADEQUACY MATRIX (FAM)						
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES	
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT		
General	Lobby / Central Counter / Reception Desk	A	180 NSF	180 NSF	1.	
General	Patron / Visitor Waiting Area	A	300 NSF	300 NSF		For parents and visitors adjacent to the central counter / reception desk
General	Director's Office	A	120 NSF	120 NSF		Adjacent to reception / waiting area – see Note 2.
General	Administrative Office Space	A	100 NSF	100 NSF	2.	
General	Staff Lounge / Training Room	A	572 NSF	572 NSF		Counter / sink, refrigerator, vending machines, 2 computer workstations, tables and chairs
Support	Staff / Visitor Restrooms	A	72 NSF	72 NSF		Separate from youth restrooms – 1 toilet per 15 full-time equivalent (FTE) staff on largest shift
Mission	Technology Lab	A	650 NSF	525 for 15		(15) computer workstations “U-shape” arrangement – continued w/ Note 3. See Note 2.
Mission	Homework Center	A	-- 543 NSF 525 NSF	525 for 15		See Notes 2. and 3.
Mission	Activity Room(s) – General and Specific	A	1,057 NSF 1,575 NSF 2,625 NSF	1,057 NSF 1,575 NSF 2,625 NSF		General Activity Rooms accommodate 30 youth. See Notes 2 and 4.
Mission	Commons / Gathering Area	A	842 NSF 1,066 NSF 1,674 NSF	675		Minimum ceiling height 15 FT. Platform (up 2 steps w/ ramp) 16 FT X 18 FT - See Notes 2. and 5.
<b>Notes:</b>						
1. For clerk to view / observe people flow – maintained configuration and functional relationship between main entry and central counter / reception desk						
2. Vision panels are interior windows for monitoring and provide additional risk prevention measure						
3. In “Small Standard Plan” this space serves as “Technology / Homework Center” and only requires 7 computer workstations						

FUNCTIONAL/ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
4. "Specific Activity Rooms" accommodate up to 15 youth for active functions (except team sports) e.g. dance, yoga, aerobics, martial arts					
5. Diffuse or indirect natural light required; skylights are not acceptable. Provide circulation space around the perimeter of the required floor area					
Mission	Snack Bar / Culinary Arts Area	A	880 NSF	880 NSF	Next to a Commons / Gathering Area – See Note 6.
Mission	Multipurpose Room	A	6,778 NSF	6,778 NSF	See Note 7.
General	Storage Rooms	A	1,377 NSF	1,377 NSF	Provide mezzanine above storage area near Sports Director's Office for sports uniform storage. See Note 8.
			1,513 NSF	1,513 NSF	
General	Sports Dir's Office	A	2,068 NSF	2,068 NSF	
			169 NSF	169 NSF	
Support	Laundry Room	A	160 NSF	160 NSF	Residential grade washer(s) and dryer(s) – self-priming floor drain
Mission	Teen Room / Lounge	A	Not shown in Standard Designs	Not shown in Standard Designs	For teens 16 to 18 years of age. Provide 2 LAN drops for 15 youth and 3 LAN drops for 30 youth. CATV
Mission	Patio	B	800 NSF	800 NSF	Canopy covered area accessible from Snack Bar / Culinary Arts Area
Support	Male / Female Toilet Areas for Youth (total rooms)	A	901 NSF	901 NSF	One toilet and one sink per 15 youth in gender separated rooms – Continued Note 9.
			838 NSF	838 NSF	
			1,462 NSF	1,462 NSF	
Support	Janitorial Closet	A	116 NSF	116 NSF	Near Youth Toilets, door swings out 180-degrees, include low mop sink, supply shelving and mop drying rack
			88 NSF	88 NSF	
			92 NSF	92 NSF	
<b>Notes Continued:</b>					
6. Commercial grade equipment approved by Center for Health Promotion and Preventive Medicine, with cabinets made of plywood (not particle board) with solid surface polymer (not plastic laminate) counter-tops. Provide three duplex GFI outlets for small appliances, a hand-wash sink at end of counter and two vending machines. Provide dumpster access (not in front of facility).					

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
7. Retractable bleachers and electrically operated drop-divider curtain, minimum clear-height to any obstruction 24 FT. Provide light control of windows and protective mesh, and multipurpose athletic flooring (wood not acceptable) for dances, basketball, rollerblading, etc. Provide for mounting electric score boards (used independently when playing cross-court games) with floor plug-drops for remote controls. Floor markings include: (1) Full court basketball – goals: shatter proof and breakaway; (4) Half court basketball – goals: adjustable height / electrical lift with manual override – to fold against wall or ceiling above bleachers; (1) Volleyball – flush cover receptacles for stanchions to support net					
8. Exterior storage room = 87 GSF					
9. For boys, may substitute one urinal for one toilet. In two restrooms off the Multipurpose room must also include a diaper-changing station in each.					
Support	Video Monitoring Equipment Room	A	70 NSF	70 NSF	Racks approximately 48 in. wide X 30 in. deep X 84 in. high. Control temperature between 70° and 85 ° F
Mission	Outdoor Activity Area	B	N / A	N / A	Hard-surface patio (optional shade cover). Open field if others not available. Basketball court.
Support	Mechanical / Electrical Room	A	828 NSF	828 NSF	No direct access to interior or to playgrounds for safety, noise and environmental considerations
Support	Communication Room	A	70 NSF	70 NSF	Size per DOIM requirements
Mission	Teen Area (next to patio)	B	1,200 NSF 1,900 NSF	1,200 NSF 1,900 NSF	Optional
General Notes:					
10. Intercom system: two-way system connecting all usable rooms – front desk can contact rooms individually or all simultaneously					
11. Parking is required: 1 per 4 patrons and 1 for each full-time staff. Provide a sidewalk that leads from the car directly to the front entry without crossing traffic lanes. School buses to deliver and pick up children curbside on sidewalk that leads directly into the facility.					
12. Exterior lighting systems for parking areas, sidewalks, service yards, service drives, building entrances and perimeter.					
13. Service road / drive must be provided on the side of the building adjacent to the mechanical room, providing vehicular access to the kitchen service entry, mechanical yard, electrical room and storage room. The service drive will have a controlled access point with a control structure.					

FUNCTIONAL ADEQUACY MATRIX (FAM)					
FUNCTIONAL AREA		PRESENCE	QUANTITY or CAPACITY MINIMUM for ACCEPTABILITY		ASSIGN RATING / NOTES
TYPE	DESCRIPTION	METRIC	STANDARD	LOWER LIMIT	
14. Controlled Entry Access: buzzer system with manual override to control entry into the facility					
15. CATV (Cable Television) provide one each empty junction box and conduit for Teen Room / Lounge and Staff Lounge					
16. Drinking fountains will be provided in the interior					
<b>Presence Metrics:</b>					
A - Required, Collocated					
B – Required, Adjacent					



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building that serves as a center for recreational activities to encourage social exchange, an appreciation of other cultures, and the development of new skills. Programs provided in Recreation Centers serve all personnel, including married personnel and their families, DA employees and their families, retired personnel in the area, and single, Active-Duty personnel. The diversity of program objectives and users requires a great deal of spatial flexibility. There are four major aspects of the Recreation Center program: regular programs, leisure services and resources, special interest, and mobile recreation units. The facilities are also periodically used for nonrecreational events such as military organization observances, conferences, bloodmobiles, and commander's calls.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = NONE
- FAC UM = SF
- Planning UM = GSF
- Other UM = NONE

## 5. Functional Areas

Table 74068-1 lists the functional area requirements.

Table 74068-1 – Recreation Center Functional Areas and Adequacy Requirements		
Functional Area	a	Presence
Transition Activities (circulation, etc.)	Support	A
Large Group Activity areas (200 to 500 participants)	Mission	A
Small Group Activity areas (1 to 30 participants)	Mission	A
Refreshment areas (managed by AAFES)	Mission	C
Administrative areas	General	C
Support areas (storage, staging, etc.)	Support	A
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		
C – Required, Vicinity		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on population. Military personnel and their dependents contribute to the calculation of population served in CONUS; OCONUS adds the U.S. civilian strength.

$$\text{CONUS} = \text{Mil Pop} + (\text{Dependents Pop} \times 0.10)$$

$$\begin{aligned} \text{OCONUS} = & \text{Mil Pop} + (\text{Dependents Pop} \times 0.10) \\ & + \text{U.S. Civilians Pop} \end{aligned}$$

### 2. Programmatic Application

RPLANS determines the allowance from step function criteria and tables in TI 800-01.

At installations where the effective population is less than or equal to 250, these facilities are not authorized. Unit allowances are not calculated for these facilities. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

At some installations, other recreation programs such as arts and crafts, libraries, or music and theater, may be collocated because of economies of construction and convenience of the users. In such cases, space allocated to these other programs must conform to the total installation authorization for each type of facility included.

Table 74068-2 lists the gross area limitations for Recreation Centers based on the total military population served.

Table 74068-2 – Gross Area of Recreation Centers Based on Total Military Population Served See Notes 1 and 2.		
Military Population – See Note 3	GSF	GSM
Up to 250	See Note 4.	
251 to 500 – See Note 5.	4,000	375
501 to 2,000	12,700	1,180
2,001 to 4,000	19,800	1,840
4,001 to 5,000	27,800	2,585
5,001 to 10,000 – See Note 6.	55,600	5,165
10,001 to 15,000	83,400	7,750
For each additional 5,000	+27,800	+2,585
<b>Notes:</b>		
1. Mechanical, electrical, and electronic equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Gross areas may be provided in more than one facility if the total maximum authorized area is not exceeded.		
3. Military population is defined as Active Duty personnel assigned, plus 10 percent of their family members.		
4. This requirement should be accommodated in other facilities.		
5. Gross area will be combined with other recreation facilities when possible.		
6. Provide “Branch Centers” when serving 5,001 or more.		

Installations with a Mobilization Mission may provide Recreation Center (Service Club) buildings under this category code, provided they do not exceed the gross area limitations of Table 74068-3. This table is based on the number of enlisted personnel served under mobilization conditions.

Table 74068-3 – Mobilization Recreation Center Gross Area Based on Number of Enlisted Personnel Served		
Number of Enlisted Personnel	GSF	GSM
Up to 500	Dayroom space only	
501 to 5,000	8,286	770
Mechanical, electrical, and electronic equipment room space as required has been added to the gross areas shown. Additional space will not be added when determining a single gross area figure for each facility.		

Administrative areas reflect the diversity of programming and number of staff required to plan, execute, and control those programs. Table 74068-4 lists the staff positions appropriate for programming in the various size centers.

Table 74068-4 – Staff Positions for Various GSF Centers			
Position	12,700	19,800	27,800
Center Director	X	X	X
Program Director	X	X	X
ITT Director		X	X
Special Interest Director		X	X
NCOIC	X		X

The data in Table 74068-5 comes from the Design Guide, and should receive critical review for programmatic compliance with current MWR programs, activities, policies, and standards.

Table 74068-5 – NSF Per Activity Space			
Activity	12,700	19,800	27,800
Entry / Lobby	250	400	550
Circulation / Lounge	100 - 150		
Large Group Activity Spaces			
Central Programming Area	3,000	3,760	4,635
Platform / Stage	750		
Performers’ Dressing Areas	200	250	300
Storage	300	450	500
Pantry	250		
Loading Dock	100		
Rec-mobile	NA		300
Small Group Activity Spaces			
Active Games	1,500	2,700	3,800
TV	750	1,000	1,250
Small Table Games	150		
Large Table Games	600		
Small Open Multipurpose	150		
Large Open Multipurpose	600		
Small Enclosed	150		

Table 74068-5 – NSF Per Activity Space			
Activity	12,700	19,800	27,800
Multipurpose			
Large Enclosed Multipurpose	600		
Telephone Lounge	100	200	300
Soundproof Carrels (30 NSF each)	120	240	360
Special Interest Activity Spaces			
Meeting Area	0	1,000	1,000
Office	0	100	100
Storage	0	100	100
Administration and Control Activity Spaces			
Control Counter	150	300	400
Counter Storage	250	350	400
Offices	300	300	500
Staff Meeting Room	100	100	125
Staff Work Area	0	100	150
Storage	0	40	40
Information Tour and Travel (ITT) Activities Spaces			
Counter	50		
Office	0	0	100
Lounge	0	60	60
Refreshment Activity Spaces for Small and Medium Centers			
Vending	280	325	See Below
Dining	500	1,075	
Games	150	250	
Large Centers may include Snack Bar or Amusement Center			
Snack Bar			
Dining	1,400		
Serving	700		
Kitchen	1,000		
Games	350		
Amusement Center			
Game	1,500		
Dining	1,000		
Prep	200		
Maintenance and Support			
Public Toilets	450	600	720
Service Area	100		
Loading Dock	80		

While not optimum, the activities of a Recreation Center may reside in various adjacent buildings, if absolutely necessary.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

Small, Medium, or Large.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Recreation Centers should be located near other community and recreation facilities.

### 2. Site Planning Considerations

Table 74068-6 lists various data pertaining to site development.

Table 74068-6 – Minimum Acreage – Parking Requirements – Outdoor Activity Terrace By Size of Center			
GSF	12,700	19,800	27,800
Minimum AC	2.00	2.75	3.25
Parking Stalls	40	80	120
Parking GSY	1,400	2,800	3,500
Terrace GSF	3,000	3,600	4,200

## F. Other Considerations

### 1. Special Instructions

None.

## 2. Exceptions

None.

## 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix M, Page M-29	20-JUL-98
TI - 800-01 - Technical Instructions, Design Criteria: Appendix D, Page D-11 and D-12, Table D-10	20-JUL-98
DG 1110-3-132, Design Guide, Recreation Centers	31-JAN-76

## 4. See Also

73019	Family Life Center
74006	Bank
74011	Bowling Center
74023	Credit Union
74034	Community Activities Center
74040	Library Branch
74041	Library Main
74065	Recreational Equipment Checkout
74069	Community Fitness Center
74072	Indoor Swimming Pool
74082	Indoor Ice Skating Rink
75011	Court Area
75017	Outdoor Ice Skating Rink
75020	Baseball Field
75021	Softball Fields
75022	Multipurpose Athletic Field
75028	Outdoor Roller Skating Rink
75029	Skateboard Park
75030	Outdoor Swimming Pool
75031	Aquatic Center: Recreational
75045	Miniature Golf Course
75052	Recreational Shelter
75071	Outdoor Community Fitness Center
75088	Batting Cage

### 1. DA Pam 415-28 Description / Definition

A gymnasium-type building for the physical training, conditioning, and recreation of military personnel, civilians, and their families on a paid membership basis. The facility includes one or more of the following areas: multiple indoor courts; racquetball, squash, and/or handball courts; weight-training rooms; exercise/aerobics areas; locker rooms; swimming pools; and offices.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 4. See Also

74028 Physical Fitness Center



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An indoor building for roller-skating. It requires a hard-surface floor and special safety features. Typically, snack bars and locker areas are included within this space.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- NONE

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

To be considered adequate, a facility must include the functional areas as described in Table 74070-1.

Table 74070-1 – Indoor Roller-Skating Rink Functional Areas and Adequacy Requirements		
Functional Area	Type of Area	Presence
Rink floor	Mission	A
Administration / Check-out	Mission	A
Equipment Storage	Support	A
Lockers	Mission	A
Restrooms	Support	A
Snack Bar	Mission	A
Prep Kitchen	Support	B
Spectators' Area	Mission	B
Maintenance Area	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis of Authorization and Calculation

The criteria authorize this facility category based on population.  
No more than one per installation.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

## 2. Requirements Calculations

Size the facility based on the programming information in Table 74070-1.

Table 74070-1 – Skating Rink Sizes – See Note 1.		
Military Population	GSF	GSM
Up to 2,000 – See Note 2.	10,000	929
2,001 to 20,000 – See Note 3.	15,000	1,394
20,001 and above – See Note 3.	20,000	1,858
<b>Notes:</b>		
1- Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2- Additional space as required will be provided for support functions.		
3- These gross areas include space for support functions.		

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The skating rink should be master planned with other similar recreation facilities within walking distance between family housing and enlisted barracks.

## 2. Site Planning Considerations

This facility may be freestanding or attached to appropriate facility.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix E, Page E-15, Table E-13

20-JUL-98

### 4. See Also

73019 Family Life Center  
74006 Bank  
74011 Bowling Center  
74023 Credit Union  
74034 Community Activities Center  
74040 Library Branch  
74041 Library Main  
74065 Recreational Equipment Checkout  
74069 Community Fitness Center  
74072 Indoor Swimming Pool  
74082 Indoor Ice Skating Rink  
75011 Court Area  
75017 Outdoor Ice Skating Rink  
75020 Baseball Field  
75021 Softball Fields  
75022 Multipurpose Athletic Field  
75028 Outdoor Roller Skating Rink  
75029 Skateboard Park  
75030 Outdoor Swimming Pool  
75031 Aquatic Center, Recreational  
75045 Miniature Golf Course  
75052 Recreational Shelter  
75071 Outdoor Community Fitness Center  
75088 Batting Cage

### 1. DA Pam 415-28 Description / Definition

A building with an indoor swimming pool and its supporting elements. This category is for standalone pool buildings, fully enclosed pools, and the breakout of pool areas located within the Physical Fitness Center (74028). Also report the capacity of indoor pools with unit of measure each (EA), where each is an occurrence count of the indoor pool. Do not count the baby or wading pool, or the hot tub, when collocated with an indoor pool.

### 2. Criteria

The criteria authorize this facility category based on population and at one per installation. See CATCODE 75030, Outdoor Swimming Pool, for criteria.

RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

75030 Outdoor Swimming Pool  
73075 Separate Toilet / Shower Building  
74028 Physical Fitness Center  
74069 Community Fitness Center  
74075 Recreational Support Building  
74089 Outdoor Pool Service Building  
75031 Aquatic Center: Recreational  
75071 Outdoor Community Fitness Center

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A enclosed building used to provide support for recreational activities, primarily at athletic fields, pools, and skeet ranges. Such buildings are generally used as booths for scorers, and/or as press boxes. These buildings may be constructed with a concession stand on the lower level. Use this category to account for control buildings for ski lifts and associated equipment. If not fully enclosed, the structure equivalent of this building is a Recreational Shelter (75052).

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

- 74087 Recreation Park Service Building
- 74089 Outdoor Pool Service Building

### 1. DA Pam 415-28 Description / Definition

A building that provides boarding areas and kennels for the upkeep of privately owned animals belonging to hunt club members. These kennels are typically collocated with the rod and gun club/hunt club, and are used most extensively during hunting season or during training sessions for these dogs. Also report the capacity of the kennel as the number of kennel spaces within the building with unit of measure spaces (SP). Data should be available from the DPCA. If not, conduct a physical count. Do not include dog runs, service areas, and so forth in the space count.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used as a nonprofit facility for the storage and sale of used goods and handmade merchandise. The Thrift Shop is normally operated on a consignment basis by volunteers and/or a small number of staff.

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities

#### b. Center of Standardization

None

### 3. Complex

None.

### 4. Units of Measure

Primary: SF  
Secondary: None  
FAC UM: SF  
Other: None

### 5. Functional Areas

As needed.

Proponent:

- ACSIM Facilities

COS:

- None

Complex:

- None

Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UMM = SF
- Other UM = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category when there are existing facilities, one per installation.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.



## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Thrift Shops may be established according to the criteria shown in Table 74078-1 to provide a nonprofit facility for the purchase and sale by military personnel and their dependents of used apparel and household furniture, equipment, furnishings, and other items.

Military population is defined as Active Duty military personnel, plus 50 percent of their dependents.

Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.

The environmental adjustment factors (EAF) for Thrift Shops shown in Table 74078-2 will be applied to the authorized space allowances shown in Table 74078-1 for those installations having a military strength of over 2,000. These EAF are predicated on the availability of military family housing on the installation. The Unmarried and Family Housing Survey will be used to determine the percentages in Table 74078-2.

Table 74078-1 – Gross Area of Recreation Centers Based on Total Military Population Served See Notes 1 and 2.		
Military Population	GSF	GSM
Up to 2,000	1,400	130.0
2,001 to 4,000	2,000	186.0
4,001 to 6,000	2,700	251.0
6,001 to 8,000	3,400	316.0
8,001 to 10,000	4,000	372.0
10,001 to 12,000	4,500	418.0
12,001 to 14,000	4,900	456.0
14,001 and over	5,350	487.0

Table 74078-2 Environmental Adjustment Factors (EAF)	
Percent Living on Installation	EAF
Up to 51	0.70
52 to 75	0.80
76 to 90	0.95
91 to 100	1.00

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility supports both married and unaccompanied PN, and should be centrally located.

### 2. Site Planning Considerations

Provide volunteer staff and customer parking as well as loading and unloading zones to accommodate vehicles containing furniture or other heavy, bulky items.

## F. Other Considerations

### 1. Special Instructions

None.

**2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design      11-APR-06  
Criteria: Appendix E, Pages E-16 and  
E-17

**4. See Also**

None.

### 1. DA Pam 415-28 Description / Definition

A building leased under a DA out-grant to provide short- or long-term shelter under the auspices of the McKinney Act or the DA Shelter for the Homeless Program. Buildings may include space for sleeping areas; areas for dining and child care; administrative and storage areas; and other living spaces for homeless individuals. Report only the area for inventory purposes, because this type of facility would not be programmed for construction.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building containing individual attached storage units for rent to on- and off-post military and civilian personnel. Customers are provided a secure means of storing personal property within individual storage units. Also report the capacity of this building as the number of rental storage units with unit of measure spaces (SP). Data should be available from the DPCA. If not, conduct a physical count of the number of rental storage units available in the building.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = SP
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used to provide indoor ice-skating. The skating rink may include seating, a changing area, and a snack bar within this category. Report the skating rink area separately if it is a part of a Physical Fitness Center (74028).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: None  
FAC: SF  
Planning: GSF  
Other: None

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = GSF
- Secondary UM = None
- FAC UM = SF
- Planning UM = GSF
- Other UM = None

## 5. Functional Areas

Table 74082-1 lists the functional spaces associated with an adequate Indoor Ice Skating Rink.

Table 74082-1 – Indoor Roller Skating Rink Functional Areas and Adequacy Requirements		
Functional Area	Type of Area	Presence
Rink floor	Mission	A
Administration / Check-out	Mission	A
Equipment Storage	Support	A
Lockers	Mission	A
Restrooms	Support	A
Snack Bar	Mission	A
Prep Kitchen	Support	B
Spectators' Area	Mission	B
Maintenance Area	Support	A
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on population. The allowance is based on the military population served: Active Duty military personnel, plus 50 percent of their dependents.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD. Each installation is permitted one skating rink.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 74082-2 lists the sizing of ice rinks based on military population served.

Table 74082-2 – Skating Rink Sizes – See Note 1.		
Military Population	GSF	GSM
Up to 2,000 – See Note 2.	10,000	929
2,001 to 20,000 – See Note 3.	15,000	1,394
20,001 and above – See Note 3.	20,000	1,858
<b>Notes:</b>		
1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Additional space as required will be provided for support functions.		
3. These gross areas include space for support functions.		

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Program indoor ice rinks in the sized indicated in Table 74082-2. Programming documents report these facilities in GSF to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

The skating rink should be master planned with other similar recreation facilities within walking distance between family housing and enlisted barracks.



## 2. Site Planning Considerations

This facility may be freestanding or attached to appropriate facility.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix E, Page E-15, Table E 13	20-JUL-98
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### 4. See Also

73019	Family Life Center
74006	Bank
74011	Bowling Center
74023	Credit Union
74034	Community Activities Center
74040	Library Branch
74041	Library Main
74065	Recreational Equipment Checkout
74069	Community Fitness Center
74072	Indoor Swimming Pool
74082	Indoor Ice Skating Rink
75011	Court Area
75017	Outdoor Ice Skating Rink
75020	Baseball Field
75021	Softball Fields
75022	Multipurpose Athletic Field
75028	Outdoor Roller Skating Rink
75029	Skateboard Park
75030	Outdoor Swimming Pool
75031	Aquatic Center, Recreational
75045	Miniature Golf Course
75052	Recreational Shelter
75071	Outdoor Community Fitness Center
75088	Batting Cage

### 1. DA Pam 415-28 Description / Definition

A building for club use by active-duty personnel, authorized civilians, and their family members for private organization club meetings and activities that are not affiliated with the U.S. government. Examples include rod and gun clubs, scouting activities, and wives clubs. Most of these facilities are provided on a space-available basis.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building that provides a variety of support services for government-owned campgrounds, recreational trailer parks, or recreational vehicle areas. Services may include offices for recreational park management, self-service laundry areas, restrooms, storage, vending machine areas, retail sales area, and utility rooms.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74075      Recreational Support Building  
74089      Outdoor Pool Service Building

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the pump and filter equipment for an outdoor pool.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

74075      Recreational Support Building  
74087      Recreation Park Service Building

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A prepared-surface structure – including the necessary furnishings – marked for one of the following types of courts: basketball, volleyball, badminton, or tennis. Count each occurrence of a lined surface that will accommodate one set of opposing teams as 1 EA, provided that the Court Area can be used without restricting the use of the Court Area for another sport. The same surface area can be counted only once.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA
- Other UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the military population served for the number of courts per installation for both CONUS and OCONUS.

## 2. Programmatic Application

RPLANS calculates an allowance using the formula listed under Requirements Calculations, below. Unit allowances are not calculated for Court Areas. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 75011-1 lists the types of courts and increments of population served (active-duty military population plus 35 percent of their dependents) for each additional court.]

$$\text{Courts} = (\text{Mil Pop} \times 0.001) + 1$$

Table 75011-1 Population Served per Court Type			
Court Type	1 Court Up To n PN	1 Court For Each Additional n PN	See Note
Basketball	375	500	1.
Volleyball	375	500	1.
Badminton	750	1,000	
Tennis	500	500	1. and 2.
<b>Notes</b>			
1. Provide in pairs wherever possible.			
2. Above 10 courts = 5,000 population – provide one court per each additional 1,000 population served.			

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Where possible, distribute these courts across the installation near other recreation facilities designed to serve the various residential populations. Prorate the distribution based on the fraction of the population served as it contributes to the total number of courts: A post with 15,000 unaccompanied and 4,000 family housing units (4,000 active-duty personnel + 35 percent dependents) = ~5,000, for a total population served of 20,000 (15,000 + 5,000). For each type of court, site 75 percent of them near the unaccompanied billets, and 25 percent near the family housing.

Coordinate all MWR functions and activities into similar and compatible relationships, such as large-group active, small-group passive, large land area requirements, dense land use requirements, etc.

### **2. Site Planning Considerations**

As sites for outdoor competitive activities, the courts require nearly level (slight slope to drain) surfaces away from overhanging hazards (power lines, trees, etc.); they also need natural or artificial wind protection.

## **F. Other Considerations**

### **1. Special Instructions**

Night lighting may be provided for these courts.

Prepared surfaces must be free of standing water, ruts, cracks, vegetation, and other impediments to safe, fair, and healthy competitive recreational sports.

In addition to the inbounds playing surface (as defined by appropriate markings), the area must provide a margin or apron for safe player movement within a fence of sufficient height and strength so as to protect both players and spectators from inadvertent impacts, collisions, distractions, and other hazards.

## 2. Exceptions

None.

## 3. References

TI - 800-01 - Technical Instructions, Design      20-JUL-98  
Criteria: Appendix D, Page D-9

## 4. See Also

73046    Dependent School  
74028    Physical Fitness Center  
74034    Community Activities Center  
74049    Riding Stable  
74065    Recreational Equipment Checkout  
74066    Youth Center  
74068    Recreation Center  
74069    Community Fitness Center  
74087    Recreation Park Service Building  
75017    Outdoor Ice Skating Rink  
75018    Playground, General Purpose  
75020    Baseball Field  
75021    Softball Fields  
75022    Multipurpose Athletic Field  
75027    Running Track  
75028    Outdoor Roller Skating Rink  
75029    Skateboard Park  
75030    Outdoor Swimming Pool  
75031    Aquatic Center, Recreational  
75065    Jogging/Fitness/Bike Trail  
75071    Outdoor Community Fitness Center  
75088    Batting Cage



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A hard-surface area designed specifically for ice-skating outdoors. The structure may include participant and spectator seating areas.

### 2. Proponent and Center of Standardization

**Proponent**  
ACSIM Facilities

**Center of Standardization**  
None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

Proponent:

- ACSIM Facilities

COS:

- None

Complex:

- None

Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at one per installation.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Required features include:

- Smooth, crack-free, level skating area
- Safety barrier to prevent skaters from leaving the ice in an uncontrolled manner
- Peripheral circulation for skaters and spectators to move around the rink without interfering with skaters

Optional features include:

- Rink management office
- Equipment storage
- Equipment rental and checkout area
- Locker rooms
- Snack bar (with or without a kitchen)

Table 75017-1 lists skating surface area based on population served.

Table 75017-1 – Space Criteria for Skating Rinks		
Military Population – See Note 1	Gross Area – See Note 2	
	GSF	GSM
Up to 2,000 – See Note 4	10,000	929
2,001 – 20,000 – See Note 5	15,000	1,394
20,001 and over – See Note 5	20,000	1,858
<b>Notes:</b>		
1. Military population is defined as active-duty military personnel assigned to the installation, plus 50 percent of their dependents.		
2. Only one skating rink is authorized per installation.		
3. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
4. Additional space as required will be provided for support functions.		
5. These gross areas include space for support functions.		

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Coordinate all MWR functions and activities into similar and compatible relationships, such as large-group active, small-group passive, large land area requirements, and dense land use requirements.

### **2. Site Planning Considerations**

As a location for outdoor, cold-weather activity, the rink requires nearly level (slight slope to drain) surfaces away from overhanging hazards (trees, etc.), and requires natural or artificial wind protection.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### 3. References

TI - 800-01 - Technical Instructions, Design      20-JUL-98  
Criteria: Appendix E, Page E-15, Table  
E-13

### 4. See Also

73046    Dependent School  
74028    Physical Fitness Center  
74030    Sports Pro Shop  
74034    Community Activities Center  
74065    Recreational Equipment Checkout  
74068    Recreation Center  
74070    Indoor Roller Skating Rink  
74075    Recreational Support Building  
74082    Indoor Ice Skating Rink  
74087    Recreation Park Service Building  
75018    Playground, General Purpose  
75028    Outdoor Roller Skating Rink  
75052    Recreational Shelter  
75062    Ski Lift

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

Outdoor play area structure set aside for recreation near family housing, schools, recreational areas, or child support service centers. Playgrounds provide for the outdoor recreational needs of children ages 5-12. Also use this category for play lots, which are recreational areas for preschool children up to 6 years of age. Each is an occurrence count of the number of playgrounds, not of individual pieces of playground equipment.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC: EA  
Other: None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF
- Other UM = None

### 5. Functional Areas

Provide safe, sound, playground equipment that is sized to be age appropriate, of the following types of playground equipment:

Balance beam	Merry-go-round	Parallel bars
Climbing poles	Horizontal ladder	Slide
Horizontal bars	Senior swing set	

Provide safe, sound, play lot equipment that is sized to be age appropriate, of the following types of playground equipment:

Climber	Sand area	Play wall or house
Junior swing set	Slide	Spray pool
Play sculpture		

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the population of children. The population in each of the age brackets determines the size of the playgrounds and play lots.

### 1. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The size and number of playgrounds/play lots depends on the population of preschool and elementary school-age children. See Tables 74018-1 and 74018-2 to determine numbers justifiable based on population served.

Table 74018-1 -- 1 – Play Lots: Preschool Children	
Number of Preschoolers	Number of Play Lots
Up to 74	NONE
75 – 100	1
101 – 200	2
201 – 300	3
For each additional 100 preschool children, provide one additional play lot	

Table 74018-2 -- 2 – Playgrounds: Elementary Children	
Number of Preschoolers	Number of Playgrounds
Up to 110	1
111 – 220	2
221 – 330	3
331 - 440	4
For each additional 110 elementary school-age children, provide one additional playground	

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

A playground is an integral part of a complete elementary school development. School playgrounds and other playgrounds should be readily accessible from, and conveniently located relative to the housing area served. A playground should be within one-quarter to one-half mile (0.4 to 0.8 km) of every family housing unit. The total land area required is based upon the population of elementary school-age children and the actual per child area figure used.

Play lots should be included as an integral part of the housing area design, preferably located within 300 to 400 feet (91.4 to 121.2 m) of each living unit served. A play lot should be accessible without crossing any street, and the walkways to and from it should have an easy gradient for pushing strollers and carriages. Play lots may be included in playgrounds close to housing areas to serve the preschool age group in the adjoining neighborhood.

### **2. Site Planning Considerations**

Avoid steep grades, ravines, creeks, and other natural hazards. Natural vegetation (if maintained along with lawns and play areas) adds shade, wind protection, and enhances the overall play experience.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Chapter 3, Page 3-43	20-JUL-98
U.S. Consumer Product Safety Commission (USCPSC), Handbook for Public Playground Safety. Updated 1997	01-JAN-97
ASTM F 1487, Standard Consumer Safety Performance Specification for Playground Equipment for Public Use, Updated 1997	01-JAN-97
ASTM F 1292, Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment, Updated 1996	01-JAN-96
Publication Number 325, U.S. Consumer Product Safety Commission (CPSC), Handbook for Public Playground Safety	30-NOV-97
ASTM PS-83, Determination of Accessibility of Surface Systems Under and Around Playground Equipment	01-APR-97
TM 5-803-12, Planning of Outdoor Recreation Areas	30-SEP-86

### 4. See Also

73046	Dependent School
74016	Child Development Center-School-Age Facility
74017	Child Development Center-Under 6 Years Of Age
75052	Recreational Shelter
75085	Recreation/Picnic Area
75086	Recreational Trailer Park/Campground



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A fenced outdoor area for playing regulation or youth baseball. The area has a skinned infield surface with a grass or synthetic grass outfield. Area layout is in accordance with the U.S. Baseball Federation or appropriate youth rules specifications. Lighting and scoreboard are optional. Account for dugouts and scorers' shelter separately under Recreational Shelter (75052). Account for the scorers booth, press box, concession stand, and storage buildings separately under Recreation Support Building (74075).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA
- Other UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations with a military strength of 1,000 persons or more. A statistical analysis of TI 800-01 criteria for Baseball Fields determines the additional fields.

Number of Youth Fields =  
$$[ ( \text{Dependents Pop} \times 0.6 \times 0.724 ) \times 0.002 ] + 1$$

### 2. Programmatic Application

RPLANS calculates the number of youth fields and adds one Baseball Field per installation.

At installations where the population is less than or equal to 1,000, these facilities are not authorized. Unit allowances are not calculated for Baseball Fields. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Provide one regulation Baseball Field at installations with a military strength of 1,000 or more.

Provide one youth Baseball Field for dependent populations (ages 6 to 19) for each 500 PN up to five fields. Above 2,500 PN, provide one youth Baseball Field for each additional 750 dependents.

Each installation with a military strength of 10,000 persons or more will be provided with central athletic facilities that will consist of one regulation Baseball Field lighted for night play. Where space permits, the Baseball Field may be located apart from the football field. Portable bleachers will be provided to serve both the central baseball facility and the combination football and Baseball Field. The total number of seats provided will not exceed one-third of the installation military strength.

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Regulation Baseball Fields should be sited as components of a recreation or athletic complex, or in proximity to troop housing. Youth Baseball Fields should be located close to family housing areas and schools.

### **2. Site Planning Considerations**

An official or regulation size Baseball Field requires a minimum of 3.5 AC (1.4 HA), while youth Baseball Fields require a minimum of 1.2 AC (0.5 HA). Sizes for youth Baseball Fields may vary depending on the age group served. See TM 5-803-10 for specific field layouts and sizes.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D and Appendix M	20-JUL-98
TM 5-803-2 Planning in Noise Environment (Superseded: TM 5-365, Natural Resources, Outdoor Recreation and Cultural Values)	15-JUN-78
TM 5-803-10 Planning and Design of Outdoor Sports Facilities	05-APR-88

**4. See Also**

74066	Youth Center
74068	Recreation Center
74075	Recreational Support Building
75021	Softball Field
75022	Multipurpose Athletic Field
75052	Recreational Shelter
75061	Grandstand/Bleachers

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A fenced outdoor area with one to four playing fields for playing fast-pitch or slow-pitch softball. The area has a skinned infield surface with a grass or synthetic grass outfield. The area layout is in accordance with USA Amateur Softball Association specifications. The area has age-appropriate distances from the pitcher's mound to home plate and between bases. Lighting and scoreboards are optional. Account for dugouts and scorers' shelter separately under Recreational Shelter (75052). Account for the scorers' booth, press box, concession stand and storage buildings separately as a Recreation Support Building (74075).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities in EA.

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

#### Units of Measure;

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA
- Other UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the military population for CONUS, plus U.S. civilian population for OCONUS.

$$\text{CONUS} = (\text{Mil Pop} \times 0.002) + 0.64$$

$$\text{OCONUS} = [ (\text{Mil Pop} + \text{U.S. Civilian Pop}) \times 0.002 ] + 0.64$$

### 2. Programmatic Application

RPLANS calculates these facilities using the formula above. Unit allowances are not calculated for Softball Fields. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Provide two regulation Softball Fields for an active military strength assigned to an installation up to 750, and two additional fields for each increment of 1,000 thereafter. The minimum land area for 12 inch (0.3 m) ball games (fast- and slow-pitch) is 1.5 AC (0.6 HA), and for 16-inch (0.4 m) ball games (slow-pitch) is 1.2 AC (0.5 HA).

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

These facilities should be sited in recreation or athletic complexes, or in proximity to troop housing. Parking requirements will vary depending on location. Night lighting, irrigation systems, bleachers, and other support facilities may be provided.

### 2. Site Planning Considerations

Well-drained, visually level open areas make the best sites for athletic facilities of this nature.

## F. Other Considerations

### 1. Special Instructions

Mobilization Criteria: Each battalion unit is authorized one regulation Softball Field.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D page D-9	20-JUL-98
TI - 800-01 - Technical Instructions, Design Criteria: Appendix M	20-JUL-98
TM 5-803-10 Planning and Design of Outdoor Sports Facilities	05-APR-88

### 4. See Also

74075	Recreational Support Building
75020	Baseball Field
75022	Multipurpose Athletic Field
75052	Recreational Shelter

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A turf-covered playing field for playing 11-person American football, soccer, lacrosse, or similar forms of athletic competition. Polo may also be played on this field with approval from DPCA/Morale Support Activity. This category of facility does not include a Running Track (use 75027).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

None.

#### Complex:

- None

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA
- Other UM = EA

### 5. Functional Areas

None.



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for one 400-meter (1,312-foot) running track, and one regulation baseball field may be provided at Army installations with a military strength of more than 1,000. One combination football field superimposed on a baseball field lighted for night play will be provided at installations with a military strength of 10,000 persons or more. The criteria for mobilization facilities for Army installations during mobilization contingencies is one combination football field superimposed on a baseball field for each brigade. Unit allowances are not calculated for Multipurpose Athletic Fields.

### 2. Programmatic Application

RPLANS computes allowances based on the following formulas.

These fields require computations based on the military population, the youth population, and, for OCONUS, the U.S. civilian population. An algorithm was developed based on a statistical analysis of TI 800-01 criteria for outdoor fields. Armywide demographics data indicate that 60 percent of the dependent population is children, and that 72.4 percent of this population falls within the 6 to 19 age group. This algorithm produces allowances for both regulation and youth fields for CONUS and OCONUS.

$$\begin{aligned} \text{Number of Multipurpose Athletic Fields} = \\ \text{CONUS Regulation Fields} = (\text{Mil Pop} \times 0.001) + .325 \end{aligned}$$

$$\begin{aligned} \text{CONUS Youth Fields} = \\ (\text{Dependents Pop} \times 0.6 \times 0.724 \times 0.001) + 1.18 \end{aligned}$$

$$\begin{aligned} \text{OCONUS Regulation Fields} = \\ [(\text{Mil Pop} + \text{US Civ Pop}) \times 0.001] + .325 \end{aligned}$$

$$\begin{aligned} \text{OCONUS Youth Fields} = \\ (\text{Dependents Pop} \times 0.6 \times 0.724 \times 0.001) + 1.18 \end{aligned}$$

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

Provide one combination football and soccer field for an active military strength up to 750, and on additional field for each increment of 1,000 thereafter.

Provide one youth soccer field for the dependent population, ages 6 to 19, up to 500 youths, and an additional field for each increment of 500 up to 2,500 youths. Thereafter, provide one additional field for each increment of 750 youths.

The recommended area for the football field is a minimum of 1.5 AC (0.6 HA). The dimensions and land area needed varies depending on whether or not the football field will be combined with baseball and/or softball fields. For planning purposes, the dimensions range from 415 feet by 415 feet (126.5 m by 126.5 m) for combined football, baseball, and softball fields, to 350 feet by 350 feet (106.7 m by 106.7 m) for combined baseball and football fields.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility should be located in a recreation or athletic complex, or in proximity to troop housing areas. When the field also serves a youth population, it should be sited with convenient access from family housing areas.

## 2. Site Planning Considerations

Well-drained, visually level open areas make the best sites for athletic facilities of this nature.

Lighting, irrigation systems, and support facilities may be provided as required.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D and Appendix M	20-JUL-98
TM 5-803-10 Planning and Design of Outdoor Sports Facilities	05-APR-88

### 4. See Also

75020	Baseball Field
75021	Softball Fields
75027	Running Track
75060	Stadium
75061	Grandstand/Bleachers

### 1. DA Pam 415-28 Description / Definition

A range with firing stations for shooting at targets using a bow and arrow. This structure is most often associated with the rod and gun club or the hunt club.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A bounded area with shooting stations for firing at clay targets with a shotgun. A skeet field is usually associated with a rod and gun club. Target firing facilities are included as part of the skeet field.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

Huntsville

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC UM: EA  
Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = EA

## 5. Functional Areas

Table 75025-1 lists the functional areas and their types and presence requirements for adequate facilities.

Table 75025-1 – Skeet Field Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Control Building		
Sales / Check-out	Mission	A
Arms / ammunition storage	Support	A
Repair shop	Mission	A
Restrooms	Support	A
Lounge	Support	A
Equipment area	Support	A
Outdoor Facilities		
High and Low Launch Houses	Mission	A
Skeet / Trap Stations and Walkways	Mission	A
Spectators' Area	Mission	B
Picnic / play Area	Support	B
<b>Presence Requirement for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

None.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 75025-2 lists the land area required for ranges depending on the military population served.

Table 75025-2 – Skeet Range Land Area		
Military Population	Width of Range	Acres
Up to 100	NONE Authorized	0
101 – 30,000	2,400 FT	60
30,001 – 40,000		64
40,001 or more		68
Military population is defined as active-duty military strength assigned to the installation, plus 10 percent of their dependents, plus 15 percent of retired military supported by the installation.		
Land area recommendations were made by the National Shooting Sports Foundation and the National Rifle Association.		
All skeet ranges measure 1,100 feet in depth from the firing line.		

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Skeet Range – Shot Fall Safety Fan as recommended by National Shooting Sports Foundation and National Rifle Association.

## 2. Site Planning Considerations

The range area requires a relatively flat site, and shooters should face north, preferably, or southeast as a second choice.

## F. Other Considerations

### 1. Special Instructions

Per the National Rifle Association: A round of skeet for each shooter consists of 25 birds. The birds always fly in the same path. The field layout consists of a high house, low house, and eight shooting stations.

At each station, the shooter fires at a target from the high house, then one from the low house. Doubles are then shot from stations 1, 2, 6, and 7. This uses 25 cartridges. The 25th shot is a repeat of the first miss. In the event the shooter breaks the full 24, he or she may then shoot at the 25th from any station they choose.

### 2. Exceptions

None.

### 3. References

Shotgun Shooting Facilities Plans - International and Domestic Skeet Standards - by National Rifle Association	01-JAN-08
AR 190-11 PHYSICAL SECURITY OF ARMS, AMMUNITION, AND EXPLOSIVES	15-NOV-06
DA PAM 385-64 Ammunition and Explosives Safety Standards	15-DEC-99
TI - 800-01 - Technical Instructions, Design Criteria: Appendix E	20-JUL-98

### 4. See Also

None.



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A prepared surface, usually oval in shape and limited in width, used for running. The infield normally consists of a different category, usually Multipurpose Athletic Field (75022), and is used for holding field events.

### 2. Proponent and Center of Standardization

#### a. Proponent

ACSIM Facilities

#### b. Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

### 3. Complex

This facility category often supports installations, and both the BT/OSUT and AIT Complexes include it as well.

#### Complex:

- BT/OSUT
- AIT

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC UM: EA  
Other: None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = None

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations with a military strength of 1,000 and over.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

One Running Track may be provided at Army installations with a military strength of 1,000 or more.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility normally shares land with other outdoor athletic fields.

### 2. Site Planning Considerations

Typically, a track has two straight parallel sides connected by large-radius semicircles, producing a length of 400 meters (1,312 feet, or 437.33 yards) for the inside lane. Often, the track surrounds a football or soccer field. In addition to the track itself, provide land space for a long jump or triple jump pit, and other track and field activities.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

At Army installations of less than 1,000 military strength, the Installation should make arrangements with the DODDS or another local institution with appropriate facilities.

### **3. References**

TI - 800-01 - Technical Instructions, Design                      20-JUL-98  
Criteria: Appendix D, Page D-9

### **4. See Also**

74028    Physical Fitness Center  
75020    Baseball Field  
75021    Softball Field  
75022    Multipurpose Athletic Field

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A prepared outdoor surface, preferably oval, used for roller-skating or roller blading.

### 2. Proponent and Center of Standardization

**Proponent**  
ACSIM Facilities

**Center of Standardization**  
None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Other: EA

Proponent:

- ACSIM Facilities

COS:

- None

Complex:

- None

Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = EA

### 5. Functional Areas

Required:

- Smooth, crack-free, level skating area
- Safety barrier to prevent skaters from leaving the ice in an uncontrolled manner
- Peripheral circulation for skaters and spectators to move around the rink without interfering with skaters

Optional:

- Rink management office
- Equipment storage
- Equipment rental and checkout area
- Locker rooms
- Snack bar (with or without a kitchen)

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this category facility at one per installation

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 75028-1 lists skating surface area based on population served.

Table 75028-1 – Space Criteria for Skating Rinks		
Military Population – See Note 1	Gross Area – See Note 2	
Up to 2,000 – See Note 4	10,000	929
2,001 – 20,000 – See Note 5	15,000	1,394
20,001 and over – See Note 5	20,000	1,858
<b>Notes:</b>		
1. Military population is defined as active-duty military personnel assigned to the installation, plus 50 percent of their dependents.		
2. Only one skating rink is authorized per installation.		
3. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
4. Additional space as required will be provided for support functions.		
5. These gross areas include space for support functions.		

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

None.

**2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

Coordinate all MWR functions and activities into similar and compatible relationships, such as large-group active, small-group passive, large land area requirements, and dense land use requirements.

**2. Site Planning Considerations**

The rink requires nearly level (slight slope to drain) surfaces away from overhanging hazards (trees, etc.), and also needs natural or artificial wind protection.

**F. Other Considerations****1. Special Instructions**

None.

**2. Exceptions**

None.

### 3. References

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix E, Page E-15, Table  
E-15

20-JUL-98

### 4. See Also

73046 Dependent School  
74028 Physical Fitness Center  
74030 Sports Pro Shop  
74034 Community Activities Center  
74065 Recreational Equipment Checkout  
74068 Recreation Center  
74070 Indoor Roller Skating Rink  
74075 Recreational Support Building  
74082 Indoor Ice Skating Rink  
74087 Recreation Park Service Building  
75017 Outdoor Ice Skating Rink  
75018 Playground, General Purpose  
75052 Recreational Shelter

### 1. DA Pam 415-28 Description / Definition

An outdoor park area designed for the recreational use of skateboards that is characterized by banks, slopes, and bowls of smooth-formed concrete or wood. This category may include areas for spectators, and storage areas.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

75028 Outdoor Roller Skating Rink

**Planning Level:**

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A fenced area specifically designed for an outdoor swimming pool that is used for aquatic recreation and athletic conditioning. Count each occurrence of a pool that may consist of either a regular pool or an Olympic-size pool. A wading or child's pool, if collocated with a swimming pool, is not counted separately. If a facility has both a regular swimming pool and an Olympic-size pool, count each as a separate facility, with its own separate facility number and facility record.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC: EA  
Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = EA

## 5. Functional Areas

Table 75030-1 lists the functional areas and their types and presence requirements for adequate facilities.

Table 75030-1 – Outdoor Swimming Pool Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
BATHHOUSE BUILDING		
Check-in Area	Mission	A
Lifeguard Room	General	A
Office	General	A
Showers/Toilet/Dressing/Locker Areas for each gender	Mission	A
Pump/Filter Equipment area	Support	A
OUTDOOR FACILITIES		
Pool(s) (swimming – diving – wadding)	Mission	A
Deck Area – circulation and sun bathing	Mission	A
Spectators' Area (Optional)	Mission	B
Picnic/Play Area (Optional)	Support	B
<b>Presence Requirements for Adequacy:</b>		
A - Required, Collocated		
B – Required, Adjacent		

## B. Criteria

### 1. Basis for Authorization and Calculation

The military and dependent populations contribute to the calculation of the number of outdoor pools.

$$[ ( \text{Mil Pop} + ( \text{Dependents Pop} \times 0.7 ) ) \times 0.0001 ] + 1.56$$

### 2. Programmatic Application

RPLANS calculates allowances with the above formula.

One pool at each installation with an effective population of less than 20,000 may be enclosed for year-round use. At installations with an effective population greater than or equal to 20,000, two pools may be enclosed for year-round use. Unit allowances are not calculated for outdoor pools. Installation allowances are not calculated for ARNG installations.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

## 2. Requirements Calculations

Table 75030-2 lists the number of pools based on the military population served.

Table 75030-2 – Number of Outdoor Swimming Pools per Military Population		
Military Population – See Note 1	25 m length – See Note 2	50 m length – See Note 2
Up to 250	See Note 3	See Note 3
251 – 3,000	1	0
3,001 – 6,000	1	1
6,001 – 10,000 – See Notes 4, 5	2	1
<b>Notes:</b>		
1. Military population is defined as active-duty military personnel assigned to the installation, plus 70 percent of their dependents.		
2. 25 m pool measuring 21 m by 25 m (69 feet by 82 feet), and 50 m pool measuring 21 m by 50 m (68 feet by 164 feet).		
3. One swimming pool not to exceed 116 SM (250 GSF) of water surface area and a 74 SM (800 GSF) gross area bathhouse may be provided as required.		
4. One 25-meter Outdoor Swimming Pool with a 372 SM (4,000 SF) gross area bathhouse may be provided for each increment of 5,000 military population over 10,000.		
5. In lieu of a 25-meter Outdoor Swimming Pool, one 50-meter outdoor swimming pool with a 604 SM (6,500 SF) gross area bathhouse may be provided for each increment of 10,000 military population over 10,000.		

Table 75030-3 lists the diving area based on the number of diving boards.

Table 73050-3 – Diving Areas and Diving Boards	
Number of Boards	Total Diving Area
1	45 feet by 24 feet (14 m by 8 m)
2	45 feet by 36 feet (14 m by 11 m)
3	45 feet by 48 feet (14 m by 15 m)
<b>Note:</b>	
1. Diving area allocations are additive to swimming water surface area.	

Table 75030-4 lists the maximum sizes of bathhouses based on swimming facility served.

Table 73050-4 – Maximum Area of Bathhouses	
Swimming Facility	Floor Area
25 m Pool	4,000 GSF (372 SM)
50 m Pool	6,500 GSF (604 SM)
Beach	4,000 GSF (372 SM)
<b>Note:</b>	
1. Diving area allocations are additive to swimming water surface area.	

Table 75030-5 lists the plumbing fixtures based on the number of swimmers.

Table 75030-5 – Plumbing Fixtures for Swimmers					
Minimum # Persons / Fixture					
	Water Closets	Lavatories	Urinals	Showers	Drinking Fountains
Females	20	40	NONE	30	100
Males	40	20	40	30	100
<b>Notes:</b>					
1. Maximum capacity of swimming pool = pool area divided by 27 GSF (2.5SM)					
2. Maximum capacity of wading pool = pool area divided by 13.5 GSF (1.3SM)					
3. Provide “wet toilets” so that persons using them must pass through shower before entering the pool.					
4. Provide one “wet toilet” per gender up to 100 persons, and two for over 100 swimmers.					

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

## 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Swimming facilities should be near other recreation facilities and within walking distance of the housing/billeting of the intended swimmers.

### 2. Site Planning Considerations

Provide adequate space for swimming-related activities, e.g. sun bathing, picnics, parking, and tailgate parties.

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D, Page D-16, Table D-13	18-JUN-02
TI - 800-01 - Technical Instructions, Design Criteria: Table 3-5, Page 3-34	20-JUL-98
TI - 800-01 - Technical Instructions, Design Criteria: Table 15-3 Page 15-5	20-JUL-98

### 4. See Also

73075	Separate Toilet/Shower Building
74028	Physical Fitness Center
74069	Community Fitness Center
74072	Indoor Swimming Pool
74075	Recreational Support Building
74089	Outdoor Pool Service Building
75031	Aquatic Center, Recreational
75071	Outdoor Community Fitness Center

### 1. DA Pam 415-28 Description / Definition

A structure used as a commercial water theme park for Soldiers and family members. The facility has multiple pools, slides, sprays, and other water sports amenities. The facility will be operated as a revenue-producing activity. Use Outdoor Swimming Pool (75030) if simply a complex of several pools not of a theme park magnitude. Count the entire theme park as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM CFSC

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A prepared hard or dirt surface specifically designed for the purpose of competitive racing or testing of POVs, including automobiles, motorcycles, all-terrain vehicles, and bicycles. The racing structure may be a smooth oval surface primarily for automobiles; or it may be irregular and consist of natural and man-made hazards, and used for motocross events. Typically, a track also includes bleachers, concessions, and a pit area. Report the total area of this facility in acres, and an occurrence as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An arena for horseback riding of either horses in the recreation services rental program, or privately boarded horses. Includes open areas and fences to designate corrals. Does not include any structures with roofs. If present, roofed structures are accounted for separately.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit



## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An 18-hole golf course that is a grassy, turf-covered tract of land with tees, fairways, hazards, and greens providing for recreational golf. Also report the area of the golf course in acres (AC). Information should be available from the DPCA. If not, conduct a physical survey. Report buildings separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Primary: EA  
Secondary: AC  
FAC UM: EA  
Other: None

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA
- Other UM = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations that already have this facility. Minimum military population is 4001. A new facility will be allowed only on an exception basis. Installations will not list this facility as required in the Tabulation of Existing and Required Facilities without written authorization by IMCOM.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 74040-1 lists the number of 18-hole courses based on the military population served.

Table 74040-1 – Golf Courses / Military Population	
Military Population	Number of 18-Hole Courses
Up to 4,000	NONE
4,001 – 8,000	1
8,001 – 12,000	1.5
Over 12,000	2
<b>Notes:</b>	
1. Military population is defined as active-duty military personnel assigned to the installation, plus 35 percent of their dependents, plus 25 percent of retired personnel supported by the installation.	
2. A pitch-and-putt course will be considered as the equivalent of a golf course of the same number of holes.	

The standard 18-hole golf course should encompass from 110- to 160 AC (44.5- to 64.7 HA), depending on the type of terrain. Table 75040-2 lists general planning factors taking into account the site terrain.

Table 75040-2 – 18-Hole Course Area – Based on Terrain		
Terrain	Area AC	Area HA
Flat	110	44.5
Rolling	120	48.6
Hilly	160	64.8

Par - The United States Golf Association has set a general standard for par in relation to the yardage of any given hole: Par is the number of strokes that an expert golfer should make on a given hole. The method for computing total par is described below.

A regulation golf course comprises 18 holes with a combination of par 3s, 4s, and 5s, the sum of which equals pars 70 to 73. The standard mix for a par 72 golf course is 10 par 4s, four par 3s, and four par 5s. Par 71 courses generally drop a par 4 and replace it with a par 3, or drop a par 5 and replace it with a par 4. A par 70 golf course has either six par 3s, eight par 4s, and four par 5s, or four par 3s, 12 par 4s, and two par 5s. A par 73 golf course generally has an additional par 5 in place of a par 4. Table 75040-3 lists the length of holes based on their par.

Table 75040-3 – Length of Hole Based on Par		
Par	Men	Women
3	Up to 250 YD (228.6 m)	Up to 210 YD (192.0 m)
4	251 - 470 YD (229.5 - 429.7 m)	211 - 400 YD (192.9 - 365.7 m)
5	471+ YD (430.6+ m)	401 - 575 YD (366.6 - 525.7 m)
6	N/A	576+ YD (526.7+ m)

Golf courses include the playing area (links, driving range, and practice putting green), a clubhouse, patron parking, and equipment storage under this category code. Table 75040-4 lists the clubhouse gross area and Table 75040-5 lists the equipment building gross area – both tables are based on military population served.

Table 75040-4 – Club House Gross Area / Military Population		
Military Population	SM	GSF
Up to 4,000	0	0
4,001 – 8,000	745	8,000
8,001 – 12,000	840	9,000
Over 12,000	930	10,000
<b>Notes:</b>		
1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Separate facilities may be provided for each separate golf course. However, the total combined space will not exceed these allowances.		
3. Additional area as required may be provided in golf clubhouses for the storage of carts.		

**Table 75040-5 – Equipment Building Gross Area / Military Population**

<b>Military Population</b>	<b>SM</b>	<b>GSF</b>
Up to 4,000	0	0
4,001 – 8,000	190	2,000
8,001 – 12,000	235	2,500
Over 12,000	280	3,000

**Notes:**

1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.
2. Separate facilities may be provided for each separate golf course. However, the total combined space will not exceed these allowances.

**3. Assigning Space****a. Guidance**

This facility is normally assigned to the garrison.

**b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

**D. Programmable Increments****1. Standard Facilities**

None.

**2. Programming Units**

Golf courses will be programmed only under special permission. Programming documents report these facilities as EA to make cost comparisons between projects.

**E. Land Use and Site Planning Considerations****1. Land Use Considerations**

At installations where the necessary land is available for the purpose, and when there are no foreseeable operational requirements for the land, golf facilities may be provided as shown in Table 75040-6.

Planned golf courses should be sited near other recreational areas and facilities, depending on land availability.

## 2. Site Planning Considerations

The number of parking spaces is based on three spaces per hole at 35 SY (29 SM) per space.

There are five basic golf course design types, with several possible options each, that facilitate the particular needs of a community. After a feasible location has been determined by studying the topography and the natural site characteristics, the developer and design team can determine which type or combination of types would be most appropriate for the project.

The five basic prototypical configurations for an 18-hole regulation golf course are (1) a single-fairway 18-hole course with returning nines, (2) a single-fairway continuous 18-hole course, (3) a double-fairway 18-hole course with returning nines, (4) a double-fairway continuous 18-hole course, and (5) an 18-hole core (compact) golf course.

In addition, the architect may choose to combine the characteristics of several of the basic formats to best serve the requirements of the development and the characteristics of the site.

Table 75040-6 lists the land area usage, including the clubhouse, parking, and equipment building, depending on course layout. These areas assume flat terrain.

Table 75040-6 – Land Area Usage by Course Layout					
	(1) single-fairway with returning nines	(2) single-fairway continuous course	(3) double-fairway with returning nines	(4) double-fairway continuous course	(5) core (compact) course
Acres	175	175	150	150	140
Hectares	70.8	70.8	60.7	60.7	56.7
Width feet	3,000	300	500	500	0
Width m	914	91	152	152	0
Length feet	44,400	46,800	24,200	25,000	10,000
Length m	13,533	14,265	7,376	7,620	3,048

## F. Other Considerations

### 1. Special Instructions

The number of holes allowed for an installation may be divided into any number of nine- and 18-hole courses as are deemed appropriate by the local commander.

Golf courses include the playing area (links, driving range, and practice putting green), patron parking, and equipment storage under this category code.

## **2. Exceptions**

See B. 1. Basis for Authorization and Calculation.

## **3. References**

TI - 800-01 - Technical Instructions, Design                      20-JUL-98  
Criteria: Appendix E, Page E-7, Table  
E-5

## **4. See Also**

74030    Sports Pro Shop  
74031    Golf Course Maintenance Building  
75041    Golf Course, 9 Hole  
75042    Driving Range  
75043    Pitch and Putt, 18-Hole  
75044    Pitch and Putt, 9-Hole  
75045    Miniature Golf Course

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A nine-hole golf course that is a grassy, turf-covered tract of land with tees, fairways, hazards, and greens providing for recreational golf. Also report the area of the golf course in acres (AC). Information should be available from the DPCA. If not, conduct a physical survey. Report buildings separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

This facility category is managed by the Huntsville Center of Standardization.

### 3. Complex

None.

### 4. Units of Measure

Primary: EA  
Secondary: AC  
FAC UM: EA  
Other: None

Report and program these facilities as EA. Also report the land area in AC.

### 5. Functional Areas

Golf courses include the playing area (links, driving range, and practice putting green), patron parking, and equipment storage under this category code.

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for installations that already have this facility. Minimum military population is 2001. A new facility will be allowed only on an exception basis.

#### Proponent:

- ACSIM Facilities

#### COS:

- Huntsville

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA
- Other UM = None

Installations will not list this facility as required in the Tabulation of Existing and Required Facilities without written authorization by IMCOM. The number of holes allowed for an installation may be divided into any number of nine- and 18-hole courses as are deemed appropriate by the local commander.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

See also 75040, Golf Course, 18-Hole.

Table 75041-1 lists the number of golf courses based on population served. These can be in combination with 18-hole courses and distributed across the base or post.

Table 75041-1 – 9-Hole Golf Courses / Military Population	
Military Population	Number of 9-Hole Courses
Up to 2,000	0
2,001 – 4,000	1
Over 4,000	See Note 3
<b>Notes:</b>	
1. Military population is defined as active-duty military personnel assigned to the installation, plus 35 percent of their dependents, plus 25 percent of retired personnel supported by the installation.	
2. A pitch-and-putt course will be considered as the equivalent of a golf course of the same number of holes.	
3. See 75040, Golf Course, 18-Hole.	



Table 75041-2 lists the clubhouse area based on population served.

Table 75041-2 – 9-Hole Club House Gross Area Based on Military Population Served		
Military Population	SM	GSF
Up to 2,000	0	0
2,001 – 4,000	605	6,500
Over 4,000	See Note 1	
Note:		
1. See 75040, Golf Course, 18-Hole for additional table information and footnotes.		

Table 75041-3 lists the equipment building area based on population served.

Table 75041-3 – 9-Hole Equipment Building Gross Area Based on Military Population Served		
Military Population	SM	GSF
Up to 2,000	0	0
2,001 – 4,000	140	1,500
Over 4,000	See Note 1	
<b>Notes:</b>		
1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Separate facilities may be provided for each separate golf course. However, the total combined space will not exceed these allowances.		

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

At installations where the necessary land is available for the purpose, and when there are no foreseeable operational requirements for the land, golf facilities may be provided as shown in Table 75040-4.

Planned golf courses should be sited near other recreational areas and facilities, depending on land availability.

### 2. Site Planning Considerations

The standard 9-hole golf course should encompass from 50 to 70 AC (20.2 to 28.3 HA), depending on the type of terrain; see Table 75041-4.

Table 75041-4 – Land Area – Based on Terrain	
Terrain	Area AC
Flat	50
Rolling	60
Hilly	70

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

**3. References**

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix E, Page E-7, Table  
E-5

20-JUL-98

**4. See Also**

74030 Sports Pro Shop  
74031 Golf Course Maintenance Building  
75040 Golf Course, 18-Hole  
75042 Driving Range  
75043 Pitch and Putt, 18-Hole  
75044 Pitch and Putt, 9-Hole  
75045 Miniature Golf Course

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A prepared tract of land on which golfers practice hitting golf balls. Also report this structure with unit of measure acres (AC). Information should be available from the DPCA. If not, conduct a physical survey. Report buildings separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: AC  
FAC: EA  
Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA
- Other UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

None. This facility will be allowed only on an exception basis. Installations will not list this facility as required in the Tabulation of Existing and Required Facilities without written authorization by IMCOM.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The range should have a minimum of 25 tees; these will encompass approximately 13.5 AC (5.5 HA). Minimum length is 900 feet (274.3 m). Minimum width, including a buffer area on each side, is 690 feet (210.3 m). Add 12 feet (3.7 m) to the width of the range for each additional tee.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

Planned Driving Ranges should be sited in conjunction with a nine- or 18-hole golf course.

### 2. Site Planning Considerations

Preferred orientation is for the long axis to run southwest to northeast, with the golfer driving toward the northwest. The surface of the Driving Range area should be closely mowed in the

center to facilitate ball collection. Side buffer areas are to be rough cut. Drainage is to be away from raised tee area, and preferably across the axis of play. Side buffer areas may rise to help contain stray shots.

The number of POV parking spaces is based upon the number of tees, with each tee allowed two spaces at 35 SY (29 SM) per space.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix E	20-JUL-98
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### **4. See Also**

74030	Sports Pro Shop
74031	Golf Course Maintenance Building
75040	Golf Course, 18-Hole
75041	Golf Course, 9-Hole
75043	Pitch and Putt, 18-Hole
75044	Pitch and Putt, 9-Hole
75045	Miniature Golf Course

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A smaller version of an 18-hole regulation golf course, where the ball is hit a shorter distance. Most of the holes are par 3, and each hole is normally less than 200 yards in length. This golf course is frequently referred to as a par 3 golf course. This facility is also reported with unit of measure acres (AC). Information should be available from the DPCA. If not, conduct a physical survey. Report buildings separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA

Secondary: AC

FAC: EA

Other: EA

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA
- Other UM = EA

## B. Criteria

### 1. Basis for Authorization and Calculation

None. This facility will be allowed only on an exception basis. Installations will not list this facility as required in the Tabulation of Existing and Required Facilities without written authorization by IMCOM.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other -than-unit

### 2. Requirements Calculations

The supported population includes active-duty personnel and Department of the Army civilians, plus 35 percent of their dependents, and 25 percent of retirees. Table 75043-1 lists the number of Pitch and Putt courses based on the military population served.

Table 75043-1 – P & P Courses / Military Population	
Military Population	Number of 18-Hole Courses
Up to 4,000	NONE
4,001 – 8,000	1
8,001 – 12,000	1.5
Over 12,000	2
<b>Note:</b>	
1. This type of course may be substituted for a regulation 18-hole golf course.	

The Pitch and Putt 18-hole golf course should encompass from 55 to 80 AC (22.2 to 32.4 HA), depending on the type of terrain. Table 75043-2 lists the land use based on terrain.

Table 75043-2 – P & P Course Land Based on Terrain		
Terrain	AC	HA
Flat	55	22.3
Rolling	60	24.3
Hilly	80	32.4



### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The planned Pitch and Putt golf courses should be sited near other recreational areas and facilities, depending on the availability of land.

### **2. Site Planning Considerations**

The number of parking spaces is based on three spaces per hole at 35 SY (29 SM) per space. The number of holes allowed for an installation may be divided into any number of nine- and 18-hole courses as are deemed appropriate by the local commander.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix E

20-JUL-98

**4. See Also**

74030 Sports Pro Shop  
74031 Golf Course Maintenance Building  
75040 Golf Course, 18-Hole  
75041 Golf Course, 9-Hole  
75042 Driving Range  
75044 Pitch and Putt, 9-Hole  
75045 Miniature Golf Course

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A smaller version of a nine-hole regulation golf course where the ball is hit a shorter distance. Most holes are par 3, and each hole is normally less than 200 yards in length. This golf course is frequently referred to as a par 3 golf course. This facility is also reported with unit of measure acres (AC). Information should be available from the DPCA. If not, conduct a physical survey. Report buildings separately.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
 Secondary: AC  
 FAC: EA  
 Planning: EA  
 Other: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

Primary UM = EA  
 Secondary UM = AC  
 FAC UM = EA  
 Planning UM = EA  
 Other UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

None. This facility will be allowed only on an exception basis. Installations will not list this facility as required in the Tabulation of Existing and Required Facilities without written authorization by IMCOM.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Supported population includes active-duty personnel and Department of the Army civilians, plus 35 percent of their dependents, and 25 percent of retirees. Table 75044-1 lists the number of courses based on the supported population.

Table 75044-1 – 9-Hole P & P Courses Based on Supported Population	
Supported Population	Number of Courses
Up to 2,000	0
2,001 – 4,000	1
Over 4,000	See Note 2
<b>Notes:</b>	
1. This type of course may be substituted for a regulation 9-Hole Golf Course.	
2. See 75043 18-Hole Pitch and Putt Golf Course	

The Pitch and Putt 9-hole golf course should encompass from 28 to 40 AC (11.3 to 16.2 HA), depending on the type of terrain. Table 75044-2 lists the land area based on terrain.

Table 75044-2 – 9-Hole P & P Course Area – Based on Terrain		
Terrain	AC	HA
Flat	28	11.3
Rolling	30	12.1
Hilly	40	16.2

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The planned Pitch and Putt golf courses should be sited near other recreational areas and facilities, depending on the availability of land.

### **2. Site Planning Considerations**

The number of parking spaces is based on three spaces per hole at 35 SY (29 SM) per space.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix E	20-JUL-98
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### **4. See Also**

74030	Sports Pro Shop
74031	Golf Course Maintenance Building
75040	Golf Course, 18-Hole
75041	Golf Course, 9-Hole
75042	Driving Range
75043	Pitch and Putt, 18-Hole
75045	Miniature Golf Course

### 1. DA Pam 415-28 Description / Definition

A miniature golf course where each hole is designed to be played with a putter. Miniature golf is normally played on artificial surfaces and may contain any number of holes, but usually nine or 18. Par for each hole is usually 2 or 3. Report buildings separately.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 7504x for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An outdoor structure to accommodate cultural events such as plays, concerts, and festivals. The site is usually located in a quiet area, and is characterized by a stage fronting a sloped seating/spectator enclosure. The stage may also include dressing rooms, restrooms, storage, and equipment space.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

An overhead structure to protect personnel and/or equipment from the weather elements at recreation facilities or areas such as parade fields, pools, beaches, parks, picnic areas, golf courses, and playgrounds. Such structures may include golf cart and golf course maintenance vehicle covers, sun shelters, pavilions, scorers' shelters, baseball/softball dugouts, and so on. Winter pavilions support activities such as sledding, tobogganing, and skiing. This facility is also reported with unit of measure square feet (SF). Data should be available from the DPCA. If not, conduct a physical survey. For structures other than buildings, measure the area under the roof of the structure, or simply the length of the structure times its width. If the facility is completely enclosed and has an entrance, use Recreational Support Building (74075).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Primary: SF  
Secondary: EA  
FAC: SF  
Planning: EA  
Other: EA

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF
- Planning UM = EA
- Other UM = EA



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category based on the supported population.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 75052-2 lists the allowed area based on the supported population.

Table 75052 -- 2 - Gross Space Allowance		
Supported Population	GSF	GSM
Up to 1,000	800	75
1,001 to 3,000	1,350	126
3,001 to 7,000	2,600	242
7,001 to 10,000	3,200	297
10,001 to 15,000	4,000	372
15,001 to 20,000	4,900	455
20,001 to 25,000	5,600	520
25,001 to 30,000	6,300	585
30,001 to 40,000	7,300	678
40,001 to 50,000	8,500	790
50,001 to 60,000	9,600	892
60,001 to 70,000	10,600	985
70,001 to 80,000	11,500	1,068
80,001 to 90,000	12,400	1,152
90,001 to 100,000	13,300	1,236
<b>Notes:</b>		
1. For populations above 100,000, provide an additional 900 GSF (84 GSM) for each increment of 10,000 persons.		
2. Mechanical, electrical, and electronics equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The locations of pavilions will depend on the type of outdoor activities they support. They may be located at a beach, a ski/sledding area, a park, or a lake. In each case, however, the pavilion should be adjacent to the activities it supports.

### **2. Site Planning Considerations**

The parking area is based on one user vehicle parking space for every three users. Provide staff parking and delivery/trash disposal service vehicle areas as required.

## **F. Other Considerations**

### **1. Special Instructions**

Outdoor dance facilities may be provided if required.

### **2. Exceptions**

None.

### 3. References

TI - 800-01 - Technical Instructions, Design Criteria: Appendix D, Page D-11, Table D-9 20-JUL-98

### 4. See Also

73046 Dependent School  
73075 Separate Toilet/Shower Building  
74009 Boat House  
74034 Community Activities Center  
74049 Riding Stable  
74065 Recreational Equipment Checkout  
74075 Recreational Support Building  
74087 Recreation Park Service Building  
75011 Court Area  
75017 Outdoor Ice Skating Rink  
75022 Multipurpose Athletic Field  
75028 Outdoor Roller Skating Rink  
75029 Skateboard Park  
75030 Outdoor Swimming Pool  
75031 Aquatic Center, Recreational  
75033 Vehicle Race Track  
75060 Stadium  
75061 Grandstand/Bleachers  
75070 Recreational Pier/Platform  
75071 Outdoor Community Fitness Center  
75084 Marina Facilities  
75085 Recreation/Picnic Area  
75087 Boat Ramp  
75088 Batting Cage

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A stadium structure containing an athletic field with permanent seating for spectators, usually outdoor bleachers.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Primary: EA  
Secondary: None  
FAC: EA  
Planning: EA  
Other: EA

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Planning UM = EA
- Other UM = EA

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category at installations with a military strength over 10,000.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other-than-unit

## **2. Requirements Calculations**

This category code includes an athletic field. Without bleachers, athletic fields are classified as 75022, Multipurpose Athletic Field.

## **3. Assigning Space**

### **a. Guidance**

This facility is normally assigned to the garrison.

### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The Stadium should be sited near other recreational areas and facilities, depending on the availability of land.

### **2. Site Planning Considerations**

The most important site planning consideration for stadia is the solar orientation of the playing field, which should be sited to avoid aligning the long axis with the autumn setting sun.

## **F. Other Considerations**

### **1. Special Instructions**

When planned for spectators of baseball games, the seating classifies as Grandstand/Bleachers, 75061.

**2. Exceptions**

None.

**3. References**

TI - 800-01 - Technical Instructions, Design  
Criteria: Appendix D, Page D-3

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**4. See Also**

75020    Baseball Field  
75022    Multipurpose Athletic Field  
75027    Running Track  
75061    Grandstand/Bleachers

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure for covered or uncovered seating at ground level or on raised platforms for personnel during certain training, parade reviews, and athletic or social events. This category includes bleachers both in the cantonment area and in training areas. Use this category only for those bleachers constructed and carried as real property. Account for portable bleachers as equipment, not as real property.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Other: EA  
Planning: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = EA
- Planning UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

None.

## 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Plan grandstands and bleachers for observation of outdoor activities (training, competition, or recreation). The design capacity depends on the anticipated number of observers; i.e. platoon, company, special class, or voluntary attendance by members of the supported military community.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities as EA to make cost comparisons between projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility is an accessory to other facilities, and as such does not require independent land use decisions.



## **2. Site Planning Considerations**

For grandstands and bleachers intended for observing nonrecreational activities, the seating should, to the greatest extent possible, face north or northeast. The seating orientation should provide the maximum number of hours per day with spectators facing away from the sun.

For grandstands and bleachers intended for observing recreational activities and sports, the orientation should favor the participants first and the observers second in priority for solar interference with the expected activities.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design	20 JUL 98
Criteria: Appendix D, Page D-3	

### **4. See Also**

75060 Stadium

### 1. DA Pam 415-28 Description / Definition

A ski lift structure may be one of the following types: aerial tramway, gondola, chairlift, or T-bar/rope tow. The aerial tramway incorporates an enclosed carrier traveling back and forth between two terminals. The gondola also incorporates an enclosed carrier system, but capacity (usually two to six persons) is less than that of an aerial tramway. The chairlift is a continuous loop operating system of single or double open chairs, and is the most common type. The T-bar/rope tow is a continuous loop operating system for pushing/pulling skiers and/or tube riders uphill. Account for ski lift control buildings separately as Recreational Support Buildings (74075).

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

An outdoor exercise course or trail structure designed and equipped to help people of differing fitness levels develop and maintain good physical condition.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure that may be used for a variety of purposes. The platform may be part of a nature trail, or a deck provided for wildlife observation. Typically, the pier extends outward from the shoreline and is used for the berthing, fueling, or repair of recreational boats or vessels, both government- and privately owned, or for fishing. Piers may be of the open (piling) type, or the filled (earthen) type. Floating platforms and other floating equipment are excluded.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for the outdoor physical training, conditioning, exercise/aerobics, and recreation of military personnel, civilians, and their families on a paid membership basis. The fitness center may include the following: outdoor pool, multiple types of courts, and exercise and aerobic areas.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An area structure set aside to provide for wildlife habitat and limited sporting activities for members. Restrictions apply to the use of the land, and the area is supervised and managed by the DPW. This facility is also reported with unit of measure acres (AC). Information should be available from the DPCA. If not, conduct a physical survey.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A structure for the berthing of government-owned/leased watercrafts used in support of water activities, as well as for berthing of privately own boats. Facilities include covered slips, a storage yard, and resale and maintenance areas. Count the entire marina complex as 1 EA.

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Community and Family Support Center (CFSC)

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities as EA.

Primary: EA  
Secondary: None  
FAC: EA  
Other: EA  
Planning: EA

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA
- Other UM = EA
- Planning UM = EA

### 5. Functional Areas

None.

## B. Criteria

### 1. Basis for Authorization and Calculation

None.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this Category Code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

Table 75084-1 lists the maximum area of Marina Facilities based on supported population.

Table 75084-1 - Gross Area of Marina Support Centers - See Note 1		
Military Population - See Note 2	GSF	SM
Up to 100	NONE	NONE
101 to 1,000	3,500	325
1,001 to 3,000	5,800	539
3,001 to 5,000	8,450	785
5,001 to 7,000	10,500	975
7,001 to 10,000	12,650	1,175
10,001 to 15,000	15,600	1,449
15,001 to 20,000	18,700	1,737
20,001 to 25,000	20,800	1,932
25,001 to 30,000	22,000	2,044
30,001 to 40,000	23,600	2,192
40,001 to 50,000	25,400	2,360
50,001 to 60,000	27,000	2,508
60,001 to 70,000	28,300	2,629
70,001 to 80,000	29,500	2,741
80,001 to 90,000	30,600	2,836
90,001 to 100,000	31,600	2,936
<b>Notes:</b>		
1. Mechanical, electrical, and telecommunications equipment room space as required will be added to the gross areas shown when determining a single gross area figure for each facility.		
2. Military population is defined as active-duty military personnel assigned to the installation, plus 15 percent of their dependents.		

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.



## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities as EA to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Provide where authorized and appropriate.

### **2. Site Planning Considerations**

The marina forms the interface between navigable waters and land-based recreation. As such, it should accommodate boaters and not interfere with swimmers.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

TI - 800-01 - Technical Instructions, Design Criteria: Appendix E, Page E-9 Table E-7	20-JUL-98
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### **4. See Also**

74065	Recreational Equipment Checkout
74087	Recreation Park Service Building
75070	Recreational Pier/Platform
75085	Recreation/Picnic Area
75086	Recreational Trailer Park/Campground
75087	Boat Ramp

### 1. DA Pam 415-28 Description / Definition

An area structure for outdoor recreational and/or mealtime activities. The area may include picnic tables, barbecue grills, and space for recreational activities. One EA represents the entire recreation area.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Trailer parking sites/pads or tent camp pads with appurtenant site facilities for recreational trailers, vehicles, or tents on government-owned land designated as campsites for use by authorized personnel for brief camping tours. Utility services can range from none to full electrical, water, sewage, and fuel hookups. For this facility, 1 EA represents an occurrence count of the entire recreation park or campground.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure located at a government-owned/controlled waterfront property that is provided for the launching and recovery of pleasure craft and/or fishing boats.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A mesh-enclosed concrete area for the practice hitting of softballs and baseballs. Balls are pitched automatically and returned to the pitching machines as a result of the slope of the floor.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

**DA Pam 415-28 Description / Definition**

A structure for steam-cleaning vehicles, engines, and parts. The structure has built-in steam boilers. This category should be used for standalone structures, (not fully enclosed buildings) at Automotive Skill Centers (74024) where the structure is physically separate from the remainder of the activity. Report enclosed buildings as 74024, Automotive Skills Center. This facility is not used for operational or test purposes.

**1. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**2. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**3. See Also**

None.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A building used for preserving U.S. Army history and tradition through education-oriented exhibits and programs. This building may also include the storage of artifacts found on or near the installation, curatorial activities, data collection, and the cataloging and processing of historical artifacts. This category includes buildings maintained for historical purposes only, including any buildings that are outleased to historical groups for the purpose of maintaining and making available historical materials and tours to the public. Count each building as 1 EA.

### 2. Proponent and Center of Standardization

#### Proponent

Center for Military History

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SF.

Primary: SF  
Secondary: EA  
FAC: SF  
Other: EA  
Planning: EA

#### Proponent:

- Center for Military History

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF
- Other UM = EA
- Planning UM = EA

## 5. Functional Areas

Table 76010-1 lists the functional areas and their type for facilities under this category code.

Table 76010-1 – Functional Areas and Adequacy Requirements		
Functional Area	Type	Presence
Lobby/Orientation Area	Mission	A
Display Areas	Mission	A
Gift Shop	Mission	A
Office	General	A
Public and Staff Restrooms	Support	A
Curation and Preservation Work area	Mission	A
Short-term storage	General	A
Long-term storage	Mission	C
Security and Monitoring Space	Support	A
Education and Theater	Mission	A and D
<b>Presence Requirement for Adequacy:</b>		
A – Required, Collocated		
C – Required, Vicinity		
D - Not required or required by exception only		

## B. Criteria

### 1. Basis for Authorization and Calculation

These facilities are allowed under the auspices of the Chief of Military History to preserve and protect the Army's history.

### 2. Programmatic Application

RPLANS sets allowances equal to assets for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit



## 2. Requirements Calculations

All Museums and historical collections must be officially recognized/approved by the Chief of Military History (CMH), who requires a Museum Master Plan.

Museum Master Plan to include:

- (a) Mission statement approved by the CMH
- (b) Documentary evidence of the Museum as an activity of the command, its organizational placement, and its official recognition by the U.S. Army
- (c) Delegation of authority memorandum from CMH to acquire artifacts
- (d) Story line
- (e) Scope-of-collections statement
- (f) Collections content plan
- (g) Conservation/preservation plan and schedule
- (h) Exhibit plan
- (i) Five-year Museum development plan
- (j) Table of distribution and allowances (TDA)
- (k) Job descriptions
- (l) Vitae of each staff member
- (m) Staff development plan

## 3. Assigning Space

### a. Guidance

This facility is normally assigned to the garrison.

### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None.

### 2. Programming Units

Programming documents report these facilities in GSF to make cost comparisons between projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

Museums often occupy historical facilities or those near historical facilities. As such, the adjacent land uses must be compatible with both the preservation of the facility and its contents as well as public access and security.

### **2. Site Planning Considerations**

The site plan must demonstrate respect for the nature and mission of the Museum. Provide separate parking for employees and customers.

## **F. Other Considerations**

### **1. Special Instructions**

Installation commanders are authorized to construct facilities for use by Army Museums.

(1) Construction of Museum facilities will be subject to the provisions of:

- AR 415–35
- AR 415–15
- AR 210–20
- AR 215–1
- AR 190–51
- DA Pam 415–15
- TM 5–800–1

(2) Construction will be coordinated with the CMH and other organizations as appropriate.

Installation commanders are authorized to allocate available buildings for use by Army Museums.

An impact statement on Museum operations and collections management will be sent to the CMH before any major alteration to an existing Museum facility, such as the installation of a climate control system, or extensive renovation of a major part of the Museum facility. Transfer of the Museum to a new facility must be approved by the CMH at least 90 days before implementation.

If the building housing the Museum and its support functions (such as a warehouse facility) is dedicated to that function, the installation will categorize it as such at the DA level.

Installation commanders shall support Army Museums on their installation in accordance with the reference regulations listed below and any memorandums of understanding and/or memorandums of agreement (MOUs/MOAs) between the installation and tenant organizations.

## **2. Exceptions**

None.

## **3. References**

AR 870-5: Military History: Responsibilities, Policies and Procedures	21-SEP-07
AR 870-20: Army Museums, Historical Artifacts & Art	11-JAN-99

## **4. See Also**

76011	Museum Operations Support Building
76012	Museum Operations Support Structure
76013	Heritage Center Facility
76020	Monuments/Memorials

### 1. DA Pam 415-28 Description / Definition

A building that supports museum operations by shipping, receiving, storing, conserving, restoring, or preserving artifacts and other historical materials used in the operations of U.S. Army museums, museum activities, collections, and other historical programs. Although Museum Operations Support Building activities are similar to the functions performed in museums, they differ from museum activities in that the primary activity is artifact and exhibition support, not educational programs, and they are not the primary areas for exhibitions. This category of facility is not normally open to the public. Museum Operations Support Buildings may have specialized materials handling, security, and environmental requirements. Count each building as 1 EA.

#### Proponent:

- Center for Military History

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

#### Planning Level:

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 76012, Museum Operations Support Structure.

### 1. DA Pam 415-28 Description / Definition

A roofed structure (typically a workshop area) that supports museum operations by shipping, receiving, storing, conserving, restoring, or preserving artifacts and other historical materials used in the operations of U.S. Army museums, museum activities, collections, and other historical programs. Although museum operations support structure activities are similar to the functions performed in museums, they differ from museum activities in that the primary activity is artifact and exhibition support, not educational programs, and they are not the primary areas for exhibitions. This category of facility is not normally open to the public and may consist of storage areas or other types of roofed structures. Count each structure as 1 EA. Display signs are equipment (personal property on the property book), not real property.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 76011 Museum Operations Support Building

#### Proponent:

- Center for Military History

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

#### Planning Level:

- Unit

### 1. DA Pam 415-28 Description / Definition

A building that supports museum interpretation by exhibiting historical and tour information; it may exhibit artifacts, facsimiles, or reproductions of artifacts of historical interest. Use this category for a complete building or portion of an existing building used to exhibit historical materials and orient visitors to a particular site, event, or place. This category of usage differs from a museum in that the exhibits are generally static, with no artifact storage, curatorial activities, historical data collection, or cataloging and processing of historical artifacts. There are often no professional museum personnel on staff. Count each building as 1 EA.

**Proponent:**

- Center for Military History

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

**Planning Level:**

- Unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 76010 Museum.

### 1. DA Pam 415-28 Description / Definition

Real property structures, typically standalone commemorative plaques mounted in concrete. Count each structure as one occurrence. Report 3-D historical property, such as historical military equipment (tanks, planes, other vehicles) that may be in historical military displays to the Center of Military History as personal property (property book items/equipment); do not report as real property.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- DCS, G-1

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = EA
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A human remains cemetery or burial ground located on an Army post or installation that is not a national cemetery. Includes the cemetery at West Point, N.Y. For national cemeteries, use CATCD 76031, National Cemetery, and CATCD 76032, National Veterans Cemetery. Report this structure with units of measure acres (AC) and each (EA). Information should be available from the DPCA. If not, conduct a physical measurement inventory, then multiply the average length by the average width, in feet; divide by 43,560 SF/acre. Note that 1 square mile = 640 acres. Count the entire cemetery as 1 EA.

**Proponent:**

- ACSIM Real Estate

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.



### 1. DA Pam 415-28 Description / Definition

A national cemetery/burial ground operated by the Department of the Army. Report national cemeteries operated by the Department of Veterans Affairs as 76032. Report this structure with units of measure acres (AC) and each (EA). Information should be available from the Director of the Arlington Cemetery and the cemetery at the Soldiers Home. If not, conduct a physical measurement inventory, then multiply the average length by the average width, in feet; divide by 43,560 SF/acre. Note that 1 square mile = 640 acres. Count the entire cemetery as 1 EA.

**Proponent:**

- ACSIM Real Estate

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A national cemetery burial ground located on an Army installation but operated by the Department of Veterans Affairs. If operated by the Army post, report as 76030, Post Cemetery. Report this structure with units of measure acres (AC) and each (EA). Information should be available from the DPCA. If not, conduct a physical measurement inventory, then multiply the average length by the average width, in feet; divide by 43,560 SF/acre. Note that 1 square mile = 640 acres. Count the entire cemetery as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.

#### Proponent:

- ACSIM Real Estate

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A pet burial ground located on a government-owned installation. Report this structure with units of measure acres (AC) and each (EA). Information should be available from the DPCA. If not, conduct a physical measurement inventory, then multiply the average length by the average width, in feet; divide by 43,560 SF/acre. Note that 1 square mile = 640 acres. Count the entire cemetery as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.

#### Proponent:

- ACSIM Real Estate

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = AC
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An aboveground structure that represents both a cemetery boundary wall/fence and a continuous wall of interment vaults (niches) for cremated remains. The wall may also be called a columbarium. Measure this structure in CF and report each continuous section of columbarium wall as a separate facility record. Also, measure in SY as the surface area on the ground (footprint) of the boundary wall, i.e., multiply the length of the wall by its width. Do not include the height of the wall in this calculation. Use 76036, Columbarium Niche, if the columbarium is not also a boundary wall.

**Proponent:**

- ACSIM Real Estate

**Complex:**

- None

**Units of Measure:**

- Primary UM = CF
- Secondary UM = SY
- FAC UM = CF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

An aboveground structure that contains interment vaults (niches) for cremated remains within cinerary urns. Columbaria can be integrated into a boundary wall (76035) or interior wall, or part of a mausoleum or another building. Measure this structure in CF and report each separate columbarium structure (module) as a separate facility record. Also, measure in SY as the surface area on the ground (footprint) of the columbarium structure, i.e., multiply the length by the width. Do not include the height of the structure in this calculation. If the columbarium also serves as the boundary wall, use 76035.

#### Proponent:

- ACSIM Real Estate

#### Complex:

- None

#### Units of Measure:

- Primary UM = CF
- Secondary UM = SY
- FAC UM = CF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 7603x for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power from coal. The utility consists of coal storage and supply, coal-fired boilers, generators, switchgear, and transformers; it does not include a building to house the equipment (use 89111, Power Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power using oil. The utility consists of oil storage and supply, oil-fired boilers, generators, switchgear, and transformers; it does not include a building to house the equipment (use 89111, Power Plant Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power using natural gas. The utility consists of natural gas supply lines, boilers, generators, switchgear, and transformers; it does not include a building to house the equipment (use 89111, Power Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power from nuclear reactions. The utility consists of a nuclear reactor(s), switchgear and transformers, and electrical generators; it does not include a building to house the equipment (use 89111, Power Plant Building).

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power as a result of exposure to direct sunlight or other light energy source. The utility does not include a building to house the equipment associated with this electricity-producing operation (use 89111, Power Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power using wind as the energy source. The utility does not include a building to house the equipment associated with this electricity-producing operation (use 89111, Power Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that ensures continuous electric power during general outages to critical operations such as hospitals, secure communications, automatic data processing, and so on. A rectifier/charger/battery/inverter array provides continuous and uninterrupted power to the driven load. Other electrical system components may be included as required. The utility does not include a building to house the equipment (use 89111, Power Plant Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that provides an emergency power supply. The utility system includes equipment such as engine-generators and switchgear. Provision is made for starting and switching of the standby generator upon failure of the normal power source. The utility does not include a building to house the equipment (use 89111, Power Plant Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates electric power using flowing water as the energy source. The utility includes a water supply, generators, switchgear, and transformers; it does not include a building to house this equipment (use 89111, Power Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KW
- Secondary UM = None
- FAC UM = KW

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

This structure is a large-scale plant used for the generation of electric power using the potential energy of dammed water (hydroelectric). Assets in this category typically generate greater than 30 MW. The structure does not include a building to house the equipment associated with this electricity-producing operation (use 89111, Power Plant Building). This is primarily a USACE Civil Works CATCD.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MW
- Secondary UM = EA
- FAC UM = MW

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility consisting of secondary power distribution lines (aboveground and/or underground), exterior light fixtures, and poles or standards for mounting the fixtures. This utility includes all forms of exterior lighting not mounted on buildings or other facilities, including airfield perimeter lighting; street lighting for traffic circulation; parking lot lighting for traffic circulation, personnel safety, and security; area lighting for personnel safety, security, and nighttime use of facilities; and security lighting for arms and ammunition storage areas or facilities, airfield or heliport perimeters, and other vulnerable mission-essential areas.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Electrical power lines that distribute electrical power by means of an aboveground network. The network consists of power supply cables and supports or poles.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Electrical power lines that distribute electrical power by means of an underground network. The network consists of electric power cables that are in buried conduits, and access manholes in underground tunnels with other utility system lines, or that are directly buried.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A substation to step down the voltage of the electric power supply before it enters the distribution network. Normally, a substation consists of incoming power lines (higher voltage), transformers to step down the incoming voltage, switchgear to distribute the stepped-down power, and necessary safety and security equipment. This category does not include a building to house the equipment (use 89113, Power Substation/Switching Station Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KV
- Secondary UM = None
- FAC UM = KV

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An assembly of electrical equipment used to distribute the incoming electric power supply as required to provide electrical service to separate areas and/or facilities. The switching station has no transformers, but otherwise is similar to a substation. The switching station consists of switchgear and all necessary safety and security equipment; it does not include a building to house the equipment (use 89113, Power Substation/Switching Station Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KV
- Secondary UM = None
- FAC UM = KV

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Transformers are electrical system components that convert the supplied power (incoming) voltage before transmitting it further (outgoing) in the electrical distribution network. Transformers convert from lower to higher voltage (step-up transformers), or from higher to lower voltage (step-down transformers). A transformer is similar in function to a substation, but transforms the voltage from the distribution system to a user voltage. Transformers may be pole-mounted, pad-mounted, or housed in a building. This CATCD does not include a building to house the equipment (use 89113, Power Substation/Switching Station Building, or 85225, Pad, on which the equipment may be mounted).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 811xx, 812xx, 813xx, and 89111 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KV
- Secondary UM = None
- FAC UM = KV

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from coal. The utility typically includes equipment such as coal storage, processing and supply furnaces, boilers, a water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from one of two fuels (usually gas or oil). The utility typically includes equipment such as furnaces, boilers, a water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from the burning of wood and/or wood chips and pellets. The utility typically includes equipment such as furnaces, boilers, water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from fuel oil. The utility typically includes equipment such as furnaces, boilers, a water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from natural or liquid petroleum gas. The utility typically includes a natural gas supply and other equipment such as furnaces, boilers, water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from nuclear reactions. The utility typically includes equipment such as a nuclear reactor, boilers, water supply, pumps, pipelines, and cooling tower. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates steam or hot water for distribution throughout a system. The utility typically includes the power-generating equipment, which consists of a fuel supply, furnaces, boilers, a water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from electricity. The utility typically includes equipment such as furnaces, boilers, a water supply, pumps, and pipelines. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that generates heat from solar energy. The utility typically includes equipment such as an array of solar collection panels, a water supply, pumps, pipelines, and expansion tanks. The utility does not include a building for housing the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system to harness geothermal energy for heat generation purposes. The utility typically includes equipment such as steam wells, piping systems, and turbine generators. The utility does not include a building to house the equipment (use 89121, Heating Plant Building).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Steam condensate lines provide for the return of water after the steam from a central heating plant has cooled to the point at which it condenses into water. The return network consists of condensate return pipelines; access manholes; and, possibly, utilidors (89340).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Hot water supply and return lines that distribute hot water from and return water to a central heating plant. The supply network consists of hot water pipelines; access manholes; and, possibly, utilidors (89340).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Hot and chilled water supply and return lines are used to distribute hot or chilled water, depending on the season, from a central, combined air-conditioning/heating plant, and to return the water to the plant. The utility system includes insulated pipelines, pumps, valves, and access manholes or tunnels. This category includes aboveground and underground pipelines.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in PLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 821xx and 822xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Steam supply lines distribute steam for heating from a central heating plant.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 821xx and 822xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A gas-generating plant that produces hydrogen gas used for direct heating, or as fuel for central heating plants. The process uses electrolysis, in which water is separated into hydrogen and oxygen. The utility typically includes equipment such as water supply connections, a hydrogen generator, compressors, pressure-reducing stations, piping, valves, controls, and storage tanks. The utility may also generate a hydrocarbon-type gas from coal. This category does not include a building to house the gas-generating equipment (use 89120, Plant/Utilities Building).

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MB
- Secondary UM = None
- FAC UM = MB

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Gas supply pipelines and associated distribution controls for the transmission of gas for direct heating, fuel for central plants, and for industrial operations.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An air-conditioning/refrigeration plant that provides air cooling and/or refrigeration, including that associated with cold storage warehouses. The utility includes equipment such as a heat exchanger with evaporator, expansion vessel and condenser, compressor, cooling medium, air or water cooling, chilled water system, condensate collection and return, pumps, valves, and control systems. The utility does not include a building for housing the equipment (use 43110, Cold Storage Building, Depot Level; 43211, Cold Storage Building, Installation; 89120, Plant/Utilities Building; 89126, Refrigeration/Air-Conditioning Building; or 89127, Combined Air-Conditioning/Heat Plant Building as appropriate).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in WebRPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

82625 Heat Pump

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = TR
- Secondary UM = None
- FAC UM = TR

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A heat pump generates cooling by transfer of heat from a cooler reservoir to a hotter one, expending mechanical energy in the process. Report the cooling capacity associated with the heat pump. The utility does not include a building to house the equipment (use 89120, Plant/Utilities Building).

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = TR
- Secondary UM = None
- FAC UM = TR

### 4. See Also

82610 Air-Conditioning/Refrigeration Plant

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A chilled water distribution system is used to distribute chilled water for air-conditioning purposes. The utility consists of insulated exterior supply and return pipelines, pumps, valves, operational controls, and aboveground and/or underground pipelines.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A wastewater treatment facility to provide physical or chemical primary treatment of normal laundry wastes and sanitary sewage. The system typically consists of screens, comminutors, grit chambers, measuring devices, primary settling tanks, sludge digesters, drying beds, plant sewers, flumes, and laboratory and control facilities. This facility does not include a building to house the equipment (use 89131, Sewage/Waste Treatment Building). Measure capacity based on the design flow rate for normal discharge under dry conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM). Primary treatment does not meet current Environmental Protection Agency (EPA) standards, but this category is available for existing plants awaiting modernization.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A wastewater treatment facility to provide biological and chemical treatment of normal laundry wastes and sanitary sewage following the physical treatment provided by a primary treatment plant. The facility typically consists of screens, comminutors, grit chambers, measuring devices, primary settling tanks, sludge digesters, drying beds, chlorination facilities, plant sewers, flumes, and laboratory and control facilities. In addition, it provides biological treatment by means of trickling filters, the activated sludge process, intermittent sand filters, oxidation ponds, or combinations of these components. This facility does not include a building to house the equipment (use 89131, Sewage/Waste Treatment Building). Measure capacity based on the design flow rate for normal discharge under dry conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM). Secondary treatment may not meet current EPA standards, but this category is available for existing plants awaiting modernization.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A wastewater treatment facility to provide an advanced level of treatment of normal laundry wastes and sanitary sewage that goes beyond the physical, chemical, and biological processes used in primary and secondary treatment plants. It consists of a number of different unit operations, including lagoons, post-aeration, micro-straining, filtration, carbon adsorption, membrane solids separation, and chemical precipitation. This facility does not include a building to house the equipment (use 89131, Sewage/Waste Treatment Building). Measure capacity based on the design flow rate for normal discharge under dry conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility system that provides treatment of sanitary sewage, equipment wash, and other wastewater. The utility consists of a tank in which wastes are broken down by bacteria, and an underground drain field that discharges the resulting effluent into the ground. Measure capacity based on the design flow rate under normal conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Open ponds used for secondary or biological treatment of sanitary sewage, normal laundry wastes, and some industrial wastes. Oxidation ponds provide secondary treatment of sewage before discharging it into a watercourse and, in some cases, are used for additional treatment following other forms of secondary treatment. Raw sewage lagoons are used for treatment of raw sewage, combining primary, or physical, treatment and secondary, or biological, treatment in one process. This category of utility consists of an inlet, shallow treatment ponds, and a discharge consisting of a surface skimmer and an outflow weir. Measure capacity based on the design flow rate under normal conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A wastewater treatment facility to provide physical or chemical treatment of industrial wastes that cannot be treated in typical wastewater treatment plants. This utility system normally consists of screens, comminutors, grit chambers, measuring devices, primary settling tanks, sludge digesters, drying beds, plant sewers, flumes, and laboratory and control facilities. The discharge from this facility is closely scrutinized for potential environmental impacts. This category does not include a building to house the equipment (use 89131, Sewage/Waste Treatment Building). Measure capacity based on the design flow rate for normal discharge under dry conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A sewage lift station is used to move sewage from low-lying areas that cannot be served by gravity sewers, or to control the introduction and lifting of untreated wastewater into a waste treatment facility. Typically, a lift station consists of screens, flow-monitoring devices, pumping units, pump drives, piping, underground force mains, and system controls. This category does not include a building to house the equipment (use 89131, Sewage/Waste Treatment Building). Measure capacity based on the design flow rate under normal conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = KG
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A utility that separates water from spent oil/grease products. After separation, a residual oil/grease and water mixture is fed into a sanitary or storm sewer system. The remaining oil/grease products are held for later removal. Account for oil and grease separators separately when collocated with such facilities as wash platforms and centralized wash facilities. Measure capacity based on the design flow rate under normal conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A utility that removes gravel and similar particles from water. This separator is primarily used at a vehicle maintenance complex or central vehicle wash facility. Storm runoff/wash water is channeled into the separator that removes the particles, then processed water is discharged into a sanitary sewer system. Account for oil and grease separators separately when collocated with such facilities as wash platforms and centralized wash facilities. Measure capacity based on the design flow rate under normal conditions in KG (in other words, 1.44 KG equals 1,440 gallons per day, equivalent to 1 GPM).

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A utility line to carry sanitary or domestic wastes, normal laundry wastes, and some industrial wastes. It is not intended to carry stormwater or groundwater. Typically, this category consists of pipelines and access manholes.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility line to carry both storm drainage and wastewater (sanitary or domestic sewage, normal laundry wastes, and some industrial wastes). Typically, this category consists of stormwater inlets, pipelines, and access manholes.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility line to carry industrial wastes, as opposed to domestic or sanitary sewage and normal laundry wastes. Typically, this category consists of pipelines that convey the industrial wastes to a treatment facility or other disposal facility. This category may include equalizing tanks and separators.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to burn combustible waste. Typically, it includes waste storage handling, furnace and stack, and some means of residual waste disposal. The structure may include auxiliary fuel storage and supply to support incineration or meet pollution control requirements. It may also include heat recovery equipment. This category does not include a building to house the equipment (use 89133, Refuse and Garbage Building). This category includes incinerators that are standalone facilities at hospitals/medical centers for disposal of pathological/medical waste. Measure the one-day burn rate (in other words, TN per day).

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = TH
- Secondary UM = None
- FAC UM = TH

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure for collecting refuse and garbage prior to processing, disposal, or recycling. Typically, it consists of bins, pads, or other handling and storage spaces. This structure may serve as a transfer station for the collection of refuse for shipment to a sanitary landfill. Measure the one-day waste processing capacity in TN (5 TN/day can serve several hundred thousand civilians). This category does not include a building to house the refuse collection facility (use 89133, Refuse and Garbage Building). Use 85225, Pad, if the structure is simply a pad used for the placement of collection receptacles.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = TN
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure for the processing of refuse or garbage for reuse. Typically, a recycling facility consists of collection and storage space, sorting and handling equipment, and some type of enclosure for safety purposes. This category does not include a building to house the recovery/recycling facility (use 89133, Refuse and Garbage Building). Measure the one-day capacity to process recycled material in TN.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = TN
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A site used for the disposal of solid waste material on an installation. Sanitary landfills are generally appropriate for all refuse except infectious waste from medical facilities, hazardous wastes, and explosive materials. Report the area of the active or closed landfill in AC, and the TN of design capacity of waste to be placed in the landfill. Do not report AC of land set aside for future landfill development.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = TN
- FAC UM = AC

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A site specifically designed for the disposal of hazardous wastes such as chemical waste, paint residue, or materials contaminated by petroleum products or solvents. Waste POL products, biohazardous wastes, low-level radioactive materials, and infectious wastes are prohibited from disposal at this facility. Report the area of the landfill in AC, and the TN of design capacity of waste to be placed in the landfill.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure

- Primary UM = AC
- Secondary UM = TN
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code. Planning and programming for this CATCD should comply with appropriate local, state, and federal environmental regulations.

### 4. See Also

See 831xx, 832xx, 89131, and 89530 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A utility system used to treat potable water before it can be supplied to users. Depending on the characteristics of the raw water supply, the equipment required may include screens, flow meters, filters, settling basins, chemical feeders, flocculators, aerators, pumps, chemical storage, and controls. Typically, a treatment plant will have a clearwell for treated water storage. This category does not include a building to house the water treatment equipment (use 89141, Water Supply/Treatment Building, Potable). Measure capacity based on the design flow rate in KG of treated water.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowance equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility for treatment of potable water before it is supplied to users. This is a standalone facility, not part of a water treatment plant. This category does not include a building to house the treatment equipment (use 89141, Water Supply/Treatment Building, Potable). Measure the flow rate in KG of treated water.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A well that supplies raw or untreated water to a potable water system. The utility may include pumps and associated equipment; it does not include a building to house the equipment (use 89141, Water Supply/Treatment Building, Potable). Measure the flow rate in KG of water.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A station for pumping water as part of supply, treatment, or storage operations in a potable water system. This utility does not include a building to house the equipment (use 89141, Water Supply/Treatment Building, Potable). Measure the flow rate in KG of water.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility for the chlorination of potable water before it is supplied to users. This facility does not include a building to house the equipment (use 89141, Water Supply/Treatment Building, Potable). Measure the flow rate in KG of treated water.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Pipes or conduits that distribute potable water. Typically, this category includes pipelines, valves, and access manholes.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Pipes or conduits that supply water from the water source to the treatment plant. Typically, this category includes pipelines, valves, and access manholes.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

**4. See Also**

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Water mains and distribution lines for fire protection systems that use nonpotable water. Typically, this category consists of pipelines, manholes, and valves.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility for the chlorination of nonpotable water before it is supplied to users. This category does not include a building to house the equipment (use 89144, Water Supply Building, Nonpotable). Measure the flow rate in KG of treated water.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = KG
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A well that contains nonpotable water and the equipment required to pump the water to storage or distribution facilities. Typically, the equipment includes a well shaft, pumps, meter, associated piping, valves, and other mechanical and electrical equipment. This category does not include a building to house the well and pumping equipment (use 89144, Water Supply Building, Nonpotable). Also accounted for with this category are those wells that contain contaminated water. Measure the flow rate in KG of water pumping capacity from the well.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A station required for pumping water as part of storage or supply operations in a nonpotable water system. This category does not include a building to house the equipment (use 89144, Water Supply Building, Nonpotable). Measure the flow rate in KG of water pumping capacity.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = KG
- Secondary UM = None
- FAC UM = KG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Supply pipes and conduits that distribute nonpotable water. Typically, the utility includes pipelines, valves, and access manholes.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A tank, either elevated, aboveground, or underground, used to store potable water after it has been processed through a water treatment plant. The purpose of storing potable water is to reduce treatment plant peak production rates, to supply peak demand, and to equalize distribution system pressures. Typically, this utility consists of the tank, standpipe and supports when required, valve pit, and controls. This category does not include a building to house the equipment (use 89148, Water Storage Building). Report the capacity of the storage tank in GA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility for storage of raw or untreated water to supply a potable water system. Report separately from dams (89270) or dikes (87140) that may be constructed to create this reservoir.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MG
- Secondary UM = None
- FAC UM = MG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A storage tank for nonpotable water. The primary purpose of storing nonpotable water is to supply peak demand and equalize distribution system pressures in a nonpotable water system. The storage tank may also be used to store water used for fire protection or chilled water produced off-peak to eliminate the surcharge for peak electric use of air-conditioning/cooling systems. Typically, the utility consists of a tank, standpipe, supports, valve pit, and controls. This category does not include a building to house the equipment (use 89148, Water Storage Building). Report the capacity of the storage tank in GA of water.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A reservoir for storage of nonpotable water for other than decorative purposes. The utility consists of a reservoir and associated piping. Report separately from dams (89270) or dikes (87140) that may be constructed to create this reservoir.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MG
- Secondary UM = None
- FAC UM = MG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A pond that is intended to supply nonpotable water for firefighting purposes. The utility consists of the pond itself, associated piping, and valves. This category does not include a building for housing the equipment (use 89148, Water Storage Building).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = MG
- Secondary UM = None
- FAC UM = MG

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A storage basin or tank used for the temporary retention of nonpotable water. Report separately from dams (89270) or dikes (87140) that may be constructed to create this retaining basin.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Roads and streets in the cantonment area that have a surface treatment of bituminous material, concrete, paving block, cobblestone, or gravel/tar. This category includes driveways that lead from roadways to parking areas. Those roads in the cantonment area covered only with a gravel surface are considered unpaved (85130, Cantonment Area Roads, Unpaved). Gravel must be treated with some other form of surface treatment, such as tar or some other material, to be classified as a paved road.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure designed to carry vehicular traffic on roads in the cantonment or other built-up areas of the installation. The bridge, including supports, is erected over a depression or an obstruction (such as water, a highway, or a railway); has a passageway for vehicles; and has an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes. The bridge may include multiple pipes where the distance between the pipes is less than half of the diameter/width of the smallest pipe opening. If the bridge opening is less than 20 feet, or the distance between the pipes exceeds half the dimension of the smallest pipe, this structure is considered a culvert and is simply part of the roadway length and not accounted for separately. Also report the one-way load capacity of the bridge in tons (TN).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = TN
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Roads and streets in the cantonment area that are not treated with a surfacing material such as concrete, bitumen, paving block, cobblestone, or gravel cover that is mixed with tar or another material, graded, and drained. This category also includes driveways that lead from unpaved roadways to parking areas.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Roads and trails in the cantonment area specifically designated for tracked vehicle traffic. They may be paved or unpaved.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An improved area that is paved with bitumen, concrete, paving block, cobblestone, or gravel/tar treatment, and is used for parking TOE/TDA military and commercial vehicles, trailers, and generators. Report paved aprons immediately adjacent to buildings using this CATCD. To be classified as paved, the gravel must be combined with tar or some other material as a surface treatment. Parking areas covered only with gravel are considered unpaved (use 85211, Organizational Vehicle Parking, Unpaved).

### 2. Proponent and Center of Standardization

#### Proponent

Deputy Chief of Staff, G-4 (DCS, G-4)

#### Center of Standardization

Savannah District Center of Standardization

#### Proponent:

- DCS, G-4

#### COS:

- Savannah

### 3. Complex

Organizational Parking will normally be a part of the Tactical Equipment Maintenance Facility (TEMF), which is part of the Brigade-Battalion Operations Complex, the Aviation Unit Complex, the C2F Complex, and the ORTC, as well as a TEMF Complex.

#### Complexes:

- C2F
- Brigade
- Aviation Unit
- TEMF
- ORTC
- NCO Academy

### 4. Units of Measure

Primary: SY  
Secondary: None  
FAC: SY

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = VE

### 5. Functional Areas

By definition, only buildings measured in SF have functional areas.



## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria allow the TEMF organizational parking capable of supporting all of a unit's tactical vehicles. TEMFs are usually battalion-size facilities, thus the organizational parking area should be capable of handling the entire battalion's tactical vehicles.

### 2. Programmatic Application

RPLANS calculates allowances at unit level for TOE and TDA units with tactical equipment based on the number, type, and size of vehicles, including any associated trailers. RPLANS calculates allowances at the complex level for NCO academies based on the number of tactical and nontactical vehicles normally associated with a small, medium, or large NCO academy.

## C. Planning

### 1. Planning Level

The planning level is unit.

Planning Level:

- Unit

### 2. Requirements Calculations

Even when using battalion TEMFs, calculate this category code at the company level to organize the vehicles with unit integrity at the organizational level used in the analysis. While maintenance activities are managed at the battalion level, maintaining unit integrity at the company level is the best operational alternative, but requires more total parking than unit integrity at the battalion level.

Plan parking stalls back to back. For vehicles less than 18 feet in length, access lanes should be 30 feet wide. Vehicles greater than 18 feet in length require access lane widths of 45 feet.

Calculate circulation lanes with a fixed 30-foot width.

Calculate parking stalls according to the vehicle intended to occupy the space. Include a side clearance of 3 feet for every stall width, and include an end clearance of 2 feet for the length.

Calculate parking spaces for POL vehicles at least 50 feet away from other vehicles and permanent structures. Calculate each stall at 19 feet wide and from 40 to 55 feet long, depending on the

vehicle. Calculate one additional space for fuel dispensing.  
Calculate a 50-foot access apron.

When planning a new organizational parking area, it is necessary to take into account the length and width of the intended supported vehicles. The length and width of supported vehicle determines the overall size of the parking space.

### **3. Assigning Space**

#### **a. Guidance**

Provide NIPR/SIPR telecommunications access to the area when associated with a TEMF. One terminal should be available for every eight vehicles parked in a double row, while one terminal should be available for every four vehicles parked in a single row.

Every company of a battalion receives allowances for facility category code 85210. Base the amount of space on the total number of vehicles and trailers operated by the company.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

The TEMF standard design provides guidance for organizational parking.

### **2. Programming Units**

Program organizational parking in conjunction with the facility it supports.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility category is collocated with a TEMF or ORTC maintenance facility, or the NCO academy complex.

## 2. Site Planning Considerations

Site organizational parking areas in close proximity to a TEMF.  
Construct the vehicle hardstand area of rigid paved concrete capable of supporting wheeled, heavy, and tracked vehicles.

## F. Other Considerations

### 1. Special Instructions

Consult Center of Standardization: Savannah District.

### 2. Exceptions

None.

### 3. References

UFC 4-214-02: Tactical Equipment Maintenance Facilities Standard Design	17-FEB-09
Army Standard for Tactical Equipment Maintenance Facilities Facility Complex	28-FEB-08
ORTC Standard Design	01-APR-05

### 4. See Also

21410      Vehicle Maintenance Shop

**1. DA Pam 415-28 Description / Definition**

A semi-improved, unpaved area that is surfaced with sand, clay, gravel, or cinders, and is used for parking TOE/TDA military and commercial vehicles, trailers, and generators.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

Unpaved parking should only be used as an interim solution. Calculate requirements in accordance with procedures for CATCD 85210, Organizational Vehicle Parking, Paved.

**4. See Also**

See 85210 Organizational Vehicle Parking, Paved.

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

**Planning Level:**

- Unit

### 1. DA Pam 415-28 Description / Definition

An improved area for the temporary storage of vehicles and equipment awaiting deployment. The area may be paved or unpaved. Report railroad tracks separately; they are often included through the middle of the area to facilitate the loading of vehicles and equipment on railcars.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## A. Reporting

### 1. DA PAM 415-28 Description / Definition

An improved area that is paved with bitumen, concrete, paving block, cobblestone, or gravel/tar and provided for parking POVs. This area usually consists of off-street parking, which is provided at operational facilities, community support facilities, and housing complexes as required.

### 2 Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

Norfolk District Center of Standardization

#### Proponent:

- ACSIM Facilities

#### COS:

- Norfolk

### 3. Complex

Nonorganizational Parking is a component of all complexes.

#### Complex:

- All

### 4. Units of Measure

Primary: SY

Secondary: None

FAC: SY

Area = SY: Total square yards of the lot

CAP = VE: Total number of vehicles accommodated

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY
- Planning UM = VE
- CAP = VE

The primary unit of measure is SY. Use a tertiary unit of measure of VE to represent the number of vehicles the parking area is capable of accommodating.

### 5. Functional Areas

By definition, only buildings measured in SF have functional areas.

## B. Criteria

### 1. Basis for Authorization and Calculation

The Army allows nonorganizational parking areas for most facility categories.

## 2. Programmatic Application

RPLANS allows space based on population. Fifty-one and seven-tenths of a percent of the total military and civilian population, minus trainees, receives an allowance. Add an additional 148,366 SY into the area for commissaries and exchange retail facilities. Assets for facility category code 85218, Nonorganizational Vehicle Parking Garage, are not included in this allowance. RPLANS applies the allowance to the installation and not individual units. The RPLANS effective date is January 2009.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit. While the requirements may be driven by various unit-level facilities, it is important to balance that against the overall space available and the opportunity to achieve concurrent use.

#### Planning Level

- Other-than-unit

### 2. Requirements Calculations

For determining the adequate number of spaces, refer to Table 85215-2. In general, each parking space has an area of 35 SY, which includes the space itself at 9 feet by 18 feet, plus accompanying circulation area based on 90-degree parking.

Refer to the Table 85215-2 when assigning space.

Table 85215-2 Planning Factors for Parking Stalls

CATCD	UM	Basis	Factor	Notes
14110 - AFLD OPS BLDG	GSF	Staff	60%	
14111 - AIRFLD F&R STA	GSF	Staff	200%	Two full shifts plus visitors
14112 - AVN UNIT OPS	GSF	Pilots	70%	
14115 - WEATHER STATION	GSF	Staff	60%	
14161 - EMERG OPNS CNTR	GSF	Largest Shift	60%	
14162 - SCIF	GSF	Largest Shift	60%	
14182 - BDE HQ BLDG	GSF	Staff	90%	
14183 - BN HQ BLDG	GSF	Staff	90%	
14185 - CO HQ BLDG (MTOE)	GSF	Company Strength	50%	MTOE
14185 - CO HQ BLDG (TRNG)	GSF	Staff	90%	BT/OSUT, AIT
14188 - HQ BLDG, WTU	GSF	Staff Plus Visitors	90%	Plus 10 visitor Spaces
14190 - EAB C2F	GSF	Staff	90%	
17119 - ORG CLASSROOM	GSF	Capacity	25%	
17120 - GEN INST BLDG	GSF	Staff	70%	
17120 - GEN INST BLDG	GSF	Students	60%	TDY, PCS students
17131 - COMP REP INST	GSF	Staff	70%	

17132 - GEN REP INST	GSF	Staff	70%	
17133 - VEH MAINT INST	GSF	Staff	70%	
17134 - ACFT MAINT INST	GSF	Staff	70%	
17135 - LAB INST	GSF	Staff	70%	
17136 - AUTO-AID INST	GSF	Staff	70%	
17136 - AUTO-AID INST	GSF	Staff	70%	
17137 - MAT HNDL INST	GSF	Staff	70%	
17138 - LIMIT USE INST	GSF	Staff	70%	
17210 - SIM BLDG MOTION	GSF	Capacity	50%	
17211 - SIM BLD NON-MOT	GSF	Capacity	50%	
21110 - AC MAINT HGR	GSF	MTOE	70%	
21410 - VEH MAINT SHOP	GSF	Staff	56%	50% Mil, 100% Civilian
21885 - MNT GEN PURPOSE	GSF	Staff	70%	
21925 - ENGR MAINT FAC	GSF	Largest Shift	70%	
61050 - ADMIN GEN PURP	GSF	Capacity	60%	90% if O6 CDR or above
61055 - WAITING AREA	GSF	Staff	200%	Includes customer parking
72111 - ENLISTED UPH	GSF	Capacity	70%	
72112 - ENLIST UPH, WTU	GSF	Capacity	70%	
72122 - TRANS UPH AST	GSF	BCOF Staff	70%	Includes Drill Sergeants
72181 - TRAINEE BKS	GSF	BCOF Staff	70%	Includes Drill Sergeants
72210 - DINING FACILITY	GSF	Max Shift	120%	All types
72210 - DINING FACILITY	GSF	Max Capacity	8%	Permanent Party Only
73017 - CHAPEL	GSF	Capacity	30%	Share when possible
73018 - RELIG ED FAC	GSF	Capacity	30%	Share when possible
73019 - FAM LIFE CTR	GSF	Capacity	30%	Share when possible
74033 - ACS CTR WTU SFAC	GSF	Small		20 Stalls
74033 - ACS CTR WTU SFAC	GSF	Large		36 Stalls

Ninety-degree parking is the preferred layout for lots. A 24-foot-wide access aisle is required for 90-degree lots. If the lot can accommodate more than 50 vehicles, provide internal circulation lanes.

While the 90-degree design is preferred, an option for 60-degree angled parking can be used when space is at a premium, or the lot experiences high turnover. Reduce circulation lanes to an 18-foot width to accommodate one-way traffic. Use dead spaces as parking areas for motorcycles or bicycles.

Use on-street parking in cases of high parking demand and little available space. On-street parking is acceptable on all secondary roads, but not on major roads. Maintain a 40-foot clear zone around intersections. Size stalls with a dimension of 22 feet long and 9.5 feet wide to accommodate parallel parking.

Provide handicapped parking at the rate of one handicapped space for every 25 standard parking spaces, if handicapped parking is



required. Handicapped spaces have dimensions of 13 feet wide by 18 feet long.

### **3. Assigning Space**

#### **a. Guidance**

Nonorganizational parking is for the use of unit personnel POVs. Do not use this facility category to designate parking areas for unit tactical vehicles. Refer to facility category code 85210 for criteria and application for parking unit tactical vehicles.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

There are no standards or standard designs for this facility.

### **2. Programming Units**

Program nonorganizational parking when programming the facility it supports.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

The supported facility determines land use.

### **2. Site Planning Considerations**

Site parking lots within 300 feet of the facility they serve, but also more than 82 feet away from the facility. Within a controlled perimeter, reduce the minimum separation distance to 33 feet.

Site lots with readily accessible ingress/egress areas and circulation lanes adequate for traffic flow. Indicate one-way directional traffic flow sufficiently. If required, site handicapped parking such that it provides the shortest possible route to a handicap accessible entrance. Ensure that the pavement is smooth and level with no large holes, chips, cracks, or broken pieces. Slope the pavement to allow drainage into channels, ditches, storm sewers, etc. While not necessary, marked spaces on the pavement are desirable.

Nonorganizational vehicle parking provides opportunities to incorporate the principles of sustainable design.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

### **3. References**

See the primary facility category description.

### **4. See Also**

See the primary facility category description.

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A semi-improved, unpaved area, surfaced with sand, clay, gravel, or cinders that is provided for parking POVs. This area usually consists of off-street parking, which is provided at operational facilities, community support facilities, and housing complexes as required.

### 2. Proponent

ACSIM facilities

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SY.

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Area UM = SY
- Other UM = None
- Programming UM = SY

## B. Criteria

### 1. Basis of Allowance

None.

### 2. Programmatic Application

RPLANS does not calculate an allowance for this category code.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

#### Planning Level:

- Other -than-unit

## 2. Requirements Calculations

Table 85216-1 lists the parking stalls for total POV parking (on paved and unpaved surfaces) at organizational facilities.

Table 85216-1 - Total POV Parking Stalls - At Organizational Facilities	
Facility Type	Number of Stalls
Admin, HQ and Office	60 percent of assigned personnel
Bakeries	38 percent of civilian employees in largest shift
Central Food Preparation	38 percent of military and civilian food service operating personnel in largest shift
Enlisted Personnel Dining Facilities (EPDF) -	See Notes 1 and 2
Fire Station, One-Company	7
Fire station, Two-Company	10
Guard House(s), MP Station(s)	30 percent of guard and staff strength
Gymnasium, Area - Regimental	10
Laundries and Dry Cleaning Plants	38 percent of civilian employees in largest shift
Maintenance Shop(s)	38 percent of assigned personnel in largest shift
Security Offices for Main Gates - population ranges:	
100 to 2,000	5
2,001 to 4,000	10
4,001 to 6,000	15
6,001 - 10,000	20
Over 10,000	See Note 3
Warehouse(s)	See Note 4
Notes	
1. EPDF for Permanent Party, Garrison (TOE and TDA units), Support units, Construction Battalions, and Personnel Transfer / Overseas Processing Centers	
2. 38 percent of military and civilian food service operating personnel in largest shift, plus 8 percent of patrons served in one meal period	
3. Based on a Site Traffic Impact Study	
4. One stall for each 500 GSF (46.5 SM) gross office area, plus one stall for every 4 persons assigned to the storage activity	

Table 85216-2 lists the parking stalls for total POV parking (on paved and unpaved surfaces) at community facilities.

Table 2 - Total POV Parking Stalls - At Community Facilities	
Facility Type	Number of Stalls
Bank and Credit Union - See Note 1	2 percent of authorized customers served
Cafeteria, Civilian - See Note 1	15 percent of seating capacity
Chapels	30 percent of seating capacity
Child Development Centers	100 percent of staff plus 1 for every 4 children
Community Shopping Centers	See Notes 2 and 3
Field House - See Note 4	1 percent of military strength
Gymnasium	1 percent of military strength
Library, Central	1 for each 500 GSF (46.5 SM) gross floor area
Library, Branch(es)	8
School(s), Dependent - without auditorium	2 per classroom
School(s), Dependent - with auditorium	2 per classroom plus 15 percent of auditorium seating
Service Club(s)	2 percent of eligible patrons
Swimming pool(s)	20 percent of design-capacity of swimming pool
Theater(s) - See Note 1	25 percent of seating
<b>Notes:</b>	
1. When not included in a Community Shopping Center	
2. May include bank, commissary store, food sales, exchange, miscellaneous shops, Post Office, restaurant and theater	
3. 4 percent of authorized customers served and other criteria provided by DECA and AAFES	
4. Combined with Football and Baseball Facilities	

Table 85216-3 lists the parking stalls for total POV parking (on paved and unpaved surfaces) at housing facilities.

Table 3 - Total POV Parking Stalls - At Housing Facilities	
Facility Type	Number of Stalls
Family Housing	2 per living unit
Temporary Lodging	1 per bedroom
Unaccompanied Enlisted Personnel	Minimum of 70 percent of capacity
Unaccompanied Officer Personnel	1 per living suite

### **3. Assigning Space**

#### **a. Guidance**

This facility is normally assigned to the garrison.

#### **b. Facility Utilization Metrics**

The Army has not established facility utilization metrics for this facility category code.

## **D. Programmable Increments**

### **1. Standard Facilities**

None.

### **2. Programming Units**

Programming documents report these facilities in SY to make cost comparisons with other projects.

## **E. Land Use and Site Planning Considerations**

### **1. Land Use Considerations**

This facility occurs at various locations across the installation as overflow parking to meet peak demands not met by existing facilities.

### **2. Site Planning Considerations**

Relatively level, stable, well drained, grass fields work well for very short-term, intermittent use. Gravel or other semipermanent materials withstand more use. Provide curb cuts and other features to make these facilities accessible when needed.

## **F. Other Considerations**

### **1. Special Instructions**

None.

### **2. Exceptions**

None.

**3. References**

- |  |           |
|--|-----------|
| TI - 800-01 - Technical Instructions, Design<br>Criteria: Chapter 3, Page 3-33, Table<br>3-5 | 20-JUL-98 |
| TM 5-803-14 Site Planning and Design   | 01-OCT-94 |

**4. See Also**

- |       |   |
|-------|---|
| 85211 | Organizational Vehicle Parking, Unpaved |
| 85221 | Sidewalks and Walkways, Unpaved         |

## A. Reporting

### 1. DA Pam 415-28 Description / Definition

A partially enclosed parking structure, normally constructed of brick and/or concrete, with one or more levels, for parking nonorganizational vehicles. This includes underground parking. These structures are similar to parking garages found at hospitals, shopping centers, and downtown areas. Report the area of all the parking surfaces (area under the roof, on each story, and include the roof if suitable for vehicle parking on the roof) in SY, and report the total parking capacity of the facility in vehicles (VE).

### 2. Proponent and Center of Standardization

#### Proponent

ACSIM Facilities

#### Center of Standardization

None.

### 3. Complex

None.

### 4. Units of Measure

Report and program these facilities in SY and VE.

Primary: SF  
Secondary: VE  
FAC: SF

### 5. Functional Areas

None.

#### Proponent:

- ACSIM Facilities

#### COS:

- None

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = VE
- FAC UM = SF
- Other = None

## B. Criteria

### 1. Basis for Authorization and Calculation

The criteria authorize this facility category for facilities allowed to provide parking for vehicles not under the control of the unit operating or occupying the facility.



## 2. Programmatic Application

RPLANS sets allowances equal to assets for this CATCD.

## C. Planning

### 1. Planning Level

The planning level is other-than-unit.

Planning Level:

- Other-than-unit

### 2. Requirements Calculations

The installation must calculate the number of spaces required at a specific location. See section E.2. Site Planning Considerations, for design criteria.

### 3. Assigning Space

#### a. Guidance

This facility is normally assigned to the garrison.

#### b. Facility Utilization Metrics

The Army has not established facility utilization metrics for this facility category code.

## D. Programmable Increments

### 1. Standard Facilities

None

### 2. Programming Units

Programming documents report these facilities in SF to make cost comparisons with other projects.

## E. Land Use and Site Planning Considerations

### 1. Land Use Considerations

This facility occurs at various locations across the installation.

## 2. Site Planning Considerations

Plan parking in lots or structures with a limited number of entrances and exits onto the access road or drive. Align entrances and exits into different lots on the same site, or provide adequate separation to provide traffic safety and meet sight distance requirements.

Design parking areas to provide the following:

- (1) Barrier-free design
- (2) Parking located within convenient walking distance of a building entrance
- (3) Align parking aisles towards the building entrance
- (4) Use sustainable-design principles
- (5) Layout: A 90-degree parking layout is preferred. Where a fast rate of turnover is expected, or where required by site limitations, a 45-degree or 60-degree angle layout may be used. Design the parking layout to provide the following:
  - a. Maintain two-way movement
  - b. Avoid dead-end parking lots
  - c. More than one entrance and exit for parking lots with more than 100 stalls
  - d. Traffic breaks in aisles greater than 350 feet (107 m) in length
  - e. Curbs or painted lines at the ends of rows of stalls
  - f. Meet snow removal requirements
  - g. Disabled car stall: 13 feet x 18 feet (4 m x 5.5 m)
  - h. Disabled van stall: 16 feet x 18 feet (4.9 m x 5.5 m)
  - i. Standard car stall: 9 feet x 18 feet (2.7 m x 5.5 m)
  - j. Compact car stall: 8 feet x 16 feet (2.4 m x 4.9 m)
  - k. Aisle and access lanes maximum 24 feet (7.3 m) width

## F. Other Considerations

### 1. Special Instructions

None.

### 2. Exceptions

None.

**3. References**

- |   |           |
|---|-----------|
| TI - 800-01 - Technical Instructions, Design<br>Criteria: Chapter 3, Page 3-33, Table 3-<br>5 | 20-JUL-98 |
| TM 5-803-14 Site Planning and Design  | 1-OCT-94  |

**4. See Also**

- |       |   |
|-------|---|
| 85211 | Organizational Vehicle Parking, Unpaved |
| 85221 | Sidewalks and Walkways, Unpaved         |

**1. DA Pam 415-28 Description / Definition**

Pedestrian sidewalks and walkways paved with concrete, paving blocks, bituminous material, and so on. Include the area of any stairs that may be associated with the walkways when determining the area of this structure.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Pedestrian sidewalks and walkways that are not paved with concrete, paving blocks, bituminous material, and so on. The walkway is covered with some material, such as gravel, that requires maintenance. Pathways not requiring maintenance are not reported by any category. Any stairs that may be associated with a walkway should be accounted for as paved walkways (85220, Sidewalks and Walkways, Paved).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A load-bearing pad, base, apron, or platform upon which various types of equipment are positioned. Missile systems, radar, generators, and transformers are equipment frequently placed on such pads. These structures are also used for the placement of refuse/garbage collection receptacles and other similar items.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = None
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure designed to carry pedestrian traffic over a depression or an obstruction such as water, a highway, or a railway; has a passageway for pedestrians; and has an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes. The bridge may include multiple pipes where the distance between the pipes is less than half of the diameter/width of the smallest pipe opening. If the bridge opening is less than 20 feet, or the distance between the pipes exceeds half the dimension of the smallest pipe, this structure is considered a culvert and is simply part of the sidewalk or walkway.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = LF
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Roads and streets primarily for wheeled-vehicle traffic, and specifically used for ingress, egress, and circulation within the training complex or training area of an installation. Vehicle traffic is primarily limited to tactical equipment or commercial vehicles authorized by the training area or garrison commander. This category includes driveways that lead from roadways to parking areas. Roads, streets, and driveways are paved with bituminous material, concrete, paving blocks, cobblestone, or gravel/tar. Gravel must be treated with some form of surface treatment, such as tar or some other material, to be classified as a paved road. Those roads outside of the cantonment area and covered only with a gravel surface that are for the express purpose of ingress, egress, or circulation within the training area are considered unpaved (use 85715, Training Area Roads, Unpaved).

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.



## 1. DA Pam 415-28 Description / Definition

Roads and streets primarily for wheeled-vehicle traffic, and specifically used for ingress, egress, and circulation within the training complex or training area of an installation. Vehicle traffic is primarily limited to tactical equipment or commercial vehicles authorized by the training area or garrison commander. Roads and streets are not paved with surface material such as bituminous material, concrete, paving blocks, cobblestone, or gravel/tar. This category includes driveways that lead from roadways to parking areas. Those gravel roads treated with some other form of surface treatment, such as tar or some other material, and outside of the cantonment area for the express purpose of ingress, egress, or circulation within the training area are considered paved (use 85710, Training Area Roads, Paved).

### Proponent:

- ACSIM Facilities

### Complex:

- None

### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### Planning Level:

- Other-than-unit

## 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Roads and streets primarily for tracked-vehicle traffic, and specifically used for ingress, egress, and circulation within the training complex or training area of an installation. Vehicle traffic is primarily limited to tactical equipment authorized by the training area or garrison commander. This category includes tank trails that are paved with bituminous material, concrete, paving blocks, cobblestone, or gravel/tar. This category also includes driveways that lead from roadways to parking areas. Those trails covered only with a gravel surface and outside the cantonment for the express purpose of ingress, egress, or circulation within the training area are considered unpaved (85725, Training Area Tank Trails, Unpaved). Gravel must be treated with some form of surface treatment, such as tar or some other material, to be classified as a paved road.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Roads and streets primarily for tracked-vehicle traffic, and specifically used for ingress, egress, and circulation within the training complex or training area of an installation. Vehicle traffic is primarily limited to tactical equipment authorized by the training area or garrison commander. This category includes tank trails that are not treated with bituminous material, concrete, paving blocks, cobblestone, or gravel/tar; graded; and drained. This category also includes driveways that lead from roadways to parking areas. Those gravel trails treated with some form of surface treatment, such as tar or some other material, and outside the cantonment for the express purpose of ingress, egress, or circulation within the training area are considered paved (85720, Training Area Tank Trails, Paved).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SY
- Secondary UM = MI
- FAC UM = SY

#### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

A structure designed to carry vehicular traffic specifically for ingress, egress, and circulation within the training complex or training area of an installation. Such training traffic is primarily limited to tactical equipment or commercial vehicles authorized by the training area or installation commander. May be used in conjunction with paved and unpaved training area roads outside of the cantonment area for the express purpose of ingress and egress to/from the training area. The bridge, including supports, is erected over a depression or an obstruction, such as water, a highway, or a railway; has a passageway for vehicles; and has an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes. The bridge may include multiple pipes where the distance between the pipes is less than half of the diameter/width of the smallest pipe opening. If the bridge opening is less than 20 feet, or the distance between the pipes exceeds half the dimension of the smallest pipe, this structure is considered a culvert and is simply part of the roadway. Also report the one-way design load capacity of the structure in tons (TN).

### Proponent:

- ACSIM Facilities

### Complex:

- None

### Units of Measure:

- Primary UM = SY
- Secondary UM = TN
- FAC UM = SY

### Planning Level:

- Other-than-unit

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Railroad tracks have standard gauge, clearance, and weight of rail as specified in TM 5-628/AFR 91-44. Tracks will connect with the common carrier delivering shipments to the base. Sidings will be provided for holding and unloading freight cars as required. Railroad tracks are typically used to serve the warehouse area and bulk fuel storage area. Spur track is required for switching and storing empty cars while awaiting pickup. The quantity of railroad tracks to be constructed is determined by the proximity of common carrier lines, the volume of traffic, and grade requirements imposed by accepted railroad practices. Generally, the layout will include receiving, classification, delivery, and forwarding tracks arranged to permit minimum switching of cars. Yards will be easily accessible to both the serving railroad and points of delivery. Yard tracks will be connected to leads at both ends whenever possible. Report the total length of all tracks where a track is defined as a single pair of rails.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = MI
- Secondary UM = None
- FAC UM = MI

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 861xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure that is designed to carry rail traffic over a depression or an obstruction, such as water, a highway, or another railway; has a track for railway equipment; and has an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes. The bridge may include multiple pipes where the distance between the pipes is less than half of the diameter/width of the smallest pipe opening. If the bridge opening is less than 20 feet, or the distance between the pipes exceeds half the diameter of the smallest pipe, this structure is considered part of a Railroad Track (86010).

**Proponent:**

- DCS, G-4

**Complex:**

- None

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 86010, 861xx, and 89250 for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

Tracks used for mounting and moving a crane designed to load and off-load railcars and/or trucks.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 86010, 861xx, and 89250 for related facility category codes.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = MI
- Secondary UM = None
- FAC UM = MI

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure where individual railcars are weighed, both when empty and when loaded with cargo, to determine the amount of weight being transported. This is used most often with cargo such as coal. Report the length of the scale. This facility is usually sited with a scale house (14180), in which administrative functions are performed.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = LF
- FAC UM = EA

### 4. See Also

See 86010, 861xx, and 89250 for related facility category codes.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A structure used for unloading coal from railcars; a framework of uprights and cross pieces supports a coal hopper, usually supplied by a conveyor belt. The coal trestle is located under the tracks to unload railcars as they pass overhead. Report the length of the coal trestle.

#### Proponent:

- DCS, G-4

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 86010, 861xx, and 89250 for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A sewer to carry stormwater runoff. Typically, the structure consists of drainage inlets and catch basins, retention basins, pipelines, access manholes, junction boxes, and associated components as required.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 871xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An open ditch or channel that requires maintenance to carry stormwater runoff. Ditches may be paved or unsurfaced, but must require maintenance before they should be accounted for with a CATCD. Typically, the structure consists of culverts, headwalls, and end walls, drop structures and other energy dissipaters, out-falls, and associated components as required.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 871xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A ditch or channel designed to carry water for irrigation purposes. Typically, the structure consists of the channel itself, culverts, and sluice gates. The ditch or channel may have flow-measuring devices, and may be paved or unsurfaced. Also included in this category are underground piping systems with sprinkler heads.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 871xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

An artificial barrier that impounds water, or diverts water away from areas or facilities to avoid damage, but does not meet either of the criteria for a Dam (89270). Dikes are artificial barriers that are (1) less than 25 feet in height from the natural bed of the stream or watercourse to the maximum water storage elevation, and (2) have an impounding capacity at maximum water storage elevation of less than 50 acre-feet. Dikes may be constructed of earth, concrete, or other materials.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = EA
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 871xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

A structure designed to provide vertical changes in ground elevation, or to prevent erosion from surface water drainage. Typically, it consists of the retaining wall itself, an anchoring system, and a means of providing subsurface drainage (drain tower).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 871xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A sewer or drain designed to collect pollutants for treatment or disposal. Typically, the structure consists of inlets, pipelines or channels, and other associated components as required.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 871xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A protective barrier to define the physical limits of an installation, activity, or area; and to restrict, channel, or impede access. Fences and walls can promote improved security, boundary definition, safety, operating efficiency, and visual screening. A variety of construction materials is available.

**Proponent:**

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 872xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A linear structure measured in linear feet (LF), intended to restrict access to a specific area, or to restrict and direct the flow of traffic. These structures include hardening or special characteristics beyond standard fences, such as intrusion detection, razor wire, or barrier impact/penetration resistance measures.

#### Proponent:

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### 4. See Also

See 872xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A mechanically operated barricade consisting of bollards, rising road plates, or wedges designed to control vehicle or other traffic. This structure is measured in EA, defined as a single barricade designed to stop one lane of traffic. All barrier costs include barrier installation, remote controls, safety loops, traffic arm, and traffic lights. CCTV, cameras, and alarms are considered equipment and are not included.

#### Proponent:

- DCS, G-3

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 872xx for related facility category codes.

#### Planning Level:

- Other-than-unit

## 1. DA Pam 415-28 Description / Definition

The frame, gate, or other apparatus that allows or restricts vehicle and animal entrance on access roads, and the pedestrian access through the perimeter fences or walls of an installation. To measure gates, report in linear feet (LF). Data should be available from DPW Engineering, or measure the entrance gate between the outermost portions of the access point that are fixed and cannot be opened. For example, the entrance gate for an installation may include a pedestrian gate, a short length of fence, a gate for inbound vehicles, another short section of fence, a gate for outbound vehicles, another section of fence, and another pedestrian gate. Record this entrance gate as a single facility and measure it from the outside end of one pedestrian gate to the outside end of the other pedestrian gate.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See 872xx for related facility category codes.

### Proponent:

- DCS, G-3

### Complex:

- None

### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A cleared area used to prevent a fire from spreading in a built-up or forested area. It is intended to be free of all buildings, vehicle parking and maintenance, major vegetation, and other combustible materials or facilities. There is no FAC or FCG associated with this category.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 872xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Equipment in place in a facility to warn occupants of a building or area of the existence of fire, notify guards and firefighting personnel, indicate fire areas, trigger emergency equipment, and conduct fire drills. Typically, the equipment consists of smoke, heat, or other detection devices; manual and automatic release devices; circuits; a control panel; an emergency power supply; and alarms such as sirens, flashing lights, and so on. Fire alarm systems may also include connections for automatic door closers, smoke exhausts, emergency lighting, equipment shutdown, and other procedures as required. The use of this category for inventory purposes applies only when the system is provided separately from any real property facility, such as a fire alarm pull-box mounted on a pole or stand, for the purpose of transmitting an alarm to a central station. Report each zone perimeter or location system as 1 BX.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This category code is considered a component of a facility and, therefore, the unit of measure is not applicable.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 880xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system to monitor and report the approach, intrusion, or presence of an intruder on the perimeter of a facility. Typically, this system provides visual surveillance through remote cameras tied to a central monitoring point. Usage depends upon the mission and type of facility being protected (high, moderate, or low security protection level). Each zone covered by a separate perimeter sensor (visual, aural, vibration, body capacitance, and so on) is considered a box. Report each zone perimeter or location system as 1 BX. Information for these types of facilities should be available from the provost marshal's office.

**Proponent:**

- DCS, G-3

**Complex:**

- None

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This category code is considered a component of a facility and, therefore, the unit of measure is not applicable.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 880xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

An area-wide sound system to alarm the approach or event of an emergency situation such as an attack by hostile aircraft, a tornado, a prison escape, and so on. Report each location/zone where the system can be heard when activated as 1 BX. A system with a single release device and 10 sirens counts as 1 BX. A system with 10 release devices and one siren also counts as 1 BX. Data for these systems should be available from the DPW Utilities Branch.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This category code is considered a component of a facility and, therefore, the unit of measure is not applicable.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 880xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system to detect and alarm the approach, intrusion, or presence of an intruder by reaction of a mechanical or electronic detector. Usage depends upon the mission and type of facility (high, moderate, or low security protection level). This includes the Joint Service Interior Intrusion Detection System (JSIIDS). Count each location monitored by the system as 1 BX. For example, a building with four company headquarters and associated arms rooms, each monitored by the intrusion alarm system, would count as 4 BX. Data should be available for these systems from the DPW Utilities Branch. The use of this category for inventory purposes applies only when the system is provided separately from any real property facility, such as an intrusion detection system mounted on a pole or stand monitoring an area (in other words, not a building).

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This category code is considered a component of a facility and, therefore, the unit of measure is not applicable.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 880xx for related facility category codes.

#### Proponent:

- DCS, G-3

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A device to detect nuclear radiation. Typically, the system includes the sensors that are connected to an alarm and meters for measuring the level of radiation present. Report each separate zone covered by a sensor as 1 BX. Information for these type facilities should be available from the DPW Utilities Branch and/or the Director of Plans, Training, Mobilization, and Security.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 880xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system to extinguish a fire with an automatically activated water sprinkler system. Typically, the equipment includes smoke, heat, or other detection devices; wiring; controls and monitors; automatic and manual releases; water supply connections; distribution piping; and spray heads. In addition, it may have pumps, storage tanks, and drains. The use of this category for inventory purposes applies only when the system is provided separately from any real property facility.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system to extinguish a fire with chemical extinguishing agents including halon, carbon dioxide, foam, and dry chemicals.

Typically, these systems include smoke, heat, or other detection devices; manual and automatic releases; storage units for the extinguishing agent; piping and hoses; valves; nozzles; and other associated equipment as required. The use of this category for inventory purposes applies only when the system is provided separately from any real property facility.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx and 89240 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A separate water supply system for firefighting purposes for a facility. Typically, it consists of water supply lines, pumps, valves, and hose outlets. The use of this category for inventory purposes applies only when the system is provided separately from any real property facility.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, 891xx, and 89240 for related facility category codes.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A standalone building that houses the equipment and support functions necessary to generate prime or standby electric power. This CATCD should be used in conjunction with utilities contained in the 811 basic series.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building used for the manufacturing, processing, and bottling of acetylene gas.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions used to subdivide an electric power supply and reduce power voltage before it is supplied to users. This CATCD should be used in conjunction with utilities contained in the 813 basic series.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions required for testing of materials (lead in paint, asbestos, and so on) relating to environmental concerns.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A building used for the manufacture of inert gases, including helium, neon, argon, krypton, xenon, and radon.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

Primary UM = EA  
Secondary UM = SF  
FAC UM = EA

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A standalone building that houses the equipment and support functions of miscellaneous utility systems such as Frequency Converters (89235), Gas Generating Plants (82310), Automatic Water Sprinkler Systems (88110), fire station pumps, and so on.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A standalone building that houses the equipment and support functions used to generate heat, nonelectrical power, or heated water/steam for industrial processing. This CATCD should be used in conjunction with utilities contained in the 821-series when the utilities are contained in a separate, standalone building.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building used for the manufacture of compressed air. The equipment within the building is used to compress air to pressures greater than one atmosphere.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A standalone building that houses the equipment and support functions used to provide air-conditioning. This CATCD should be used in conjunction with utilities in the 826-series when the air-conditioning equipment is contained in a separate building.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**4. See Also**

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A standalone building that houses the equipment and support functions used to provide either air-conditioning or heating, depending upon the season. This facility is unique because the equipment housed supplies both heating and cooling. This CATCD should be used in conjunction with utilities in the 821-series and 82610, Air-Conditioning/Refrigeration Plant. For purely air-conditioning facilities, use 89126, Refrigeration/Air-Conditioning Building. For purely heating facilities, use 89121, Heating Plant Building.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

The Fort Worth District Center of Standardization for BT/OSUT includes this CATCD as part of the BT/OSUT Complex, but does not cite specific criteria.

### 4. See Also

See Chapter 4 for BT/OSUT Complex.

#### Proponent:

- ACSIM Facilities

#### COS:

- Fort Worth

#### Complex:

- BT/OSUT

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that has been determined to be unusable because of hazardous contamination and is contaminated to the extent it is not economically feasible to be repaired. Only the primary UM is provided for inventory purposes because this type of facility would not be programmed for construction.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions used to provide treatment and disposal of normal laundry wastes, sanitary sewage, and industrial wastes. This category should be used in conjunction with the utilities in the 831-series.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit



**1. DA Pam 415-28 Description / Definition**

A building used to manufacture liquefied oxygen.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = SF
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions associated with the collection, processing, and disposal of refuse and garbage. This category should be used in conjunction with the structures in the 833-series.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions used to purify and supply water for a potable water system. This category should be used in conjunction with utilities in the 841-series.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 84210 Water Distribution Lines, Potable.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions used to supply water for a nonpotable water system. This category should be used in conjunction with utilities in the 844-series.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 84330 Fire Protection System, Nonpotable, 84510 Water Distribution Lines, Nonpotable, and 89240 Fire Hydrants for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A building that houses the equipment and support functions associated with water storage activities. This category should be used in conjunction with utilities in the 846-series and the 847-series.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 84330 Fire Protection System, Nonpotable, 84510 Water Distribution Lines, Nonpotable, and 89240 Fire Hydrants for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A building that houses the equipment and support functions associated with the shredding of material prior to its final disposition.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

None.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = SF
- Secondary UM = None
- FAC UM = SF

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A series of wells installed around a site to detect the discharge of any leachate. Samples from the wells should be analyzed prior to the disposal of any waste to establish baseline data. Designate each distinct site or well field containing a series of monitoring wells as a single facility. Report the facility capacity/other as the number of wells, counting each monitoring well as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure used to monitor and test environmental conditions. Report each test facility as 1 EA, regardless of the number of sensors.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A system to control and monitor the distribution of primary utility systems throughout the installation with equipment that is located at a site separate from the affected distribution system. Normally, the system is associated primarily with electrical power, heating, and cooling systems. Count the entire system as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks for storing gases such as acetylene, oxygen, and inert gases (helium, neon, argon, etc.) generated from a production plant. Gas storage tanks are typically double-walled with leak-detection devices, transfer pumps, pressure relief valves, level indicators, and appropriate fire protection equipment. Count each tank as 1 EA.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in WebRPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Devices that vaporize liquid petroleum gas prior to transmission through distribution lines. Count each device as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Devices for the direction of pedestrian, vehicular, or rail traffic by means of power-operated controls. They consist of signal devices, necessary supports, and electric power cables. Count each light device (for example, flashing red light) or set of lights (for example, red, green, amber) as 1 EA.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility that changes an alternating current from one frequency to another, with or without a change in voltage or number of phases. Also known as a frequency changer or a frequency translator. Each device counts as 1 EA. This category does not include a building to house the equipment (use 89120, Plant/Utilities Building). This category excludes frequency converters that are portable, obtained and documented as equipment, and associated with the operation of TOE tactical equipment in a fixed environment.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Devices tied to the water distribution system of the installation that provide for connection of hoses for use in firefighting. They may be tied in with either the potable or nonpotable water distribution systems. Count each device as 1 EA.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 841xx, 842xx, 84330, 844xx, 84510, 846xx, 847xx, 881xx, and 891xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Signals located at the intersections of railroads and motor vehicle roads that have high-volume traffic. Crossing signals are likely to conform to the standards of the connecting common carrier railroad, and thus may take various forms. Count the crossing signals found at one intersection as 1 EA.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 86010 Railroad Tracks, and 861xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure to enhance the visual environment. A fountain consists of pumps, associated piping and controls, and a collecting pond. It may have a sculpture or other decorative structure. A pond consists of the pond itself and associated piping. Both structures are supplied with nonpotable water. Count a combination of a fountain/pond as 1 EA. Also count a standalone decorative pond as 1 EA.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

#### Planning Level:

- Other-than-unit



## 1. DA Pam 415-28 Description / Definition

Any artificial barrier, including appurtenant works, that impounds or diverts water, and that is either (1) 25 feet or more in height from the natural bed of the stream or watercourse, measured at the downstream toe of the barrier or from the lowest elevation at the toe of the dam if it is not across a stream channel or watercourse, to the maximum water storage elevation; or (2) has an impounding capacity at maximum water storage elevation of 50 acre-feet or more (ref AR 420-72). Barriers that impound water but do not meet either of the above criteria should be classified as dikes (87140). Dam barriers may be constructed of earth, concrete, or other materials, and typically have an overflow or spillway and drainage outlet. They also may have other associated equipment as necessary.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

None.

### Proponent:

- ACSIM Facilities

### Complex:

- None

### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A standalone system to protect structures, equipment, and personnel from lightning. Typically, it consists of an interconnected assembly of lightning rods that are grounded to divert lightning away from structures and equipment. It may include equipotential bars for equipment connections. Report the complete system as 1 EA. Report lightning rods fixed to a specific building or other lightning protection system installed as part of a building as an equipment record within that building, not as a separate structure.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

### 1. DA Pam 415-28 Description / Definition

Acreage on which intensive maintenance activities must be planned and performed annually as fixed requirements. Activities include mowing, irrigation, fertilization, cultivation, aeration, seeding, sodding, spraying, pruning and trimming; weed, dust, and erosion control; drainage; planting for landscape effects and wind and sound abatement; and other intensive practices. Types of areas include lawns, landscape planted areas, parade/drill fields, playgrounds, and so on. Use this category for maintenance tracking only.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code. See category codes listed below for relevant information.

### 4. See Also

See 892xx for related facility category codes.

### 1. DA Pam 415-28 Description / Definition

Acreage on which periodic recurring maintenance is performed, but to a lesser degree than on improved grounds. Activities include mowing primarily for safety and security, weed and brush control, erosion control, dust control, and drainage maintenance. Types of areas include antenna fields, airfield shoulders, clear zones, drop zones, ranges, and picnic areas. Use this category for maintenance tracking use only.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 892xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

All acreage not classified as improved or semi-improved grounds or otherwise classified. Maintenance activities are generally unpredictable and normally evolve from the military mission; also for soil, water, and wildlife conservation; floods; fires; insect infestations; and disease epidemics. Types of areas include bombing and gunnery areas, impact areas, training and maneuver areas, forest areas, and agricultural and grazing lands. Use this category for maintenance tracking use only.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 892xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system of piping used to distribute inert gases from an Inert Gas Plant (89117).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 893xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A distribution system used to dispense compressed air from a Compressed Air Plant (89123).

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 893xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A system of lines from a Compressed Air Plant (89123) that provides a vacuum condition.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 893xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Underground tunnels or aboveground enclosures that may contain supply and/or collection lines for several utility systems, such as heating distribution, electrical power distribution, sewage collection, water distribution, and communication lines. Report the utility system distribution lines enclosed in utilidors using the appropriate distribution line CATCDs separately from the utilidors (89340) themselves.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 893xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = None
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A tower that provides air-conditioning/cooling through circulation of atmospheric air that cools warm water, generally by direct contact (evaporation). Associated equipment normally includes pumps, valves, spray nozzles, and controls. It does not include a building to house the equipment (use 89120, Plant/Utilities Building).

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = CM
- FAC UM = EA

### 4. See Also

None.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A utility consisting of a concrete tank with upper and lower levels for sewage clarification, whereby solids are settled in the lower level and liquids in the upper level are removed to a sewage lagoon.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A basin or pad designed to capture pollutants to prevent them from contaminating soils, groundwater, or surface water, or otherwise causing environmental damage. Typically, this utility consists of a pad or basin constructed of material impervious to the pollutants it is designed to contain. This facility is not a Water Retaining Basin (use 84740).

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

None.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Tanks used to hold raw sewage prior to processing. These structures may be located at remote sites without sewage treatment facilities. This category includes drop tanks at recreational trailer parks.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 831xx, 832xx, and 89131 for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

This separate structure is part of a chemical fire-extinguishing system that produces foam to suffocate a fire. The foam mix tank is used to mix water with chemicals to produce the foam. The tank requires a water supply connection, a chemical supply connection, valves, an outlet-level control, and operating controls connected to fire detectors or a manual release. This structure is normally located with aircraft maintenance hangars and/or the fire station located at an airfield.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure for the temporary storage of waste POL products until they can be processed and/or properly disposed of. Generally, these tanks are of much smaller capacity than other operational fuel storage tanks.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

None.

#### Proponent:

- DCS, G-4

#### Complex:

- None

#### Units of Measure:

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A structure provided for the retention of hazardous waste materials until such a time as the waste is determined to be no longer hazardous and can be disposed of. It does not include a building to house the equipment and associated activities (use 89133, Refuse and Garbage Building).

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = GA
- Secondary UM = None
- FAC UM = GA

### 4. See Also

None.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

A facility for raising and lowering traffic between stretches of water of different levels on river and canal waterways. The distinguishing feature of a lock is a fixed chamber whose water level can be varied.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility for raising and lowering traffic between stretches of water of different levels on river and canal waterways. The distinguishing feature of a lock is a fixed chamber whose water level can be varied.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility of erosion-resistant material placed parallel to the shoreline and directly on an existing slope, embankment, or dike to protect the area from waves and strong currents, and to control the meandering of a waterway.

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = LF
- Secondary UM = EA
- FAC UM = LF

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility used to maintain up-drift beaches, or to restrict long-shore sediment transport. These facilities are generally aligned perpendicular to the shore for the purpose of protecting the shoreline and the adjacent upland by influencing the movement of water and/or the transport of materials.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = EA
- FAC UM = LF

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A floodway control and diversion structure to provide for the release of floodwaters where discharges exceed the capacity of the stream. This CATCD includes diversion dams, gated or ungated discharge structures, training walls, stilling basins, and the pumping plants to move accumulated drainage water, seepage water, and sewage from the protected area.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

A facility consisting of embankments and walls to protect areas from inundation by overflow from bodies of water. This CATCD includes the closure structures, seepage-control measures, erosion protection for integral levees and berms, and the pumping plants to move accumulated drainage water, seepage water, and sewage from the protected are.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = LF
- Secondary UM = EA
- FAC UM = LF

### 4. See Also

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

A facility consisting of runs, ladders, locks, and other related components for the passage of fish at dams and navigation locks.

**2. Criteria**

The Army has not established planning criteria for this facility category code. RPLANS sets allowances equal to assets for this facility category code.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 880xx, 881xx, 882xx, and 883xx for related facility category codes.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = EA
- Secondary UM = None
- FAC UM = EA

**Planning Level:**

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of real property by the federal government through payment of fair market value compensation. Condemnation is the appropriation of property for the public good through judicial proceedings and the payment of fair market value compensation.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate by the Army from an individual or organization at no cost.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of real estate by the Army from the Air Force or Navy at fair market value compensation.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate from the Air Force or Navy at no cost to the Army.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of real estate by the Army from federal agencies other than the Air Force or Navy at fair market value compensation.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate from federal agencies other than the Air Force or Navy at no cost to the Army.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate intended for future use by the military.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Public domain land held back from the public for use by or the benefit of the Army by reservation, withdrawal, or other restriction for a special governmental purpose.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by the Department of the Interior to use public domain land.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by the Air Force or Navy to use public domain land.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by an agency other than the Air Force, Navy, or Department of the Interior to use public domain land.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by the Air Force or Navy to conduct specific activities on land not in the public domain.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by an agency other than the Air Force or Navy to conduct specific activities on land not in the public domain.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted by the owner to conduct specific activities on private property or state-owned property.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Temporary authority granted to the Army to conduct maneuver exercises on specified tracts of land. This pertains typically to maneuver rights granted to the Army on national forest lands adjacent to the Army installation.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Public land, territory, or possession acquired for temporary or long-term use by executive order, permits, or other means.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real property by the state government through payment of fair market value compensation. Condemnation is the appropriation of property for the public good through judicial proceedings and the payment of fair market value compensation.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate by the state from an individual or organization at no cost.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate by the state from the DOD/Services at fair market value compensation.

Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of real estate by the state from the DOD/Services at no cost.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

# PURCHASED LAND TRANSFER FROM OTHER FEDERAL AGENCIES TO STATE 91540

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## 1. DA Pam 415-28 Description / Definition

The acquisition of real estate by the state from non-DOD federal agencies at fair market value.

## 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

## 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

## 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

### Proponent:

- ACSIM Facilities

### Complex:

- None

### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of real estate by the state from non-DOD federal agencies at no cost.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site  
Planning, Special Instructions, Exceptions and  
References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition by the state of real estate intended for future use by the National Guard.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Purchase is the acquisition of an easement by the Army through payment of fair market value. Condemnation is the acquisition of an easement by the Army for the public good through judicial procedures.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of an easement at no cost to the Army.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Easements such as clearance, utility, access, obstruction, navigation, restrictive, and right-of-way that are held back by the owner while disposing of the primary real estate.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of an easement by the Army from the Air Force or Navy at fair market value.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of an easement from the Air Force or Navy at no cost to the Army.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The acquisition of an easement by the Army from a federal agency other than the Air Force or Navy at fair market value compensation.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

The acquisition of an easement from a federal agency other than the Air Force or Navy at no cost to the Army.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Land leased by the Army for a definite period of time, either directly from the owner or indirectly under contract with the host nation.

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Land leased by the state directly from the owner for use by the ARNG for a definite period of time.

**Proponent:**

- ACSIM Facilities

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Land acquired by a treaty between the U.S. government and a host-nation government setting forth the terms under which U.S. military installations are established and maintained in a foreign country.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Planning Level:**

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

An agreement between the U.S. government and a host-nation government to acquire or grant Army-controlled land in a foreign country on a reciprocal, area-for-area basis.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

### 4. See Also

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

#### Planning Level:

- Other-than-unit

**1. DA Pam 415-28 Description / Definition**

Land requisitioned for Army use in a foreign country.

**2. Criteria**

The Army has not established planning criteria for this facility category and does not calculate allowances for it in RPLANS. The installation inventories this facility category code for reporting in the RPI.

**3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References**

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**4. See Also**

See 911xx, 91210, 913xx, 91410, 915xx, 921xx, 922xx, and 923xx for related facility category codes.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = AC
- Secondary UM = None
- FAC UM = AC

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The removal of that natural vegetation that is considered an obstruction to the development plan. Grading is the changing of the form of the land. This CATCD is to be used only for programming, not for inventory purposes.

**Proponent:**

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

**Complex:**

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

**Planning Level:**

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The planting of shrubs, bushes, trees, grasses, and the like to improve environmental quality and/or minimize maintenance requirements. This CATCD is to be used only for programming, not for inventory purposes.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code.

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Carefully formed and compacted earth used for special design effects such as screening and noise barriers, or to add interest to flat terrain. Berms may also be used to intercept and divert ground water runoff in order to prevent harmful erosion. This CATCD is to be used only for programming, not for inventory purposes.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Operations performed at cost to the government to maintain installation grounds (mowing, lawn seeding, and so on). This code is provided to track costs associated with this operation and should not be used for inventory purposes.

#### Proponent:

- ACSIM Facilities

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

#### Complex:

- None

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

The razing of structures and other obstructions, and the subsequent removal of debris in order to restore the site to useable condition. This CATCD is not to be used for inventory purposes, only for programming and disposal.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established facility utilization metrics for this facility category code.

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

On a slope, the removal of soil up-slope (cut) and its placement down-slope (fill) in order to create a more level area between the cut and fill on which to build. This CATCD is not to be used for inventory purposes, but for programming only.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS. This CATCD is used only for programming, and is not found in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 932xx, 93310, 93410, and 940xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit



### 1. DA Pam 415-28 Description / Definition

Land, excluding impact areas, that has been contaminated in some manner that makes the land currently unavailable for use but that could be remediated to become available for certain Army uses. Do not use the acres in this category to determine total installation acreage. Use this category only to identify these lands for environmental tracking purposes. Only Primary UM is provided because such facilities are not normally programmed.

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 932xx, 93310, 93410 and 940xx for related facility category codes.

#### Proponent:

- ACSIM Facilities

#### Complex:

- None

#### Units of Measure:

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

#### Planning Level:

- Other-than-unit

### 1. DA Pam 415-28 Description / Definition

Contaminated land below the surface of the ground usually resulting from a limited depth transfer of land that comprises the whole or part of a military installation owned in title by the U.S. government. Use this category when the receiving party does not accept any Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability for cleanup and only the surface of the land is transferred from the U.S. government. The land below a specified depth remains owned by the U.S. government, along with the CERCLA liability for cleanup. Such land is currently unavailable for use, and when remediated to a standard clean enough to transfer, would generally be transferred to the owner of the surface land above. Do not use the acres in this category to determine total installation acreage. Use this category only to identify these lands for environmental tracking purposes. Only one Primary UM is provided because the Army does not program facilities in this category. Land in this “below the surface” category is normally outgranted to the owner of the land above.

**Proponent:**

- ACSIM Facilities

**Complex:**

- None

**Units of Measure:**

- Primary UM = NA
- Secondary UM = None
- FAC UM = NA

**Planning Level:**

- Other-than-unit

### 2. Criteria

The Army has not established planning criteria for this facility category, and does not calculate allowances for it in RPLANS.

### 3. Planning, Programming, Land Use and Site Planning, Special Instructions, Exceptions and References

This category code does not have unique considerations under the above headings. The Army has not established space planning criteria or space utilization metrics for this facility category code.

### 4. See Also

See 932xx, 93310, 93410 and 940xx for related facility category codes.



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