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APPENDIX A
ADMINISTRATION, HEADQUARTERS, AND OPERATIONS FACILITIES

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APPENDIX A
ADMINISTRATION, HEADQUARTERS, AND OPERATIONS FACILITIES

1. GENERAL AND SPECIFIC CRITERIA. The specific criteria contained in this appendix are applicable to the design of administration, headquarters, and operations type facilities. The general criteria contained in the preceding chapters are applicable where such criteria are not included in this appendix. Therefore, this appendix must be used with the chapters contained in this document.

2. GENERAL GUIDANCE. Army-owned/Leased Buildings. Administrative facility projects should be developed using AR 405-70 (reference A-1). Appendix D to AR 405-70 (reference A-1) provides detailed criteria for space planning. This paragraph provides guidance on the definitions of administrative space, storage space, and special space as well as the differences between new construction and existing facility criteria. Project requirements must be fully justified on the programming documents based on AR 405-70 (reference A-1).

a. Administrative Space. The building gross floor area will not exceed 15 m² (162 ft²) per occupant in new construction exclusive of allowances for storage and special space. This gross area includes corridors, interior partitions and exterior walls, janitor closets, lobby areas, separate mechanical and electrical equipment rooms, stairways, and toilet facilities, and other supporting areas contained within the exterior walls. This requirement is based on 12.1 m² (130 ft²) net area per office occupant. The net area includes workstation area and internal office circulation. Net office floor area will not be less than 10.2 m² (110 ft²) per occupant. The net to gross conversion for new administrative facilities will be 1.25.

b. Storage Space. Storage space refers to space required to support the office environment such as space for office supplies, copier paper, common files, and support equipment. See Table D-3 in AR 405-70 (reference A-1) for additional guidance. Warehouse space is considered special space, see below.

c. Special Space. Special space is often needed in administrative and operational facilities in addition to the administrative and storage space s defined above. Special space includes auditoriums, atriums, cafeterias, child development facilities, computer rooms, conference rooms, printing plants, laboratories,

libraries, shipping and receiving spaces, space allocated solely for use of computers (exclusive of personal computers), and spaces having special architectural, structural, mechanical, and/or electrical characteristics. Telephone, communications, and information management support spaces are to be itemized as special space. Interstitial spaces required in some laboratories and hospitals are also special space. Special spaces are sized primarily on equipment needs, while administrative space is sized based on personnel.

d. Net to Gross Area Conversions. For planning purposes net administrative, storage, and special areas should be multiplied by a factor of 1.25 to determine the gross area for new administrative and operational buildings. Service schools, general and applied instruction buildings, and automation-aided classroom facilities should use a factor of 1.45 to convert net to gross area. Laboratory facilities should utilize a factor between 1.25 and 1.45 depending on the circulation requirements. Renovation of existing facilities should be expressed in net area. Although the factors in this paragraph are also goals for renovation projects, the net to gross ratio of existing facilities generally cannot be substantially altered.

3. BATTALION HEADQUARTERS BUILDINGS.

a. Standardization. The Center of Standardization for battalion headquarters buildings is the US Army Corps of Engineers, 28\Savannah/28/ District.

b. Previous AEI. All previous Architectural and Engineering Instructions issued by HQUSACE (CEMP-E) for battalion headquarters buildings are superseded by this appendix.

c. Provisions for Physically Handicapped Individuals. Battalion headquarters buildings will be designed for physically handicapped individuals. See chapter 7 of this TI.

d. Battalion Headquarters With Classrooms.

(1) Functional Areas. Space will be provided for a command section, S-1/PAC, S-2, S-3, S-4, chaplain and assistant chaplain, classroom, and service core. Private offices will be provided for the commanding officer, executive officer, command sergeant major, S-1 officer, S-2 officer, S-3 officer, S-4 officer, chaplain, and assistant chaplain. Space will also be provided for clerical and central files, conference room, duty officer, information management systems room "concentrator room," message center and mail sorting, reception, resource center, secure documents (crypto vault), showers (if requested by the using service), supplies, toilet facilities, vending, and an optional Troop Aid Station.

(2) DA Standard Design Packages for Battalion Headquarters, DEF 171-51-01 (reference A-2), DEF 171-51- 02 (reference A-3), DEF 171-51-03 (reference A-4), DEF 171-51-04 (reference A-5), DEF 171-51-05 (reference A-6), and DEF 171-51-06 (reference A-7) prepared by the Sacramento District will be used when developing designs for battalion headquarters with classrooms.

(3) Space Criteria. Space allowances for battalion headquarters with classrooms are shown in table A-1.

TABLE A-1 SPACE CRITERIA FOR BATTALION HEADQUARTERS WITH CLASSROOMS	
	\9\ GROSS AREA ^{1, 2} /9/

	square meters	(square feet)
One-story Small Battalion (16 to 25 staff persons)	1138	(12,250)
One-story Medium Battalion (26 to 35 staff persons)	1344	(14,467)
One-story Large Battalion (36 to 50 staff persons)	1542	(16,598)
Two-story Small Battalion (16 to 25 staff persons)	1146	(12,336)
Two-story Medium Battalion (26 to 35 staff persons)	1292	(13,907)
Two-story Large Battalion (36 to 50 staff persons)	1487	(16,006)

- ¹ Mechanical, electrical, and telecommunication 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.
- ² Designs will be based on the functional relationships of the DA standard design package with space requirements determined on the specific needs of the using service, to include discussion of the Troop Aid Station requirement

e. Battalion Headquarters Without Classrooms.

(1) General. When classrooms are located nearby and readily available or when they are not required by the mission of the battalion, battalion headquarters will be provided without classrooms.

(2) Functional Areas. This type of facility will provide the same functional areas as listed in paragraph 3.d. above, except classrooms will be omitted.

(3) DA Standard Design Packages for Battalion Headquarters, DEF 141-83-01 (reference A-8), DEF 141-83-02 (reference A-9), and DEF 141-83-03 (reference A-10) prepared by the Sacramento District will be used when developing designs for battalion headquarters without classrooms.

(4) Space Criteria. Space allowances for battalion headquarters without classrooms are shown in table A-2.

TABLE A-2 SPACE CRITERIA FOR BATTALION HEADQUARTERS WITHOUT CLASSROOMS		
TYPES OF BATTALIONS	GROSS AREA ^{1, 2}	
	square meters	(square feet)
Small Battalions (16 to 25 staff persons)	720	(7,751)
Medium Battalions (26 to 35 staff persons)	918	(9,882)
Large Battalions (36 to 50 staff persons)	1116	(12,013)

- ¹ Mechanical, electrical, and telecommunication 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.
- ² Designs will be based on the functional relationships of the DA standard design package with space requirements determined on the specific needs of the using service, to include discussion of the Troop Aid Station requirement

4. BRIGADE HEADQUARTERS BUILDINGS.

a. Standardization. The Center of Standardization for brigade headquarters buildings is the US Army Corps of Engineers, \28\Savannah/28/ District.

b. Previous AEI. All previous Architectural and Engineering Instructions issued by HQUSACE (CEMP-E) for brigade headquarters buildings are superseded by this appendix.

c. Functional Areas. Space will be provided for a command section, S-1, S-2, S-3, S-4, service core and support services. Private offices will be provided for the commanding officer, executive officer, command sergeant major, S-1 officer, S-2 officer, S-3 officer, S-4 officer, re-enlistment, surgeon, chaplain, and assistant chaplain. Space will also be provided for clerical and central files, conference room, duty officer, information management systems room "concentrator room," message center and mail sorting, reception, secure documents (crypto vault), showers (if requested by the using service), supplies, toilet facilities, vending, and optional Troop Aid Station.

d. Provisions for Physically Handicapped Individuals. Brigade headquarters buildings will be designed for physically handicapped individuals. See chapter 7.

e. The DA Standard Design Package for Brigade Headquarters, DEF 141-82-01 (reference A-11) prepared by the Sacramento District will be used when developing designs for brigade headquarters projects.

f. Standard Size Facility. \9\The standard size brigade headquarters building is 978 m² (10,528 ft²) gross area, including space for mechanical, electrical, and electronic equipment. The Troop Aid Station option will add 188 m² (2024 ft²) to the layout. Total area including Troop Aid Station is 1166 m² (12,552 ft²)./9/ The given size of the standard brigade headquarters building will meet most brigade requirements. If functional demands or mission objectives are such that a larger building is required and additional area is approved by the Department of the Army, the building size shall be increased by adding three meter (10 feet) modules to the administrative end of the building.

5. COMPANY OPERATIONS FACILITIES (COF).

\28\ a. Standardization. The Center of Standardization (COS) for company operations facilities is the US Army Corps of Engineers, Savannah District (CESAS). This appendix has been rewritten and coordinated with the 30 Apr 2004 revision of the standard design for COFs. The DA Standard Design for Company Operations Facilities, UFC 4-140-02, (reference A-12), prepared by the Savannah District under Department of the Army direction, will be used when developing designs for COFs, The COF standard design is available via the internet at www.projnet.org, under the DA Facility Standardization Portal (or www.projnet.org/fsp for military users only desiring access to the Facility Standardization Portal and not the entire PROJNET database). In accordance with ER 1110-3-113 (reference A-16), the COS maintains lessons learned and CADD files of the standard design and should be consulted when starting a project.

b. Previous Criteria. All previous COF Standard Designs and Architectural and Engineering Instructions issued for company administration and operations buildings are superseded by this appendix and the current COF Standard Design (reference A-12).

c. Applicability. The COF Standard Design and criterion herein are mandatory for MCA-funded projects worldwide, starting with the FY 2006 program. To the greatest extent feasible, these criteria should also be applied to projects in the FY 2005 MCA program; particularly new start barracks complex projects where the construction of the complex is spread over multiple program years.

d. General. The standard design is based on an analysis of the current force, including the Stryker Brigade Combat Teams (SBCT), and the proposed structure of Units of Action in the future force, and is developed as a flexible solution for the force transitional period. As opposed to distinct facilities for each company, the design is based on a battalion complex or unified COF, which is referred to as a UNICOF. The development of the concept for this facility was monitored and submitted as a standard design by the facility proponent, Office of the Deputy Chief of Staff, G3, and approved by the Office of the Assistant Chief of Staff for Installation Management, the Installation Management Agency, and HQ USACE. The new company operations standard design is adaptable in size, number of units, style and materials to the various climates, site constraints and operational needs of individual installations. The UNICOF is designed as a battalion level complex, sized by two independent factors: the number of companies in the battalion and the total number of soldiers in each company. The design objective of the basic battalion level COF complex is to provide a flexible facility suitable to a mix of battalions ranging in composition from 3 to 6 companies, and in population from 50 to 200+ soldiers per company using a modular approach. Also, the standard design contains derivatives for less common units that are designed to accommodate less than 3 or more than 6 companies, using the modular portions of the basic (3 to 6 companies) complex.

e. Functional Areas. The facility is comprised of three vertical construction components consisting of an Administrative Module, Readiness Module, and exterior covered hardstand. In conjunction with this, each site specific project shall include necessary site amenities, such as vehicle service yards, access drives, equipment wash stations, and exterior utilities. These components are more fully described below and in the COF Standard Design.

(1) Administration Module. Space will be provided for the following administration and support functions:

- Private offices for the Commander, First Sergeant, Executive Officer and Training
- Open office space for unit administrative functions
- Shared office space for platoon leaders and platoon sergeants
- Conference space for meetings and/or training
- Male/female restrooms to serve the administrative personnel assigned to the company
- Showers, locker room, and latrines for off post personnel – a place for commuters to shower and change after PT
- Consolidated utility spaces to serve the entire facility including a mechanical room,

electrical room, telecommunication rooms (with accommodation for SIPRNET), and janitor's closet

(2) **Readiness Module.** Space will be provided for the following operational and supply functions:

- Readiness Bays to provide accommodation for individual TA-50 lockers (42" wide by 24" deep by 78" high) for all unit personnel, plus co-located area for equipment maintenance, training, and pre-deployment preparations. Interior equipment maintenance area will be nominally sized so that up to 50% of the unit personnel can layout TA-50 gear simultaneously, based on providing 40 square feet (plus a circulation factor) for each layout space. (The limitation on the number of soldiers that can be accommodated for gear layout is based on optional configuration of lockers, not a difference in the total amount of space authorized).
- Supply Bays to provide storage space for company headquarters TOE and CTA items, weapons, and consumable supplies (including items awaiting issue, turn in or repair). Also, it provides accommodation for the supply sergeant, supply clerk(s) and the armorer in performing shipping and receiving functions. Specific storage areas included in the supply bay include:
 - Weapons vault for storage of arms, ammunition, and explosives (AA&E)
 - Secure storage room for non-sensitive items (high value items, other than AA&E, for which accountability is a concern)
 - Nuclear, biological, and chemical (NBC) equipment storage
 - Communications equipment storage
 - Consumable unit storage

(3) **Exterior Covered Area.** Outside sheltered space for equipment maintenance, weapons cleaning, and pre-deployment preparation. This area is nominally sized to accommodate up to 25% of the unit personnel to layout TA-50 gear simultaneously, based on providing 40 square feet (plus a circulation factor) for each layout space.

f. **COF Army Standards.** The following items represent the Army mandatory features for the COF Standard Design. Deviations from these standards must be approved by the Army Facilities Standardization Committee. Requests for waivers from these requirements must be submitted by the user thru the responsible Installation Management Agency (IMA) Region to HQ IMA, HQ USACE, and ACSIM for review and determination.

- (1) Battalion centric design that consolidates COFs for an entire battalion in a single building.
- (2) Open, flexible design for both admin and readiness modules, easy to reconfigure in response to changes in force structure, equipment, and doctrine.
- (3) Enlarged TA-50 lockers – 42"(w) x 24"(d) x 78"(h) – for 100% of intended personnel in each company.
- (4) Increased interior space for equipment maintenance and pre/post-deployment checks, as well as other unit preparatory and training requirements. Space nominally sized to provide 40 SF layout areas for 50% of the intended personnel. Includes provision for TA-50, TOE, and future Soldier Systems equipment.

- (5) Inclusion of covered exterior equipment maintenance area. Space nominally sized to provide 40 SF layout areas for 25% of the intended personnel.
- (6) Enlarged arms vaults, with option for use of prefabricated, modular vaults.
- (7) Provision for non-sensitive item secure storage (items other than arms, ammo, & explosives), as well as retention of wire mesh cage storage for NBC, communications equipment, and unit supply.
- (8) Consolidated showers and latrines for the combined building occupancy.
- (9) Emphasis on economy of construction to suit function, i.e. warehouse or light industrial type building systems.
- (10) Master planning requirements for locating COFs within an operations complex with direct access to the unit motor pool or other corresponding work areas. COFs should also be located within walking distance of barracks and unit command & control facilities.

g. Design Guidance.

- (1) **Battalion Centric Design.** The design standard is intended to create a facility that consolidates between three and six companies of a battalion in a single building. This single building can be reconfigured internally without changing the footprint of the building if the battalion structure changes. Construction of one and two company configurations for separate companies or for companies that are not located at the same installation as their parent battalion is permitted in certain instances, if programmed and approved by OACSIM, and then using the configurations for the one or two company variants shown in the standard design.
- (2) **Open, Flexible Design for Admin and Readiness Modules.** Consistent with the battalion centric focus, both the admin and the readiness (supply) modules will employ design features that are durable but reconfigurable without altering the structural design of the building. The goal is to allow ready adaptability in response to changes in force structure, equipment, and doctrine. The addition of internal load bearing structures that limit design flexibility will not be permitted.
- (3) **Enlarged TA-50 Lockers.** Programming documentation will provide for individual lockers sized 42"(w) x 24"(d) x 78"(h) in sufficient quantity to meet the upper limit of the design capacity of the facility. These lockers will be sufficient to allow each soldier to store current TA-50 as well as future Soldier Systems equipment.
- (4) **Increased Interior Operations and Maintenance Area.** The interior space of the readiness module is intended to provide space for equipment maintenance and pre/post-deployment checks, as well as other unit preparatory and training requirements. The space includes the provision for individual TA-50 and TOE equipment storage, and future fielding of Soldier Systems equipment. The space is nominally sized to provide 40 SF layout areas for 50% of the upper limit of the design capacity of the facility. Variations to the locker arrangement shown in the standard design are permitted, but may result in a reduced number of layout spaces. Revised configurations that reduce the available layout area to less than 25% of the design capacity of the readiness module will not be permitted.
- (5) **Covered Exterior Operations and Maintenance Area.** Exterior covered hardstand immediately

adjacent to the readiness module will be provided for each company to accommodate outside equipment maintenance, weapons cleaning, pre/post-deployment preparation, vehicle loading, close formation, etc. This space is nominally sized to provide 40 SF layout areas for 25% of the upper limit of the design capacity of the facility. Water, lighting, and electrical connections will be provided as required.

(6) **Enlarged Arms Vaults.** Enlarged arms vaults compared to previous standard designs to accommodate storage of arms, ammunition and explosives. The design includes the option for use of prefabricated, modular vaults, which will allow for adjustments in organizational/operational functions, and changes in equipment. The nominal sizes of the arms vaults range from 400 SF for the smallest companies up to 600 SF for larger units. An additional 50% increase in the size of arms vaults is possible if justified in the project DD Form 1391 and approved by OACSIM. Any increase in the size of arms vaults shall not result in an increase in the gross area of the readiness module.

(7) **Non-Sensitive Secure Storage (other than AA&E).** Provision is made for secure storage of items with a high dollar value or items for which command accountability is required. AR 190-51 and/or AR 190-13 shall govern construction standards for this space. The minimum acceptable wall construction permissible is impact resistant gypsum board with metal lath backing on metal studs. In addition to the above, provision for wire mesh cage storage will be retained for unit supply, NBC, and communications equipment.

(8) **Consolidated Showers and Latrines.** A single set of shower/latrine facilities will be provided for each combined COF (UNICOF) (exclusive of restroom facilities provided on the second floor for administrative personnel). The showers are sized for 25% of the design capacity of the complex. The standard design layout allows adjustment for the ratio of males and females in any unit by repositioning the dividing wall between their facilities. Also, the user will have the option to designate interior, exterior, or both interior and exterior access to these facilities.

(9) **Economy of Construction to Suit Function.** COFs shall be constructed using light industrial building systems. As such, designers shall consider economy of construction to suit the function, i.e. warehouse or light industrial type facilities.

(10) **Operational Site Orientation.** COF complexes are integral parts of the Army's power projection platform infrastructure. As such, they should be located to support deployment and daily operations. Where possible, a single battalion centric complex containing facilities to support vehicle maintenance and company operations should be housed in a single fenced compound. When site conditions do not permit this configuration, company operations facilities should be placed adjacent to the vehicle maintenance complex to facilitate the movement of personnel and equipment between the two facilities. COFs should be located within walking distance of barracks and other unit command & control facilities when possible, but operational/power projection considerations take priority. The above adjacency, functional, area, and planning criteria shall not be construed to consider recently constructed company operations facilities, built as part of barracks complexes to be inadequate or obsolete.

h. **Category Codes.** The Admin and Readiness Modules are to be programmed as building space and will be classified under Category Code 14185 as "Company Headquarters Building". The exterior covered hardstand is considered an exterior site amenity (not building space) and will be classified under Category Code 14179 as "Overhead Protection".

i. **Program Requirements.** The following table (Table A-3) provides the space allocations for the various optional schemes and standard modules for COFs:

TABLE A-3: SPACE CRITERIA FOR COMPANY OPERATIONS FACILITIES														
MASTER PROGRAM:	U N I C O F - H						U N I C O F - L							
	With Detached Admin						With Integrated Admin							
ADMIN MODULE VARIANTS	ADMIN 1 CO	ADMIN 2 CO	ADMIN 3 CO	ADMIN 4 CO	ADMIN 5 CO	ADMIN 6 CO	ADMIN 1 CO	ADMIN 2 CO	ADMIN 3 CO	ADMIN 4 CO	ADMIN 5 CO	ADMIN 6 CO		
ADMIN MODULE	NOT AN OPTION IN THIS SCHEME													
Office Areas	NOT AN OPTION IN THIS SCHEME													
Administration Open Office	266	266	266	266	266	266	266	266	266	266	266	266		
XO	110	110	110	110	110	110	110	110	110	110	110	110		
ISG	120	120	120	120	120	120	120	120	120	120	120	120		
CO	150	150	150	150	150	150	150	150	150	150	150	150		
Training Room	100	100	100	100	100	100	100	100	100	100	100	100		
Conference Room	375	375	408	408	430	430	451	368	375	375	375	375		
AV Control	17	17	17	17	17	17	17	17	17	17	17	17		
Platoon Offices	574	574	574	590	600	600	600	640	640	640	640	640		
Storage	221	30	30	30	30	30	30	79	280	66	53	44		
Restrooms	97	73	58	58	49	49	148	148	97	73	58	49		
Additional Area	379	-	-	-	-	-	-	-	379	-	-	-		
Service Areas	NOT AN OPTION IN THIS SCHEME													
Standard Mechanical Room	353	285	212	177	177	177	574	302	378	284	227	189		
Enlarged Mechanical Room (Note 2)	594	438	350	292	292	292	-	-	625	469	375	313		
Electrical Room	55	41	33	27	27	27	70	36	23	18	14	12		
SFR/NET Communications Room	22	18	14	12	12	12	70	38	23	18	14	12		
Communications Room	55	41	33	27	27	27	70	38	23	18	14	12		
Janitor's Closet	63	47	38	31	31	31	96	60	40	30	24	20		
Vending	63	47	38	31	31	31	96	60	40	30	24	20		
Lockers/Showers	NOT AN OPTION IN THIS SCHEME													
Men's/Women's Lockers & Showers (<600 FN)	367	275	220	183	183	183	468	309	367	275	220	183		
Men's/Women's Lockers & Showers (>600 FN) (Note 2)	593	445	356	297	297	297	-	593	445	356	297	297		
NET	3,347	2,518	2,412	2,340	2,340	2,340	3,450	2,905	3,419	2,576	2,415	2,310		
CIRCULATION	1,421	1,051	808	583	583	583	1,652	1,269	1,586	1,190	1,123	1,075		
GROSS - ADMIN MODULE AREA PER COMPANY (SF)			4,768	3,569	3,220	2,923			4,768	3,569	3,220	2,923		
(Note 2)														
INDIVIDUAL COMPANY SIZES (PERSONNEL)			UP TO 50	100	150	200	Ea 50 Add'n	OVER 300	UP TO 50	100	150	200	Ea 50 Add'n	OVER 300
READINESS MODULE	CUSTOM SMALL DESIGN (Note 1)													
Supply Bay	162	309	515	+206			162	309	515	+206				
Secure Storage for Non-Sensitive Items	440	520	600	-			440	520	600	-				
Vault	96	154	210	+56			96	154	210	+56				
NBC Storage	96	154	210	+56			96	154	210	+56				
Communications Storage	389	639	846	+207			389	639	846	+207				
Unit Storage	3,672	5,292	6,912	+1,620			3,672	5,292	6,912	+1,620				
Readiness Bay	4,865	7,088	9,293	+2,145			4,865	7,088	9,293	+2,145				
7A-50 Lockers/Equipment Layout Area	461	671	883	-			461	671	883	-				
NET	5,316	7,739	10,176	+2,145			5,316	7,739	10,176	+2,145				
CIRCULATION	378	378	378	-			378	378	378	-				
GROSS	189	189	189	-			189	189	189	-				
OTHER AREAS	CUSTOM LARGE DESIGN (Note 1)													
Exterior	530	676	820	-			530	676	820	-				
Driveaway	265	338	410	-			265	338	410	-				
GROSS	1,671	2,401	3,131	+730			1,671	2,401	3,131	+730				
GROSS - READINESS MODULE AREA PER COMPANY (SF)			5,505	7,928	10,365	+2,145			5,581	8,077	10,586	+2,145		
(Note 3)														
EXTERIOR COVERED HARDSTAND	CUSTOM LARGE DESIGN (Note 1)													
Equipment Maintenance/Storage/Space/Weapons Cleaning	1,671	2,401	3,131	+730			1,671	2,401	3,131	+730				
GROSS - COVERED HARDSTAND AREA PER COMPANY (SF)			1,671	2,401	3,131	+730			1,671	2,401	3,131	+730		
(Note 3)														

Note 1: Companies with less than 50 or more than 300 personnel will require a custom facility design. Designs will be based on the functional relationships of the COF standard design with space adjustments made to suit specific user requirements. TDA units will typically only require the admin module portion of the COF.

Note 2: The gross area per company shown is based on the STANDARD MECHANICAL ROOM and MEN'S/WOMEN'S LOCKERS & SHOWER area for less than 600 personnel. The admin module gross area must be adjusted accordingly when the larger size options for these spaces are required.

Note 3: The exterior COVERED HARDSTAND area will be calculated as a full scope site amenity, not as a building space. It will be programmed under Category Code 14179. The ADMIN and READINESS MODULES will be programmed as building space under Category Code 14185.

/28/

6. CRIMINAL INVESTIGATION COMMAND (CIDC) FIELD OPERATIONS BUILDINGS.

a. Standardization. The Center of Standardization (COS) for CIDC field operations facilities is the Norfolk District Engineer Office.

b. Previous AEI. All previous Architectural and Engineering Instructions issued by HQUSACE (CEMP-E) for CIDC Field Operations Buildings are superseded by this appendix.

c. Functional Areas. The US Army CIDC mission throughout the world is to organize, administer, recruit, and train staff to conduct investigations related to felony crimes committed against the US Army, or its persons or property. Typically, this mission is carried out by USACIDC field elements which provide criminal investigative support to the Army commanders and installations within a specified geographic area. The CIDC Field Operations Building is an operational facility and differs from the typical army administrative offices in that there are five distinct zones of activity requiring various levels of privacy and security within the facility as follows:

(1) Administration Area, semi-restricted zone. The administrative area will provide space for general office area, central files/records area, multipurpose lounge for use by staff employees. Access to this area will be limited to the staff employees.

(2) Command Area, private zone. The command area will provide space for the Commander's office, Executive Officer, and Operations office. This area is private with limited public access.

(3) Investigative Area, restricted zone. The investigative area will contain space for special agent's office, office for drug suppression team, offices for team chiefs, and evidence depository. Access to this area will be limited to the staff employees.

(4) Investigative Support Area, restricted zone. The investigative support area will contain space for an arms room, duty agent's room, interview rooms, photo ID room, polygraph suite, suspect waiting room, suspect observation room, and toilet for use by suspects. This area will be restricted to agents and suspects. The suspect observation room will have access only from the public areas.

(5) Reception Area, public zone. The reception area will contain space for entrance lobby and waiting area, and reception counter. This area will have unrestricted public access.

d. DA Standard Design Package for CIDC Facilities. DA Standard Design Package for CIDC Facilities, DEF 141-14-01 (reference A-13) prepared by the Norfolk District Engineer Office, will be used when developing designs for CIDC Field Operations Facilities. DG 1110-3-144 (reference A-14) may be used as a guide when designing CIDC field operations building projects. The standard design package is developed in metric unit of measurements using CADD and should be used as a basis for CIDC facilities constructed within the continental US.

e. Standard Size Facility. DEF 141-14-01 shows prototypical solutions for three (3) CIDC Field Operations Facilities to support the operations of the 5 to 8 special agents (663 m² or 7,133 ft²), 9 to 12 special agents (843 m² or 9,071 ft²), and 13 or more special agents (1278 m² or 13,752 ft²) respectively. The U.S. Army Criminal Investigation Command should be contacted for project specific requirements.

7. INFORMATION SYSTEMS FACILITIES.

a. Standardization. The Center of Standardization (COS) for information systems facilities is the Norfolk District Engineer Office.

b. Functional Areas. Normally, an information systems facility will provide space for six operating divisions. The facility will have eleven functional areas as follows:

- (1) Main entrance and security checkpoint.
- (2) Command group offices.
- (3) Logistics Division.
- (4) Operations Division.
- (5) Plans and Resource Management Division.
- (6) Printing and Publications Division.
- (7) Records Management Division.
- (8) Visual Information Division.
- (9) General support areas, including a lunch room and toilet facilities.
- (10) Input/output spaces in support of the operating divisions.
- (11) Mechanical, electrical, and electronic equipment rooms and utility spaces.

c. Standard Design. The DA Standard Design Package for Information Systems Facilities, DEF 131-20-01 (reference A-15) originally prepared by the New York District Engineer Office and now being maintained by the COS (the Norfolk District Engineer Office) will be used when developing designs for information systems facilities.

d. Space Criteria. There are no standards sizes for information systems facilities. The US Army Information Systems Engineering Command should be contacted when planning an information systems facility. The medium-sized facility shown on the standard design for a staff of approximately 180 persons is 4738 m² (51,000 ft²) gross area. The standard design may be modified to suit local installation requirements provided the functional relationships of spaces are maintained.

8. CLASSROOM XXI FACILITIES

a. Standardization. The Center of Standardization (COS) for Classroom XXI is the U.S. Army Corps of Engineers- Norfolk District.

b. Previous AEI. This appendix supersedes all previous Architectural and Engineering Instructions issued by HQUSACE (CEMP-E) for Classroom XXI.

- c. DA Standard Design Package for Classroom XXI Facilities. The design package for this facility type is a web-based program that aids the designer in designing the space. The program may be accessed at www.nao.usace.army.mil. A standard design drawing package is not available.
- d. Functional Areas. The US Army Classroom XXI mission throughout the world is to provide facilities that allow for training staff. The classroom uses technology to support institutional resident education and training and serves as a platform to import/export education and training.

(1) Classroom. Classrooms are generally planned as renovation to existing buildings but may also be used in new construction. Rooms are sized for 20, 18, and 16 students. EIRS BULLETIN 95-05, Engineering and Design, Automation-Aided Classroom Design Criteria applies to the design of these classrooms. Department of the Army Real Property Category Code is Construction Category Code, 17136, Automation-Aided Instruction Building as supplemented by this document. Current training technology requires students to use a computer at a desk that also has space for reference materials, a flat work surface, and circulation space to support an instructor observing or assisting. When classroom circulation and technical support areas for the classroom are added this results in a planning factor of 7.0 net square meters, or 75 net square feet (NSF), of area per student. A net to gross area conversion factor of 1.45 applies to classrooms parts of the building and primary circulation.

Classroom Size and Shape: Rooms generally square in plan are the best candidates for renovation. An unobstructed view to the front of the room by all students is required. The instructor workstation and 2-120" wide projection screens are located at the front of the room. The best room candidates however, have one wall that is, or approximately, 30 feet long and 12 feet optimum/10 feet minimum high, above the finished floor. Optimal student viewing of the centrally located screens is critical.

Student Capacity, Room Sizes, and Square Footage Examples:

20 Students/Classroom: 1) 36' x 42' = 1,512 NSF or, 2) 32' x 48' = 1,536 NSF

18 Students/Classroom: 1) 34' x 40' = 1,360 NSF or, 2) 35' x 39' = 1,365 NSF

16 Students/Classroom: 1) 30' x 40' = 1,200 NSF or, 2) 35' x 35' = 1,225 NSF

(2) Digitized Training Access Center (DTAC). The DTAC electronically stores and distributes the digital proponent record copy of approved training and other materials. It is the proponent's portion of the Army Doctrine Training Digital Library. If this function is not already provided within the facility or on the Installation, it must be added as a functional requirement of the operational classroom. It will interface with the Automated Systems Approach to Training (ASAT) to receive completed training materials. Instructors and students will pull training materials from the DTAC. The DTAC is also considered a large communications area and its configuration is dependent on the engineering solution for the systems architecture. Department of the Army Real Property Category Code is Construction Category Code, 13131, Information Processing Center,

DTAC size and shape: The concept for the DTAC includes area for 2-12 servers, in racks, and 1-4 workstations for technical support personnel. A workstation is defined as a desk, chair, and computer. An area of 400-600 net square feet should accommodate these requirements and existing areas may be used to the greatest extent practicable. A ceiling height of 8'-0" to 9'-0",

Functional requirements: An overhead cable raceway system is preferred for cabling so racks may be powered from overhead twist locks. If this is not feasible, a sub-floor system, a complete utility supply and cable management system (raised flooring), is an acceptable option. A separate cooling system capable of year-round cooling operation is recommended for each DTAC.

e. Interior Design. Classroom XXI spaces are generally individual classrooms located within other facilities. The interior design should follow established building design standards within the parameters established here.

(1) Color Scheme: A blue color scheme is recommended because it provides a technically correct broadcast quality VTT background. The color scheme shall include an integrated interior design package for all features and furnishings in the classroom.

(2) Floors: A sub-floor system, a complete utility supply and cable management system (raised flooring), is required. The raised floor shall typically be 3 to 6-inch high system with carpet tile finish. The pedestal supports shall be separate from the floor panel.

(3) Ceilings: The best classrooms accommodate a finished ceiling height of 12 feet optimum/10 feet minimum, above the finished floor to meet training requirements for projected images, and corresponding screen heights. The ceiling shall be 2' x 2' acoustic lay-panels.

(4) Windows: Rooms with no, or few windows is preferred. Minimizing glare on computer and projection screens is desirable. Acoustic shutters, matching classroom acoustical treatments, are the recommended option when the total glass area is 30% or less, of the existing wall area. If glass area exceeds 30%, an interior partition may be built to cover glass areas. Glass area and orientation impact heating and cooling solutions, lighting, acoustics and ceiling configuration and height.

f. Furnishings: Minimum planning considerations.

(1) Student Workstation: 36" deep x 52" wide,

(2) Ergonomic Chair: Padded rolling, chair, adjustable height, tilt, lumbar support, and armrest.

(3) Instructor Workstation: A desk work surface, 80" wide x 30" deep with a side return 42" wide x 30" deep, Ergonomic Chair. Printer and fax machines on an equipment stand.

(4) Ancillary Furnishings: Area to support student storage, coat racks, clock, equipment stands and racks, waste receptacles and recycling bins, etc.

(5) Ceiling Mounted Projection Systems: Two video projectors and two 10 feet wide motor operated screens.

g. Engineering Systems.

(1) Classroom Acoustics: Performance criteria for acoustic control are listed below. An acoustic wall panel is recommended for application to existing walls.

Performance within a Room (NRC-Noise Reduction Coefficient):

Ceiling: Absorptive, NRC 50 (minimum)

Floor: Absorptive, NRC 25 (minimum)

Performance into/out of a Room (STC-Sound Transmission Coefficient)

Between Instructional Spaces: STC 50

Between Instructional Spaces and Corridors: STC 50

(2) Classroom Heating, Ventilating, and Air Conditioning (HVAC): The primary HVAC system must provide adequate ventilation air (outside air) to support a room of 20 +/- students. Existing systems must have sufficient capacity and airflow to adequately cool the classrooms taking the occupancy and computer equipment loads into consideration. Modifications to an existing building system, beyond the classroom(s), must also be considered for a complete installation. The system shall meet the following requirements:

- 1) Temperature, maintained operation: 68 degrees F (heating), 78 degrees F (cooling);
- 2) Relative humidity: 30-50% year-round;
- 3) Outside air requirement: 15 CFM per person minimum;
- 4) Supply air quantity: 6 air changes per hour minimum;
- 5) Air movement: 40-FPM maximum in the zone 30" to 60" above floor level;
- 6) Air pressure: positive;
- 7) HVAC controls: Coordinate with the installation EMCS to ensure the system will be operational when classes are scheduled.

(3) Communications: A fully functional capability requires these communication components:

- 1) Connectivity from the site/installation to the wide area network (DISN);
- 2) Connectivity from the building switch to the installation back-bone;
- 3) Connectivity from the building switch to the classroom switch, and
- 4) Connectivity from the classroom switch to each workstation and peripheral in the classroom.

(4) Electrical Power: Each classroom requires, at a minimum, a 200 amps, 120/208 volt, 3-phase, 4-wire, electrical panelboard. The panelboard will require 24 single-pole, 20 amp circuit breakers. Power should be conditioned where possible.

(5) Electrical Lighting: Lighting, integral to the ceiling, includes dual banked parabolic louver fixtures with fluorescent lamps. Fixtures shall be placed to avoid directly lighting projection screens. /12/

9. REFERENCES.

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- A-3 DEF 171-51-02, Department of the Army Standard Design Package for Medium Size Battalion Headquarters, February 1987
- A-4 DEF 171-51-03, Department of the Army Standard Design Package for Large Size Battalion Headquarters, February 1987
- A-5 DEF 171-51-04, Department of the Army Standard Design Package for Two Story Small Size Battalion Headquarters, April 1988
- A-6 DEF 171-51-05, Department of the Army Standard Design Package for Two Story Medium Size Battalion Headquarters, April 1988
- A-7 DEF 171-51-06, Department of the Army Standard Design Package for Two Story Large Size

Battalion Headquarters, April 1988

- A-8 DEF 141-83-01, Department of the Army Standard Design Package for Small Size Battalion Headquarters without Classrooms, April 1988
- A-9 DEF 141-83-02, Department of the Army Standard Design Package for Medium Size Battalion Headquarters without Classrooms, April 1988
- A-10 DEF 141-83-03, Department of the Army Standard Design Package for Large Size Battalion Headquarters without Classrooms, April 1988
- A-11 DEF 141-82-01, Department of the Army Standard Design Package for Brigade Headquarters, February 1987
- A-12 **\28\UFC 4-140-02, Department of the Army Standard Facilities Standardization Program, Company Operations Facility Standard Design, 30 April 2004/28/**
- A-13 DEF 141-14-01, Department of the Army Standard Design Package for Criminal Investigation Command Field Operations Facility, February 1995
- A-14 DG 1110-3-144, Design Guide, CIDC Field Offices, November 1977 (available on the USACE Publication Internet Site at <http://www.usace.army.mil/inet/usace-docs/design-guides/all.htm>)
- A-15 DEF 131-20-01, Department of the Army Standard Design Package for Information Systems Facility, 15 May 1987
- A-16 **\28\ER 1110-3-113, Department of the Army Facilities Standardization Program, 27 September 1993/28/**