

**TECHNICAL MANUAL**

**ARMY FACILITIES  
COMPONENTS  
SYSTEM-PLANNING  
(TROPICAL)**

**ARMY FACILITIES COMPONENTS SYSTEM-PLANNING  
(TROPICAL)**

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\*This manual supersedes TM 5-301-2, 1 March 1982.

## CHAPTER 1 INTRODUCTION

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### 1-1. Purpose

The purpose of this manual is to provide material costs, logistical, and engineering data for use in planning construction support for Army functions in the Theater of Operations (TO). The manual is part of the Army Facilities Components System (AFCS), and it is intended to use by:

a. Contingency, base development, construction, and logistical planners. When data are used in base development planning, the user is advised to refer to FM 31-82, Base Development Planning.

b. Construction units, because it contains the engineering data required for construction of the various structures, facilities, installations, and utilities required by the Army and Air Force to support military missions in the TO.

c. Logistical commands and supply agencies in requisitioning, identifying items, costing, and other related supply functions.

### 1-2. Scope

This manual contains summary listings of installations (generally referred to as planning tables), facilities and Prepackaged Expendable Contingency Supplies (PECS). The manual is divided into four volumes, one for each of the climatic zones in the AFCS. The summaries include cost, shipping weight, and volume of construction material. In addition, man-hour estimates to construct each facility and installation, minimum real estate requirements for installations, and the utility requirements for facilities and installations are included in this manual.

### 1-3. Related Publications

The AFCS consists of a series of four Department of the Army Technical Manuals. This manual (series is published in four volumes, one for each climatic zone), plus three accompanying publications indicated as follows: a. TM 5302, "Army Facilities Components System-Designs." This multi-volume manual contains installation layouts, facility drawings, construction details and materials lists for the AFCS. The manual is of primary interest to the construction unit performing actual construction of Army components in theaters of operations.

b. TM 5-303, "Army Facilities Components System-Logistic Data and Bills of Materials." This manual is used by planners, builders and suppliers in the identification of items in the bills of materials associated with specific facilities. Each item in a facility is identified by a National Stock Number (NSN), abbreviated description, unit of issue, and quantity. The material cost, shipping weight, volume and estimated construction effort in man-hours are shown in the facility description.

c. TM 5-304, "Army Facilities Components System User Guide." This manual provides users with a single source of reference and information concerning the operation of the system, available system products, and example problems demonstrating the use of the system.

### 1-4. Training

Information contained in the AFCS provides commanders at all levels with sufficient information to plan facilities construction training exercises. Cost and quantity of materials, NSNs, man-hours, and construction drawings are provided in such a manner as to permit unit commanders the flexibility of selecting facilities which, if constructed, would exercise individual military occupational specialties, unit construction planning, organization, and management. Construction times reflected in TM 5-3011 through TM 5301-4 and TM5-303 are optimal times to accomplish tasks and will serve as an initial planning guide. TM 5-304 provides tables of engineer unit capabilities. A unit that can accomplish tasks within the man-hours shown in the TMs should consider itself proficient in its skills, planning, organization and management. Materials required to construct facilities contained in the AFCS are not normally available as training sets and must be procured under appropriate regulations. If the facility is constructed as an authorized construction project, it is subject to appropriate regulation governing troop construction.

### 1-5. Comments and Information Sources

The data for this manual are maintained by the Office of the Chief of Engineers and are available in printouts, magnetic tape or microfiche. Cost data are updated quarterly and can be obtained from Huntsville Division, US Army Corps

of Engineers. All correspondence and requests for technical assistance, drawings and information regarding the AFCS system should be forwarded to either:

US Army Corps of Engineers  
Huntsville Division  
ATTN: HNDED-FD  
PO Box 1600  
Huntsville, AL 35807-4301  
or  
HQDA (DAEN-ZCM)  
WASH DC 20310-2600

Users of the AFCS are encouraged to submit comments, corrections and recommendations for improvement or revision directly to HQDA

(DAEN-ZCM), WASH DC 23010. Comments should refer to the specific facility or installation. The reason for each comment or recommendation should be given to ensure proper understanding and evaluation.

**1-6. Responsibilities**

The Chief of Engineers is responsible for the continuous review and updating of this publication to include coordination with DA staff agencies, oversea commands and other users that are affected by construction for contingency operations. Responsibilities of the Chief of Engineers and other agencies or commands are more specifically stated in AR 415-16.

## CHAPTER 2

### EXPLANATION OF THE TERMINOLOGY AND AFCS DATA

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#### 2-1. Army Facilities Components System (AFCS)

The AFCS is a tool used to assist military planners, supply agencies, and construction personnel at all levels that have a role in Army construction in theaters of operations. The AFCS uses a building block concept to permit maximum flexibility. The building blocks are items, subfacilities, facilities, and installations.

**2-2. Building Blocks** TM 5-304 provides a complete discussion of the building block concept and explains other terminology in the AFCS system. The building blocks are discussed briefly below:

a. **Item.** An item is any construction material or equipment that makes up a larger product. Each item has an associated National Stock Number, description, unit of issue, and quantity. The quantities used include an allowance for material wastage and loss.

b. **Facility and Subfacility.** A facility is a group of items designed to provide a service. Users should therefore carefully read the facility descriptions to ensure that all components necessary to build the desired structure are ordered. A Subfacility differs from a facility only in its use in TM 5-303. The purpose of a Subfacility is to reduce the repetitive listing of a facility's construction materials. Users should also be aware that components of some facilities (roads, hardstands and bridges) are separated into two Subfacility groupings to widen the selections in meeting actual field conditions.

c. **Installation.** An installation is a group of facilities designed to provide a specific service or support to some military function in a TO.

d. **Component.** "Component" is a generic term sometimes used to refer to any facility or installation contained in the AFCS.

**2-3. Planning Table** "Planning Table" is a term that is used to refer to the printed installations as explained in Chapter 3.

#### 2-4. Design Criteria

a. Design criteria are shown on the construction drawings in TM 5-302 when considered beneficial in adapting AFCS designs to actual

site conditions. Also, Chapter 2 or TM 5-302 provides additional design and construction considerations.

b. The facilities in the system are designed to operate in one or more of four climatic zones. The four climatic zones are:

(1) *Temperate Zone.* The geographical areas in which mean annual temperatures are between + 30°F and + 70°F as identified by isothermal lines.

(2) *Frigid Zone.* The geographical areas in which mean annual temperatures are lower than + 30°F as identified by isothermal lines.

(3) *Tropical Zone.* The geographical areas in which mean annual temperatures are higher than + 70°F as identified by isothermal lines.

(4) *Desert Zone.* The geographical areas which are arid and without vegetation.

#### 2-5. Construction Standards

Standards of construction are identified for the purpose of managing construction resources. The availability of resources, the operational plans and the using unit's mission will dictate the standards of construction to be used in theaters of operation. JCS Publication No. 3 sets forth the standards of construction that are applicable in a theater of operation. The standards are based primarily on the duration of the contingency and previously were defined as follows: initial (INT)-06 months, intermediate (ITR)6 to 24 months, and temporary (TPR)-24 to 60 months. Current JCS Publication No. 3 doctrine refines the construction standards as initial (06 months) and temporary (6-24 months). The 24 to 60 months standard has been deleted. Installations and some facilities listed in the AFCS are identified by a corresponding construction standard. In most cases, facilities contained in the AFCS fall into the temporary standards. The nature of materials used in construction of the AFCS facilities and the structural aspects of the designs are such that the life of facilities will normally exceed 2 years when appropriate maintenance is performed.

#### 2-6. Building Structures

The AFCS views building structures as being composed of three basic types: disposable (woodframe, block, concrete or any other construction material that is formed on the site,

and which has little or no salvage value); preengineered relocatable (panelized buildings, tents or any other structure that has an 85 percent recoverability); and mobile (containerized buildings or any other structure that can be moved and erected frequently with little construction effort required, i.e., the MUST Hospital). The AFCS allows for the range of these basic types to permit commanders the option of selecting the facility that best suits available construction effort, mission requirements, and availability of materials. Few mobile facilities other than tents are presently contained in AFCS; however, priority for future designs has been given to the initial mobile-type facilities where feasible.

**2-7. Construction Effort**

The construction effort in man-hours required for engineer troop units to erect or construct

each facility and installation has been estimated and is shown in this manual. The construction estimates are based on the use of standard construction practices and procedures. The estimates include neither effort of administration, mobilization, and planning, nor effort lost because of weather delays. Estimates of actual working time required for the task was obtained by assuming the use of skilled personnel in the temperate zone. Estimates for other climatic zones were obtained by applying the following adjustment factors:

Tropical .....	1.45
Desert.....	1.25
Frigid .....	2.41

Additional information on labor categories, operational conditions and engineer unit capabilities is provided in TM 5-304.

## CHAPTER 3 EXPLANATION OF PLANNING TABLES (INSTALLATIONS)

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### 3-1. Arrangement of Planning Tables

"Planning table" is the term used for data published in this manual as AFCS installations. The paragraphs that follow explain the parts of a planning table.

### 3-2. Installation Number

Installations are shown in ascending order according to the installation number in the upper right-hand corner, which consists of two alpha and four numeric characters. The number is used to identify the complete bill of materials required to construct that installation. This number also identifies the corresponding construction drawing in TM 5-302.

### 3-3. Installation Description

The installation description appears in the upper left-hand corner, and includes the title, climatic zone, standard and type of construction, purpose, minimum real estate requirements, and utility and aggregate requirements. The following items are contained in the planning tables:

a. **Aggregate Requirements.** Aggregate cannot be requisitioned from the bills of materials. It is assumed to be available within 5 miles of the construction site.

b. **Utility and Road Requirements.** Installation requirements include roads, fences, water treatment, sewage treatment, and electrical generation. Facilities providing these requirements are generally not automatically included in the installation. Several installations may be grouped into a complex, with the additional supporting requirements computed for the total complex. The user should carefully review the supporting facilities included in the installation planning table, use the TM 5-302 drawing and TM 5-303 bill of materials for additional information, and augment the listing of the additional required facilities. Also, appropriate adjustments should be made to the utility sizes and quantities where site plans are changed to

accommodate actual field conditions, topography changes, and dispersal requirements.

c. **Facility Number.** Shows the five numeric and two alpha characters that identify each AFCS facility.

d. **Facility Description.** Provides a short description of the facilities included in the installation.

e. **Size or Unit.** Gives dimensions, capacity or unit of measure for each facility in the installation.

f. **Basis.** Gives the criteria or standard planning basis upon which facilities are included in the installation.

g. **Quantity Required.** Indicates the actual quantity of a particular facility included in the installation.

h. **Material.** Display the total material logistic and cost data associated with the number of facilities in the "Quantity Required" column. The column with the heading "WT-ST" gives the weight of the material to include packaging materials in short tons (2,000 pounds). The column with the heading "VOL-MT" gives the shipping volume to include packaging materials in measurement tons (40 cubic feet). The cost of the material is shown to the nearest dollar in the "COST" column. The material costs are current as of the listed date. Appropriate inflation factors should be added if data shown is more than 6 months old and a more precise cost is required. CONUS material costs are the only costs shown in AFCS.

i. **Construction Man-hours.** Display the estimated horizontal, vertical, and general construction man-hours for construction by engineer troop units.

j. **Installation Totals.** The material logistic and cost data and construction effort totals are shown at the end of each table. It should be noted that the costs listed are CONUS material costs only and are current only at the time of publication and thus may be somewhat outdated.

**CHAPTER 4**  
**EXPLANATION OF FACILITY PLANNING TABLES**

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**4-1. Arrangement of Facility Planning Tables**

The facilities in the AFCS are identified with regard to their application in a theater of operations. The paragraphs that follow explain the parts of the facility planning table. A complete listing of facilities in numerical sequence is contained in Chapter 10.

**4-2. Facility Number**

The "Facility Number" column shows the five numeric and two alpha characters that identify each facility. The numbering system uses the entire facility number for the corresponding construction drawing in TM 5-302. It should be noted, however, that there is not a drawing for every facility.

**4-3. Facility Description**

The "Description" column contains a full description of each facility. TM 5-303 provides a

detailed bill of materials for each facility and TM 5-302 provides construction drawings and drawings for utilities (electric, sewage, and water).

**4-4. Materials Logistic and Cost Data**

The "Construction Material" columns display logistic and cost data associated with each facility. The weight in short tons (2000 lb) includes packing material. The shipping volume is given in measurement tons (40 cu ft). Costs are current as of the date of issue and reflect CONUS material costs only.

**4-5. Construction Man-hours**

The "Construction Effort in Man-hours" columns give the estimated engineer troop unit effort for horizontal, vertical, and general skills. The total column represents the sum of these items.



**CHAPTER 5**  
**PREPACKAGED EXPENDABLE CONTINGENCY SUPPLIED (PECS)**  
**AND CONTAINERIZATION**

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**5-1. Purpose**

To assist engineer units in the planning and implementation of contingency plans, a series of cargo containers loaded with stylized engineer supplies was developed to meet normal mission requirements for limited periods or for minor repairs for extended periods when supplies are replaced based on demand experience. Also included as facilities are special bomb damage and repair kits. A matrix of bomb damage and repair facilities will be added to TM 5-304.

**5-2. Description and Use**

Each container is reflected as a separate facility within the AFCS, which allows its requisition as an independent supply kit and permits the requester to obtain as many kits as needed to meet the assigned requirements. The unit commander can also procure a set of kits/facilities which are reflected as installations in the AFCS and are designed to provide a minimum of expendable materials to accomplish the specific engineer tasks. Again, the commander has the option of requesting the number of installations

required. An item consumed from the container can be requisitioned and replaced as separate items since each carries its own NSN. When requisitioning a facility or installation, commanders/requesters should check the size of the shipping/storage container ordered to ensure that proper transportation is available upon delivery of the kits. There are two types of military containers: the TRICON (8 x 8 x 63 feet) and the MILVAN (8 x 8 x 20 feet). The TRICON has a maximum payload of 13,000 pounds, a tare weight of 1,880 pounds, and approximate interior dimensions of 90 x 85 x 73.5 inches. The MILVAN has a maximum payload of 40,000 pounds, a tare weight of 4,700 pounds and approximate interior dimensions of 92 x 87 x 231 inches. The containers are equipped with standard fittings allowing movement by a variety of material handling equipment. In groups of three, the TRICONS form an 8 x 8 x 20 container compatible with the commercial container system. Common commercial containers vary in size up to 8 x 9 x 40 feet with a maximum payload of 60,900 pounds, and a tare weight of 6,300 pounds. The weight of each facility (without container) can be found in TM 5-303.

## CHAPTER 6 SUPPLY PROCEDURES

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### **6-1. General**

The US Army Materiel Command (AMC) is responsible for developing supply procedures, policies and command guidance necessary to fund, procure, store and ship materiel listed in the Army Facilities Components System. AMC responsibility is set forth in AR 415-16. The focal points within AMC for the Army Facilities Components System and their responsibilities are briefly explained in paragraphs 6-2 and 6-3 below.

### **6-2. The Directorate of Materiel Management**

The Directorate of Materiel Management, Associate Director for Evaluation, Headquarters, US Army Materiel Command (ATTN: AMCMME), Alexandria, VA 22304, is responsible for coordinating AMC activities and interests pertaining to the AFCS. This coordination embraces materiel development, procurement policies, employment support and other related matters.

The Associate Director for Evaluation ensures that AMC can support the demands for construction materiel at the onset of an emergency and thereafter as required.

### **6-3. US Army Troop Support Command (TROSCOM)**

The Command, TROSCOM (ATTN: AMSTRSPRA), 4300 Goodfellow Boulevard, St. Louis, MO 63120 is the central point within the Continental United States (CONUS) for the inclusion of items in the Federal Supply System and the acquisition and supply of items in the AFCS.

### **6-4. Requisition and Supply Procedures**

Requisition and supply procedures, methods, process and interrelationships are contained in chapter 5 of TM 5-304, AFCS User Guide. Every effort should be made to acquire facility construction materials from a source as close to the construction site as possible before requisitioning through the supply system.

## CHAPTER 7 CAMOUFLAGE

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### **7-1. Treatment of Camouflage in the AFCS**

The AFCS does not include a separate camouflage facility for each structure. Rather, descriptive information and tables are included which will allow the planner to extract the necessary materials for a particular task. However, in accomplishing a camouflage requirement, it should be noted that successful camouflage techniques require imaginative use of not only the issued materials but also such artificial and natural materials as are locally available. These would include such items as cut foliage, earth, wire screening and other disrupters. The proper sit-

ing and dispersal of facilities with respect to existing natural or manmade terrain patterns will lessen the need for artificial camouflage. A complete coverage of camouflage techniques and the doctrine and techniques of camouflage practice are contained in FM 520, Camouflage, and TM 5200, Camouflage Materials.

### **7-2. Camouflage Principles, Methods and Materials**

Discussion of camouflage principles, methods, and materials is contained in Appendix D of TM 5-304.

## CHAPTER 8 UTILIZATION OF TM 5-301

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### 8-1. Planning

The importance of the planning phase of any undertaking cannot be overemphasized. This is certainly true in providing construction support for the Army in a theater of operations. The construction requirements fluctuate because of national policies, contingency plans, escalation or de-escalation of operations, geographical locations and conditions, and availability of resources.

The facilities and installations in the AFCS have been developed to satisfy many of the Army's construction requirements in accordance with criteria contained in JCS Publication No. 3. The requirements of the AFCS components are provided by major Army commands and elements of the DA staff. Approval of requirements is received from proponent elements of the DA staff per AR 415-16. For example, The Surgeon General established the requirements for and approved the medical components in the AFCS.

The AFCS components are continually updated to ensure adherence to current doctrine and actual field requirements. A range of construction materials is used in developing the components so that planners and users have the flexibility to select those components that best meet their requirements and resources. The resources consist of personnel, transportation, construction materials and equipment.

Planning for construction support of an Army operation should include the following steps as a minimum:

a. Provide contingency or operational plans to determine the scope of construction requirements. Coordinate with technical and administrative staff elements to determine their facility and installation requirements in the theater.

b. Evaluate intelligence data and other information to determine the number and type of existing facilities and installations that are required. This evaluation should include the availability of utilities (water, electric power and sewage treatment) and the availability of construction materials within the theater. The base development process is described in FM 31-82.

c. Determine the standards of construction to be used for the facilities and installations based on the operation duration, military objectives and availability of resources.

d. Select the AFCS facilities and installations necessary to satisfy the construction requirements. This selection should exclude the requirements that can be met with indigenous resources. In his selection, the planner should include allowances for facilities that may be damaged, such as blown bridges and railroad tracks. A matrix of damage and repair facilities (Kits) is being added to the next change to TM 5-304. Those repair kits are included in this manual and TM 5-303.

e. Evaluation manpower resources to determine whether US contractors, troop units, local contractors and self-help programs are to be used in construction work. Review Prepackaged Expendable Contingency Supplies (PECS) as necessary to determine what expendable construction supplies are required by engineer units in support of minor repair requirements that do not warrant a requisitional facility.

f. Determine the real estate requirements and initiate actions for the acquisition of the real estate.

g. Estimate the construction effort, cost of construction materials, and logistical data for transporting the materials. Add the overseas transportation costs to the material costs shown in this manual if the total cost of materials to be delivered to the theater is required. Also add local labor and material costs, if appropriate.

h. Requisition the construction materials and identify long-lead-time procurement items so that construction tasks will not be unnecessarily delayed.

i. Establish a management-control system such as Critical Path Method (CPM) techniques to keep construction tasks on schedule.

### 8-2. Example Problems

Several example problems demonstrating the use of AFCS to both engineer and non-engineer users is contained in Chapter 4 of TM 5-304.

**CHAPTER 9  
LISTING OF INSTALLATIONS**

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**9-1. Index of Installations**

<i>Description</i>	<i>Category</i>
Administration.....	AA
Airfield and Heliports .....	AG
Camp, PW .....	PW
Camp, Troop .....	NT
Hospital.....	GH
Maintenance, Vehicle .....	MT
Marine, Railway Repair.....	FP
Marine, Terminal POL .....	PA
Medical Depots.....	GH
Ordnance, Armament Rebuild Ship, Parks & Collection Point.....	JA
PECS (Containerized Supplies) .....	YY
Precast Parts Yard (Concrete, Panelized Wood and Steel).....	PY
POL Fuel Drum Cleaning, Filling and Storage .....	PB
POL Pipeline.....	PD
POL Tactical Marine Terminal.....	PF
POL Tank Farm, Bulk Storage .....	PB
POL Tank Farm, Complex .....	PC
POL Tank Truck/Car Loading/Unloading .....	PE
Port, Break-Bulk Cargo .....	FP
Post Office .....	AP
Railroad, Regulating Station.....	FR
Railroad, Terminal .....	FT
Recreational Center.....	AR
Storage, Ammunition.....	DA
Signal Intelligence .....	CC
Storage, Dry Cargo.....	DC

**9-2. Listing of Installations In Category Number Sequence**

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TROPIC CLIMATE

HELIPORT, ARMY, MIN REQTS FOR 25 AIRCRAFT, 1 UH-1H AND 24 CH-47C OF THE TRANSP. CO., HELICOPTER MEDIUM, INSTALLATION DWG SHEET 7 OF 65, INITIAL STD, SUPPORT AREA, GRADED AND DRAINED, SURFACING HEAVY DUTY MEMBRANE, PERSONNEL FACIL-ORGANIC TOE EQPT, REAL ESTATE REQD FOR INST-1J4 ACRES, REQD FROM LOCAL SOURCE---COARSE AGGR, 1743 CY, FINE AGGR, 1472 CY, MINERAL FILLER, 658 CY, COMBAT BN CONSTR

AG0132

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY REQUIRED	MATERIALS			CONSTR EFFORT IN MANHOURS			
					WT-ST	VOL-MT	COST	HORZ	VERT	GENL	TOT
111120AA	RUNWAY W/25 FT SHOULDERS, 450 X 60		CH-54 AIRCRAFT	1.0	21	10	45603	409		218	627
111120AB	RUNWAY LENGTH CORRECTION, 100 X 60		TEMP AND ALT	.0							
111120AC	RUNWAY OVERRUN, 100 X 110 FT		CH-54 AIRCRAFT	2.0	6	4	4184	180		52	232
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				679		435	1114
111120AE	CLEAR AREA, 1000 SY			160.0	320	160	167360	9744		3944	13688
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	1.2	38	34	33014	686		214	900
111210AB	TAXIWAY W/25 FT SHOULDERS, 2000 X 40		CH-54 AIRCRAFT	5.2	426	161	864848	7864		4117	11981
111320AB	PARKING PAD, 4EA 20 X 20 FT		UH-1 AIRCRAFT	.3		1	1967	9		4	13
111320AC	PARKING PAD, 2EA 50 X 25 FT		CH-47 AIRCRAFT	12.0	12	36	78660	626		209	835
111370AB	AIRCRAFT WASHING APRON, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	25		9	34
111371AB	DEFUEL/DECONTN APR, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	25		9	34
111380AA	AC LOADING APR, 2EA 50 X 25 FT		CH-47 AIRCRAFT	2.0	2	6	13110	70		35	105
111610AA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	1	3	6527	35		17	52
112110AA	HOT REFUELING PAD, 2EA 50 X 25 FT		3/INSTALLATION	1.5	2	5	9833	52		26	78
12110AH	SUPPORT ACFT REFUELING 30000 G STOR		5 DAY SUPPLY	2.0	16	40	131052	441	336	928	1705
12110AJ	FUEL STORAGE AUGMENTATION 50000 GAL		5 DAY SUPPLY	1.0	5	5	16865	93	81	186	360
113315AA	AC CONTROL STATION, 20 X 20 FT		1/INSTALLATION	1.0	3	2	15	9		1	10
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304		3	3	6
114111AA	FIRE AND RESCUE STATION, 20 X 20 FT		1/INSTALLATION	1.0	3	2	15	9		1	10
142183AB	AMMUNITION STORAGE, 2500SF			1.0				4		3	7
85110CK	ROAD PAVEMENT, CLASS C, 6IN STBL 1MI		PROVIDE ACCESS	2.2	1472	994	7359	485		140	625
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.3	30	20	150	12		4	16
85130KH	ROAD, CLASS C, GRADED AND DRAINED 1MI		PROVIDE ACCESS	2.2	26	13	15297	5589		2038	7627
85210AY	HARDSTAND GRADED AND DRAINED 1000SY		AS REQUIRED	.3	2	1	1321	94		33	127
187120AA	DRAINAGE HELIPORT, 24 ACRES		1 IN./HR	1.0				67		49	116
					2387	1503	1410480	27207	420	12675	40302

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HELIPORT, ARMY, MIN REQTS FOR 25 AIRCRAFT, 1 UH-1H AND 24 CH-47C OF THE TRANSP. CO., HELICOPTER MEDIUM INSTALLATION DWG SHEETS BAND 9 OF 65, INITIAL STANDARD SUPPORT AREA, GRADED AND DRAINED, SURFACING M8A1 LANDING MAT, PERSONNEL FACIL-TROOP CAMP INST NO NT1421, REAL ESTATE REQ FOR INST-123 ACRES, REQD FROM LOCAL SOURCE---COARSE AGGR, 1584 CY, FINE AGGR, 1338 CY, MINERAL FILLER, 598 CY, COMBAT BN CONSTR

AG0232

FAC NUMBER	FACILITY DESCRIPTION	SIZE OR UNIT	BASIS	QUANTITY REQUIRED	MATERIALS			CONSTR EFFORT		IN MANHOURS	
					WT-ST	VOL-MT	COST	HORZ	VERT	GENL	TOT
111120AC	RUNWAY OVERRUN, 100 X 110 FT		CH-54 AIRCRAFT	2.0	6	4	4184	180		52	232
111120AD	APPROACH-DEPARTURE, 1500X250-850 FT		CH-54 AIRCRAFT	4.0				679		435	1114
111120AE	CLEAR AREA, 1000 SY			167.0	334	167	174682	10170		4117	14287
111120BA	RUNWAY W/25 FT SHOULDERS, 450 X 60		CH-54 AIRCRAFT	1.0	131	77	73348	431		413	844
111120BC	RUNWAY LENGTH CORRECTION, 100 X 60		TEMP AND ALT	.0							
111141AA	TAXI-HOVERLANE, 450 X 180 FT		CH-54 AIRCRAFT	1.2	38	34	33014	686		214	900
111210AB	TAXIWAY W/25 FT SHOULDERS, 2000 X 40		CH-54 AIRCRAFT	.2	16	6	33263	302		158	460
111210BB	TAXIWAY W/25 FT SHOULDERS, 1000 X 40		CH-54 AIRCRAFT	10.2	2234	1265	1306457	8105		7853	15958
111320BB	PARKING PAD, 4EA 20 X 20 FT		UH-1 AIRCRAFT	.3	3	2	2580	8		8	16
111320BC	PARKING PAD, 10EA 50 X 25 FT		CH-47 AIRCRAFT	2.4	173	125	117766	515		519	1034
111340BD	HANGAR ACCESS, 335 X 100 FT			1.0	147	108	104844	331		618	949
111370AB	AIRCRAFT WASHING APRON, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	25		9	34
111371AB	DEFUEL/DECONTN APR, 50 X 25 FT		1/INSTALLATION	1.0	1	3	6498	25		9	34
111380BB	AC LOADING APR, 4EA 50 X 25 FT		CH-47 AIRCRAFT	1.0	29	21	19627	73		73	146
111610AA	COMPASS SWING BASE, 50 X 50 FT		1/INSTALLATION	1.0	1	3	6527	35		17	52
112110BB	HOT REFUELING PAD, 2EA 50 X 25 FT		3/INSTALLATION	1.5	21	15	14721	54		54	108
12530AL	PUMP STATION FUEL SUPPLY, POL, FOR	4-UNIT		1.0	1	1	1246	12	75	29	116
12630AA	LDG FACIL FOR TWO FUEL TRUCKS	2-STATION		1.0	12	12	13862	218	471	1530	2219
113315BA	CONTROL TOWER LOW DENSITY TRAFFIC		1/INSTALLATION	1.0	16	21	4632	1	706	141	848
113470AA	WIND DIRECTION INDICATOR		1/INSTALLATION	1.0			304			3	6
14110BA	AFOPS BLDG 864SF PNL WD BDG W/ INT		1/INSTALLATION	1.0	27	33	18383	10	1399	1108	2517
114111BA	FIRE AND RSQ STA, FAC NO. 73010AC		1/INSTALLATION	1.0	192	283	39238	80	1173	216	1469
114910AR	AIRCRAFT REVETMENT, IMPROVED, UH-1D/H		UH-1 AIRCRAFT	1.0	15	12	3919		77	129	206
114910AT	AIRCRAFT REVETMENT, IMPROVED, CH-47		CH-47 AIRCRAFT	24.0	504	384	132096		2749	4002	6751
121110BB	ORG MNT HANGAR, 105 X 112 FT		CH-47 AIRCRAFT	3.0	237	468	773025	740		1327	2067
141120BA	FLAMMABLE STORAGE, 12 X 24 FT			1.0	14	13	3322	1		1	2
41180AG	TANK, POL, 3000 BARREL, W/6 IN PIPE	3000 3BL	5 DAY SUPPLY	1.0	2	32	12538	131	450	305	886
142183BA	AMMUNITION STORAGE, 24 X 36 FT			1.0	25	27	17138	1		1	2
85110CK	ROAD PAVEMENT, CLASS C, 6IN STRL 1MI		PROVIDE ACCESS	2.0	1338	904	6690	441		128	569
85110DG	HARDSTAND, APR, TXWY, OR RNWY 1000SQYD		AS REQUIRED	.6	60	41	300	23		9	32
85130KH	ROAD, CLASS C, GRADED AND DRAINED 1MI		PROVIDE ACCESS	2.0	24	12	13906	5081		1853	6934
85210AY	HARDSTAND GRADED AND DRAINED 1000SY		AS REQUIRED	.6	4	2	2641	187		67	254
187120BA	DRAINAGE HELIPORT, 25 ACRES		1 IN./HR	1.0	32	36	22513	93		81	174
87210AD	CONCERTINA, TRIPLE TAPE TYP D 1000LF		SECUR FENCE	11.0	1287	770	21582	447		1786	2233
					6925	4884	2991344	29085	7103	27265	63453







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