



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT  
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WASHINGTON DC 20310-0600

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**AUG 13 2008**

MEMORANDUM FOR

Commanding General, US Army Corps of Engineers (CECG), 441 G St NW,  
Washington, DC 20314-1000  
Deputy Commanding General, Installation Management Command (IMCOM), 2511  
Jefferson Davis Highway, Arlington, VA 22202-3910

SUBJECT: Army Standard for the Tactical Equipment Maintenance Facility (TEMF)  
Complex

1. The enclosed Army Standard for TEMF Complexes is approved for implementation. The Army Standard applies to all Army Components. Only the Assistant Chief of Staff for Installation Management has authority to approve exceptions to this Standard. Waivers from the Army Standard must be approved in accordance with AR 420-1.
2. These Standards are mandatory for Military Construction projects in FY08 and beyond. Designs based on these Army Standards will be developed consistent with MILCON Transformation methodologies.
3. The co-chairs for Facilities Design Team (FDT) for the TEMF Complex are Mr. Andrew Chatman, DALO-MNF, e-mail: [andrew.chatman@hqda.army.mil](mailto:andrew.chatman@hqda.army.mil), comm: (703) 614-3875; and Mr. Claude Matsui, DAIM-ODO, e-mail: [claudio.matsui@hqda.army.mil](mailto:claudio.matsui@hqda.army.mil), comm: (703) 601-0391.
4. The FDT POC at the USACE Center of Standardization for the TEMF Complex is Mr. Tom Brockbank, CESAS-EN, e-mail: [thomas.r.brockbank@usace.army.mil](mailto:thomas.r.brockbank@usace.army.mil), comm: (912) 652-5212.

Enclosure  
as

A handwritten signature in black ink, appearing to read "R. Wilson".

ROBERT WILSON  
Lieutenant General, GS  
Assistant Chief of Staff  
for Installation Management



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## **Army Standard for Tactical Equipment Maintenance Facility Complexes (TEMF)**

**Description:** Tactical Equipment Maintenance Facilities (TEMF) complex for the maintenance, repair, deployment, mission planning/rehearsal, training, and sustainment of equipment assigned to a unit other than aircraft.

### **Applicability:**

- The TEMF Army Standard applies to the planning, design, and construction of all active Army Tables of Organization and Equipment (TOE) unit requirements worldwide.
- This Army Standard applies to Reserve Component TOEs when fielded as stand alone, dedicated TEMF facilities.
- Reserve Component application of criteria contained in this Army Standard for other than stand alone, dedicated TEMF facilities will be reviewed and approved for functional and operational requirements compliance and adequacy by the TEMF FDT prior to implementation.
- This Army Standard shall also apply equally to other Tables of Distribution and Allowance (TDA) TEMF not specifically cited above and shall be used to the maximum extent in order to maximize the benefits of standardization and preclude the need to develop a separate Army Standard for TDA application.
- Specific equipment Line Item Numbers and/or Military Occupational Specialties trigger select individual components that are comprised in a TEMF complex. In some cases, a specific TOE (e.g., Brigade Combat Team) will generate a series of TEMF facility components packaged specifically to meet common operational and functional requirements. In all of these instances, the primary source for determining authorized allowances is the Facility Planning System (FPS) contained in the Real Property Planning and Analysis System (RPLANS).

### **Waivers:**

- Only the Assistant Chief of Staff for Installation Management has authority to approve exceptions to the Army Standard.
- Waivers from Army Standards must be requested in accordance with the AR 420-1 and the Army Facilities Standardization Program Charter, latest edition.
- All waiver requests to this Army Standard require COS conflict resolution prior to submission by the Garrison Commander.
- Garrison Army Standard waiver request submissions must be received in sufficient time to allow the Facility Design Team to complete review and development of recommendations or courses of action for the Army Facilities Standardization Committee to consider prior to implementation into project design.
- All Headquarters, Department of the Army (HQDA) approved waivers shall be documented in installation master plans thereby serving as the installations modified standards for the facility type affected.

- Late submissions and/or project delays are NOT sufficient stand alone justification for accelerated review or other dispensation to meeting the Army Standard contained herein.

The Guidance section provides instructions and definitions necessary for the application of the mandatory requirements contained in the tabular section of the Army Standard. As such, they are used in conjunction with the Army Standard in order to ensure the intent and embedded functionality contained herein will meet the Army's mandatory requirements set forth by this standard.

### ARMY STANDARD

Item	Mandatory Criteria
Site Selection & Planning	<ol style="list-style-type: none"> <li>1. The TEMF shall be sited immediately adjacent to the Company Operations Facility (COF) Readiness Module with separation limited to not more than the width of the circulation roadway necessary to facilitate tactical vehicle traffic ingress/egress to the FCC 214 10 primary facility.</li> <li>2. When organic UAS are assigned to a battalion, the TEMF complex shall be immediately adjacent to the installation training area.</li> </ol>
Mission Planning and Physical Security; and Safety	Controlled access to the TEMF and tactical vehicles shall be established between COF admin and readiness modules and encompasses the TEMF perimeter including the organizational vehicle parking apron. When COF proximity to the TEMF is more than 250 feet separation between buildings, a means of establishing controlled access around the entire TEMF Complex perimeter will be developed.
TEMF Complex Footprint	<p>All TEMF maintenance facilities are based on a battalion or battalion equivalent organization.</p> <ol style="list-style-type: none"> <li>1. Brigade Combat Teams (BCT) TEMFs will be allocated as a part of the Brigade complex. It shall be planned on a footprint as a contiguous area for Brigade headquarters, Battalion headquarters, Company Operation Facilities, and TEMFs.</li> <li>2. Other Brigade-sized Units and Separate Battalions shall be planned on a contiguous battalion footprint Battalion headquarters, Company Operation Facilities, and TEMFs.</li> <li>3. Separate Companies and units without organic maintenance capabilities are not authorized dedicated TEMFs in their assigned footprint.</li> </ol>
Primary Facility Scope and Capacity (FCC 214 10)	<p>Battalion or battalion-equivalent TEMF primary facilities will <b>ONLY</b> be provided in one of the four sizes as determined by FPS (see <i>TEMF Complex Allocation</i> above, <i>Guidance Section</i> below for specific application and typical unit allocation):</p> <p style="margin-left: 40px;">Small – 18,000 SF  Medium – 35,290 SF  Large – 57,031 SF  Ex-Large – 74,688 SF</p>

	<p><b>Basis of Allocation:</b></p> <ul style="list-style-type: none"> <li>- Space allowance is quantified by FPS into one of the four standard sizes based on TOE/TDA authorization.</li> <li>- TEMF primary facility is sized based on the Forward Support Company (FSC) assigned from the Brigade Support Battalion (BSB) or equivalent maintenance capability within the organization.</li> </ul>
Work Bays (FCC 214 10)	<ol style="list-style-type: none"> <li>1. All TEMFs will use a 32' x 96' structural bay for repair and maintenance areas with repair bays perpendicular to quick turn-around maintenance &amp; inspection bays as stipulated in the <i>Guidance Section</i> below;</li> <li>2. All bays will have drive through (in/out) accessibility and free of intermediate support columns;</li> <li>3. One bay in each brigade maintenance &amp; repair battalion (or equivalent) TEMF will serve both unit and sustainment maintenance &amp; repair functions as stipulated in the <i>Guidance Section</i> below.</li> </ol>
Overhead Lift (FCC 214 10)	<p>All TEMF primary facilities shall provide overhead lift with accessibility to all Repair and Maintenance/Inspection Bay work areas.</p> <p><b>Basis of Allocation:</b></p> <ul style="list-style-type: none"> <li>- Provide one (1) 10-ton bridge crane covering all structural bays for Small and Medium primary facilities.</li> <li>- Provide one (1) 10-ton bridge crane per wing of maintenance/repair bays with more than 4 structural bays.</li> <li>- (All Brigade/Forward Support Battalion or equivalent maintenance capability) One (1) 35-ton bridge crane. A 10-ton crane can be added if a second wing of maintenance/repair bays is permitted for larger, split bay facilities (greater than 4 structural bays).</li> <li>- No more than one 35-ton bridge crane will be provided per brigade-sized unit or complex</li> </ul>
Admin Core Module (FCC 214 10 & 214 13)	<p>Admin &amp; shop control, tool storage, parts storage (shop stock), bench repair, arms vault, COMSEC vault, secure storage, training room, break room, latrines, and utility room functions will be consolidated in an Admin Core Module of the TEMF as stipulated in the <i>Guidance Section</i> below.</p> <p>All additional shop and/or administrative allowance increases to what is calculated by FPS allowance must be documented (e.g., Force Development Update not contained or included in FPS calculations) and approved by the Functional Proponent prior to inclusion in project scope.</p>
Power & Data Connectivity	Provide power and data connectivity to all bays, the Admin Core Module, and all organizational (tactical) vehicle parking pads (area) for command/control, mission planning/operations, and training support.
Brigade Logistics Support Team (BLST) (FCC 214 10)	Provide administrative space Not to Exceed (NTE) 870 NSF for the 12-man Brigade Logistics Support Team (BLST) in the core module of the primary structure.
Secure Storage	Provide minimum of 900 NSF of secure storage in each TEMF:

	<p>Basis of Allocation:</p> <ul style="list-style-type: none"> <li>- All TEMFs with less than 75 CSS vehicles assigned</li> </ul> <p style="margin-left: 40px;">300 NSF – Sensitive (e.g., Arms Room) Secure Storage 300 NSF – Communication Equipment Storage 300 NSF – Non-Sensitive Secure Storage</p> <ul style="list-style-type: none"> <li>- (CSS Units &gt;75 Vehicles) Additional space shall be determined NTE 50% of the number of assigned CSS wheeled vehicles X the appropriate weapon rack size for the weapons delineated by OTOE, TDA, and/or TDA Augmentation and as stipulated in the <i>Guidance Section</i> below</li> </ul>
Contractor Logistics Support	<p>Provide Contractor Logistics Support (CLS) space in all battalion-sized TEMFs based on FPS calculation of assigned maintenance personnel within the maintenance/repair unit (FSC or equivalent) as documented by approved OTOE, TDA, and/or TDA Augmentation documentation.</p> <p>Basis of Allocation:</p> <ul style="list-style-type: none"> <li>- (Baseline) Add NLT 12% of the assigned number of maintenance personnel within a battalion</li> <li>- (Sustainment Maintenance Units ONLY) Add NMT 15% of the assigned number of maintenance personnel within the brigade main support battalion primary facility.</li> </ul>
Tool Supply Allowance (FCC 214 10)	<ol style="list-style-type: none"> <li>1. Provide accommodations for daily operations and use (e.g., loading dock, personnel accessibility, circulation, and commercial power).</li> <li>2. Additional space exceeding the allowance for FCC 214 10 shall be justified by Army approval documentation as stipulated in the <i>Guidance Section</i> below.</li> </ol>
Daily Supply Allowance	<ol style="list-style-type: none"> <li>1. Provide accommodations for daily operations and use (e.g., loading dock, personnel accessibility, circulation, and commercial power).</li> <li>2. Additional space exceeding the allowance for FCC 214 10 shall be justified by Army approval documentation as stipulated in the <i>Guidance Section</i> below.</li> </ol>
Internal Wash Area (Limited) (FCC 214 10)	<ol style="list-style-type: none"> <li>1. Provide wash area for component equipment parts cleaning as stipulated in the <i>Guidance Section</i> below.</li> <li>2. At no time will the capacity for <i>limited vehicle spot washing</i> be sized to serve as a substitute for use of a Central Wash Facility.</li> </ol>
Vehicle Parking Apron (FCC 852 10)	<ol style="list-style-type: none"> <li>1. Organizational (tactical) Vehicle Parking Apron will be a contiguous concrete hardstand for all organizational (tactical) vehicle parking;</li> <li>2. Provide conduits for NIPR/SIPR telecommunications connectivity and power through underground pathways from the main building to the hardstand area.</li> </ol>
Unmanned Aircraft Systems (UAS) Maintenance (FCC 211 15)	<p>When UAS are assigned to the organization, provide a consolidated battalion storage and maintenance facility of NMT 1800 NSF for Class I &amp; II UAS (no larger than TUAV).</p>

Telecommunications	<ol style="list-style-type: none"> <li>1. Telecommunications infrastructure, cabling and outlets will be allocated IAW ISEC, NSA, and DISA guidance consistent with the Army I3A.</li> <li>2. Telecommunications infrastructure will meet the USAISEC Technical Guide for Installation Information Infrastructure Architecture (I3A) and ANSI/TIA/EIA 568 and 569 requirements.</li> <li>3. The facility must connect to the Installation telecommunications (voice and data) system through the outside plant (OSP) underground infrastructure per I3A guidance. Connections to the OSP cabling system shall be from each facility main cross connect located in the main telecommunications room or telecommunications equipment room to the closest OSP access point.</li> <li>4. Telecommunications outlets will be provided IAW the Technical Guide for Installation Information Infrastructure Architecture (I3A Guide). Telecommunications outlets will be provided per the I3A technical guide based on functional purpose of the various spaces with the facility as modified by user special operational requirements.</li> <li>5. Telecommunications Room. A Telecommunications Room (TR) shall be provided for the voice and data network. There shall be a minimum of one TR on each floor, designed in accordance with the I3A Guide and ANSI/EIA/TIA-569-B.</li> </ol>
Secret Internet Protocol Router Network (SIPRNET) ROOM	Provide a SIPRNET room in accordance with the USAISEC Technical Guide for the Integration of SIPRNET) and AR 380-5.
Information Connectivity & Distribution	<ol style="list-style-type: none"> <li>1. Outside plant connectivity will be in accordance with Army I3A guidance.</li> <li>2. A minimum of one distribution nodes with single mode fiber optic cabling shall serve as an Area Distribution Node (ADN).</li> <li>3. Fiber optic cabling shall be sized to support the common user systems and TEMF critical systems.</li> <li>4. All Computer Rooms are sized based on the building configuration and sized based on operational and security requirements as determined by the appropriate engineering and certification authority.</li> <li>5. Distribution within the building shall be determined during design with the Army's preferred alternative is fiber optic connectivity using end-point (e.g., NIC) transition solutions in lieu of in-wall solutions.</li> </ol>
Energy Policy Act 2005 (EPACT 05) / Executive Order 13423 (E.O. 13423)	Facilities shall be designed in compliance with requirements for federal facilities IAW EPACT 05 and E.O. 13423.
Sustainable Design Development	Facilities shall be designed to meet current sustainable development and design policy requirements as established by the Department of the Army.
Accessibility	The Americans with Disabilities Act Accessibility Guidelines (ADAAG) will be met.

## GUIDANCE

General. The following guidance for application of the TEMF Army Standard is provided for design agent use in coordination with the Garrison DPW. All design agents shall incorporate the key mandatory design features described herein in close coordination with the USACE designated Center of Standardization (COS) for TEMFs. All TEMF projects must be reviewed by the COS.

1. This section of the Army Standard is a necessary component for determining the application and implementation of this standard. The COS, in coordination with the TEMF Facility Design Team (FDT), is the final arbitrator for any conflicts or inconsistencies in the application of these standards as well as a mandatory reviewer prior to submission of any formal waiver requests by the installation. Citing project execution delays is insufficient justification for expedited review or other accelerated dispensation for deviating from meeting the Army Standards contained herein. Late submissions must be substantiated by unforeseen and documented life safety, health and welfare, or compelling mission imperatives that cannot be met without an approved waiver.

2. The TEMF is a major reach operations facility with functional, operational, and spatial relationships critical to meeting mission planning, rehearsal, training, deployment, and operations are embedded in the operational layout of the facility. When there is a critical need for spatial or land use consideration for siting and implementing this Army Standard, guidance is provided to minimize or preclude functional and operational impacts on the TEMF and its Warfighter requirements.

3. Where applicable, the minimum acceptable functional and operational capability is established by a **Threshold** requirement. The Army's maximum level of commitment to addressing the flexibility to adapt to future requirements is set by the **Objective** requirement. These same parameters are used by other Army activities in the doctrinal, organizational, training, and materiel domains and are adopted herein to simplify coordination and preclude misinterpretation when synchronizing requirements across the Army. They also provide definition for design flexibility and achievement of MILCON Transformation objectives and benefits when applying this standard.

4. Space modules, criteria, or components of the TEMF Complex shall be used to develop space allowances and/or requirements for the following facility category before consideration for development of unique or specialized space allowances from those set forth in this Army Standard. When space modules, criteria, and/or components are not used, the Functional Proponent, ICW the TEMF FDT and COS, will review and validate functional or operational requirements prior to the development of any unique or specialized space allowance(s) **and** before incorporating into a project programming document or facility design.

### General Design Philosophy:

1. Army Transformation depends on the capability to rapidly project forces from home station. This places significant demands on installations and how functional and operational requirements are "packaged" to maximize maintaining, repairing, training, mission planning and rehearsal, deploying, and sustaining combat power capabilities. At the center of these functional and operational requirements is the Brigade Combat Team.

2. The TEMF complex is a major component of the larger, overarching Brigade Combat Team (BCT) complex. Functional, operational, and spatial relationships critical to meeting mission requirements are embedded in the layout and spatial relationships of the facilities that comprise a TEMF Complex. By definition, the use of the term complex in this standard refers to multiple facility types that are "packaged" to meet the Warfighter mission objectives while optimizing the BCT footprint. When there is a critical need for spatial or landuse consideration for siting and implementing this Army Standard, guidance is provided to minimize or preclude functional and operational impacts on the TEMF complex and its Warfighter requirements.

3. The TEMF complex represents a consolidation of six critical functional/mission areas as cited above. The TEMF maximizes and builds upon the increased connectivity being developed for battle command, situational awareness, and situational understanding as well as the embedded/distributed training architecture.

4. At the same time, technological insertions that will affect facility adequacy are pre-programmed at prescribed intervals. In order to reduce repetitive construction modification of facilities to accommodate change, the TEMF adopts an adaptive, multipurpose design philosophy to reduce reliance on construction and the disruption to Soldier and unit training and readiness it entails.

5. The TEMF Army Standard simultaneously resolves past issues, current needs, and the capability to accommodate future requirements. These facilities are critical elements for reducing the support footprint for deployed forces in the area of operations, enabling reach operations, implementing the Army's force design as a brigade-centric, expeditionary Army.

6. The TEMF Army Standard represents the first generation of standards to simultaneously address past issues, current needs, and future requirements. As such, there are instances where a band of acceptability *is allowed* in the application and implementation of these standards. However, the range of acceptability is determined through a Warfighter Review process and deviation from this standard will also consider implications on future requirements embedded herein, and the potential impact of follow-on or retrofit construction activities on readiness as well as current situation.

#### Specific MILCON Transformation Design Consideration:

- Make maximum use of natural light so that facilities remain usable during periods of lost utility support
- Economy of construction is a design prerequisite
- Facilities must be durable to withstand the rigors of multiple users
- Pre-fabricated construction components and/or modular construction is encouraged as long as facility durability requirements are satisfied

#### Application Guidance.

1. Site Selection and Planning. Site selection and real property master planning for all Active Component BCT complexes (and Reserve Component Complexes when applicable) shall meet the Brigade Operations Complex layout and configuration for spatial relationships between the Brigade Headquarters, Battalion Headquarters, Company Operations Facility, and TEMF as depicted in the Battalion-Brigade Army Standard and Standard Design to the maximum extent possible. When installations are precluded from meeting the 145-acre requirement, alternatives

considered and their associated limitations shall be documented in the installation Real Property Master Plan with a summary forwarded to HQ IMCOM (IMAH-M) for Army-wide implications assessment.

2. Mission Planning and Physical Security; and Safety. The Mission Security Line established between the COF and TEMF is intended to control access to the enclosed area using the COF Admin Module as the primary entry point. Primary consideration is when mission planning and/or rehearsal is being conducted using the embedded or distributed training connectivity provided to each parking pad or in the enclosed facilities themselves. Secondary consideration is for personnel safety and physical security of equipment commensurate with the increasing value of technology used by Soldiers and units.

3. TEMF Complex. Determining when and how to apply the TEMF Army Standard is based on the type of unit to be supported.

**Threshold:** Separate *battalion-sized* TEMFs apply to all Army organizations other than as cited as the Army's Objective below.

**Objective:** When brigade-sized organization is intended (by doctrine) to deploy as a single unit (e.g., Brigade Combat Teams), a brigade-sized complex in one contiguous area is required.

a. TEMF primary facility space allocation shall be based on the inherent maintenance company assigned to units. Facility allowances are sized based on the Forward Support Company (FSC) assigned to the Battalion from the Brigade Support Battalion (BSB) or equivalent maintenance capability within the organization. Space allowance is quantified by FPS in battalion-sized configurations or consolidated equivalent. Space allowance is then applied to one of four facility standard sizes.

b. When there are multiple units smaller than Battalion-size but with an organic or field maintenance and/or repair capability, they should be consolidated into a battalion-sized complex. This reduces operations and sustainment cost as well as manages mission planning and rehearsal security integrity more efficiently and effectively.

c. Separate Companies and units without organic maintenance capability shall be consolidated with those units being supported or having ADCON/OPCON (Administrative Control/Operational Control) responsibilities for FPS space allowance calculations. When consolidating these units with those having an organic maintenance capability (usually a battalion sized or larger unit), consideration of the separate Company's or other smaller unit's equipment should be considered for impact to deployment flow and support. For example, heavy engineer dirt moving equipment may require transporters to move to a staging and embarkation site. Consolidating these units with a unit with only HMMWVs is impractical and will require either external support (e.g., from DOL or commercial contract). This can be disruptive to deployment flow and affect deployment timelines. To the maximum extent possible, the requirements for multiple small units shall be consolidated into logical or functional groupings (e.g., military branch, Battlefield Operating Systems (BOS)) so that the consolidated unit facility is consistent with unit mission deployment flow. Additionally, functional or mission deployment consolidations can facilitate mission planning and rehearsal as well as facilitate Embedded / Distributed Training. Typically, these smaller units shall be of the same functional type or by BOS groups to facilitate maintenance/repair commonality. When land area constraints preclude a contiguous area, maximum consolidation is required with the BSB TEMF sited with the greatest concentration of vehicles.

4. Primary Facility Scope and Capacity (FCC 214 10). Structural Modules are combined with Admin Core Modules into four standard TEMF sizes: Small, Medium, Large, and Extra-Large.

<b>Primary Facility Allowance Typically Assigned to Unit Types</b>	
Small – 18,000 SF	Brigade Troops Battalion
Medium – 35,290 SF	Brigade Support Battalion
Large – 57,031 SF	Combined Arms Battalion
Ex-Large – 74,688 SF	Sustainment Maintenance Battalion

**Threshold:** The smallest TEMF building or primary facility allowable is the standard small facility.

**Objective:** The largest TEMF (extra-large) is limited to sustainment maintenance/repair or Directorate of Logistics (DOL) TDA operations, or consolidated requirements at echelons above brigade as stipulated by Army doctrine and supported by FPS allowance calculations.

a. The structural module represents six (6) 32' x 16' work areas spanning 32' x 96' structural bay. The same structural bay is used as the Admin Core floor grid in order to simplify space allowance calculations. The structural module is optimized for Army two-level (2LM) and condition-based (CBM) maintenance and based on the assigned Forward Support Company (FSC) or equivalent maintenance capability for a unit.

b. The throughput for a repair area is based on one vehicle occupying space for repair activities 4-hours or greater in duration. The throughput for a maintenance/inspection area is based on activities and tasks that are no more than 2-hours in duration. As Army vehicles are modernized to meet 2LM and CBM, the actual throughput realized at each TEMF will increase significantly. When a vehicle in the maintenance/inspection area is identified as requiring repair activities in excess of 2-hours, it is moved into a repair area. Hence, flow of traffic in a maintenance/inspection area is 90 degrees to a repair bay. All structural bays (consisting of a total of 4 repair areas and 2 maintenance/inspection areas) are equipped with doors along the building exterior.

c. Army conversion to 2LM eliminates former Direct Support-General Support (DS/GS) maintenance and repair functions formerly provided to TOE units below Division through the Division or Corps Support Command. Under the Army Modular Force design, Sustainment brigades may not be co-located/stationed with all brigades and below units requiring maintenance and repair support. Hence, under 2LM, contact teams from either the nearest or supporting Sustainment Brigade or the National Maintenance Point/Center (National Maintenance Program) will perform upper echelon maintenance and repair functions within the unit's TEMF facilities. Typically, this is accomplished in the brigade maintenance or support battalion facility. As such, greater lift capacity, lower throughput flow, and priority use of one repair bay is authorized for the brigade maintenance & repair battalion (or equivalent) TEMF for brigade-sized complexes.

d. Units not assigned to a brigade complex shall be provided sustainment level maintenance and repair support as locally determined and implemented by agreement (e.g., installation DOL).

5. Admin Core Module Allowance (FCC 214 10 & 214 13). The Admin Core Module is the nucleus for additional missions to the TEMF complex such as Embedded Training, mission planning/rehearsal, and reach operations nodes. Space previously provided as separate rooms are now also consolidated (e.g., shops, supply, arms storage) in the Core.

a. The Admin Core Module of the TEMF provides space allowances previously found in Direct or General Support facilities (e.g., production and quality control). The Core is optimized for containerized mission systems such as the Authorized Stockage List Mobility System (ASLMS) and Standardized Automotive Tool Set (SATS) trailers to expedite deployment timelines.

b. The Admin core also provides a maintenance/inspection corridor through the center of the core to maximize throughput for inspections as well as serve multiple functions or tasks such as distributed training, pre-deployment preparation and staging, and for scheduled, repetitive New Equipment Training as Technology Spin-outs are fielded to units.

c. Spatial and functional relationships between areas within the admin core are optimized for 2LM and CBM. Deviation from adjacencies contained in the TEMF Standard Design must be reviewed and concurred with by the TEMF COS prior to implementation.

6. Secure Storage: The secure storage contained within the Admin Core Module serves three separate requirements: Sensitive Secure Storage (weapons and ammo/munitions), Non-Sensitive Secure Storage (e.g., high value, pilferable, serial numbered items other than arms), and Telecommunications Secure (COMSEC) Storage of organic vehicle mounted equipment as defined by the AR 190-series.

**Threshold:** A minimum of 900 NSF distributed in equal amounts is provided for arms storage, COMSEC storage and Non-Sensitive Secure Storage.

**Objective:** CSS units in excess of 75 vehicles may require additional space for mounted crew-served weapons (CSW) and ancillary equipment.

a. Secure storage provided in a TEMF serves two purposes. Primary intended use is to incorporate storage for issue and turn-in of vehicle mounted equipment as primary subcomponents of the assigned vehicle.

b. Space allowance is based on weapon type (e.g., M2HMG, M240, M249 (LMG/AR) and equivalent quantity of thermal weapons sights (TWS) (CSW to TWS ratio of 1:1) as delineated by OTOE, TDA, and/or TDA Augmentation.

c. Space allocations in excess of the 300 NSF authorized for all TEMFs shall not exceed  $\frac{1}{2}$  the number of assigned CSS vehicles (trucks, all configurations) x (secure rack size). In all cases, FPS shall calculate space allowances based on OTOE, TDA, and/or TDA Augmentation given the variances in storage racks associated with each CSW type.

d. Non-Sensitive Secure Storage for night vision and other serial numbered or high cost equipment is provided at 300 NSF per TEMF. Allowances in excess of 300 NSF for Non-Sensitive Secure Storage will be based on physical security risk assessment and review by the COS.

e. The secondary purpose for secure storage space within the TEMF is to provide temporary storage of equipment removed in order to perform repair.

7. Contractor Logistics Support (CLS) Allowance. Increased reliance on advanced and emerging technologies will require expansion of Army use of CLS.

**Threshold:** The CLS allowance is an additional 12% of the maintenance manpower contained in the maintenance activity (e.g., Forward Support Company assigned to a battalion).

**Objective:** Army projections for fielding high tech systems like autonomous sensors, unmanned ground vehicles, etc, primarily fielded to BCTs are expected to approach 15% CLS requirement based on assigned maintenance personnel within a TOE/TDA.

a. Army equipment has already been and will continue to be fielded with CLS as a standard maintenance and repair philosophy. As such, CLS space allowances are provided in the TEMF. Space allocation for the *Objective* requirement shall be based on FPS calculation.

b. Requests for additional space allocations will be reviewed by the COS and approved by the Army Functional Proponent **before** incorporation into programming and design documentation.

Tool Supply Allowance. The application guidance herein addresses how Tool Supply allowances will be incorporated into TEMF projects. In addition to internal space allowances, the Army is in the process of fielding containerized SATS (Standard Automotive Tool Set) van. While the extent and pace of fielding continues to be dictated by Army resources, come form of containerized tool supply will be fielded across the Army. As such, special considerations for exterior accessibility, circulation area for rapid deployment preparation, and proximity to interior tool storage must be considered and are incorporated into the Army Standard Designs for TEMFs.

9. Daily Supply Allowance. The application guidance herein addresses how basic load and warfighter deployment supply/repair parts allowances (e.g., Class I (Packaged), II, III (Packaged), and VII) will be incorporated into TEMF projects. In addition to the 12,000 NSF of warfighter deployment load and internal CL IX storage allowances, the Army is in the process of fielding containerized ASLMS (Authorized Stockage List Mobility System) van. While the extent and pace of fielding continues to be dictated by Army resources, come form of containerized parts supply will be fielded across the Army. As such, special considerations for exterior accessibility, circulation area for rapid deployment preparation, and proximity to interior tool storage must be considered and are incorporated into the Army Standard Designs for TEMFs.

10. Internal Wash Area (Limited) (FCC 214 10). Internal washing is permitted within the TEMF primary structure on a limited basis. Washing of equipment is limited to component parts at the discretion of the local user if sediment collection is a concern.

a. At no time will the capacity for *limited vehicle spot washing* serve as a substitute for use of a Central Wash Facility.

b. Requirement for a Central Wash Facility is **not** adjunct to or a component of a TEMF Complex. At no time will this capability serve as a substitute for use of a Central Wash Facility when exiting the training complex on an installation.

11. Unmanned Aircraft Systems (UAS) Maintenance/Storage. The smaller class UAS are co-located with the parent brigade organization closer to the training complex thereby maximizing "on-station" time for training productivity.

**Threshold:** At a minimum, all Class I (manpack) and Class II (generally, 12' wing span/rotor disk or smaller) shall be stored and maintained with the Battalion-sized unit they are assigned to.

**Objective:** For BCTs, siting the TEMF complex in immediate proximity or direct access to the training area will include the capability to launch and recover UAS from the tank trail or range road whenever landuse and obstruction clearances allow.

a. The Army will field four classes of UAS. UAS operated and maintained at the TEMF are considered small and light enough to eliminate the need for some considerations normally afforded manned aircraft. As such, **no** overhead lift, high bay work areas, or dedicated administrative space (other than for records keeping) is authorized.

b. Larger class UAS (Class III & IV) require obstruction clearances similar to manned aircraft and are located at Army Airfields/Heliports.

**15. Telecommunications.** The facility shall be connected to the Installation wide area network system (WAN) and telephone system. Communications system resources will be allocated IAW the I3A Technical Guide regarding outlet amounts based on the functionality of the facility's various component floor spaces. Telecommunications infrastructure will meet I3A and ANSI/TIA/EIA requirements. Data outlets will be provided per the I3A technical guide based on functional purpose of the various spaces within the facility as modified by operational requirements. Provide dedicated secure communication rooms to accommodate Secure Internet Protocol Routing Network (SIPRNET) access, installed in accordance with provisions of Technical Guide for the Integration of Secret Internet Protocol Router Network (SIPRNET). The telecommunications infrastructure, cabling and outlets will be allocated IAW the following references:

- Project specific USAISEC Information Technology Facility Design Criteria
- USAISEC Technical Guide for Installation Information Infrastructure Architecture (I3A)
- National Security Agency (NSA), Department of Defense (DoD), Defense Information Systems Agency (DISA), and Department of the Army (DA) policies, practices, and memorandum for information assurance, security, and protection.

Facilities must connect to the Installation telecommunications (voice and data) system through the outside plant (OSP) underground infrastructure per I3A guidance. Telecommunications rooms and telecommunications entrance facilities must be provided for unclassified network and voice equipment and cabling infrastructure throughout the facilities.

Provide a SIPRNET room as indicated on the facility drawings for future use.

**16. Connectivity & Distribution.** Outside plant connectivity shall be provided in accordance with the Army I3A guidance. The TEMF facilities shall be connected to a distribution node with single mode fiber optic cabling, and shall be considered as an Area Distribution Node (ADN) for engineering purposes. The fiber optic cabling shall be sized to support the common user systems and TEMF critical systems. For planning purposes, 24 strands of fiber shall provide connectivity to the installation fiber backbone. Adjustments will be made during actual project design development.

**Reference Criteria:** The designs should use latest editions of the following design criteria:

- American with Disabilities Act Accessibility Guidelines (ADAAG)
- Energy Policy Act 2005 (EPACT05)
- Executive Order 13423 (E.O. 13424), Strengthening Federal Environmental Energy and Transportation Management

- Army SDD LEED NC Silver Policy
- Army Standards for keyless access locks and Waterfree Urinals.
- IBC – International Building Code
- AR 405-70, Utilization of Real Property
- AR 415-15, Army Military Construction Program Development and Execution
- DA PAM 415-28, Facility Guide To Army Real Property Category Codes
- UFC 1-200-01, Design: General Building Requirements
- UFC 3-600-01, Design: Fire Protection Engineering for Facilities
- UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
- UFC 4-023-03, Security Engineering: Design to Resist Progressive Collapse
- UFC 4-214-02, Standard Definitive Design for Tactical Equipment Maintenance Facilities
- ETL 1110-3-491, Sustainable Design for Military Facilities
- ER 1110-3-113, Engineering and Design, Department of the Army Facilities Standardization Program