

HEADQUARTERS UNITED STATES EUROPEAN COMMAND



ED 68-1

JOINT TASK FORCE ENGINEER STAFF STANDARD OPERATING PROCEDURES

This Directive supersedes ED 68-1, dated 06 Nov 1996.

JOINT TASK FORCE ENGINEER STAFF STANDARD OPERATING PROCEDURES**- OVERVIEW -**

The USEUCOM Engineering Division developed ED 68-1 to assist staff engineers assigned to a HQ EUCOM Joint Task Force Engineering Staff. This publication expands upon the Engineer Chapter 20 found in ED 55-11, Joint Task Force Headquarters Policies, Procedures and Organization. It addresses engineer responsibilities, organization and procedures and provides helpful references to facilitate decisions and actions.

Appendices contain detailed descriptions of essential references, contingency engineer support requirements, engineer unit data, and instructions for mission-required reports and actions.

The authors incorporated information from various component engineer publications, interviews with component headquarters, observations and professional experiences of U.S. Army, Air Force, Navy, and Marine Engineers. HQ EUCOM J4-EN will update the appendices as needed to ensure current information.

Copies of ED 68-1 were mailed to USEUCOM component service headquarters in Europe, component engineer centers and schools, as well as the various EUCOM directorates for comment, future use and additional dissemination.

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HEADQUARTERS
UNITED STATES EUROPEAN COMMAND
APO AE 09131

DIRECTIVE
NUMBER 68-1

CONTINGENCY ENGINEERING

JOINT TASK FORCE ENGINEER STAFF STANDARD OPERATING PROCEDURE

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1. **Summary.** This directive defines JTF Contingency Engineer Staff (hereafter called the JCES) responsibilities, organization, procedures, and resources involved in planning and executing contingency engineering/ construction support in the USEUCOM Area of Responsibility (AOR).
 2. **Applicability.** This directive applies to:
 - a. Headquarters United States European Command (HQ USEUCOM).
 - b. United States Army Europe (USAREUR), United States Naval Forces Europe (USNAVEUR), United States Air Forces in Europe (USAFE), United States Marine Forces Europe (USMARFOREUR), and Special Operations Command Europe (SOCEUR).
 - c. JTFs established by the Commander-in-Chief, USEUCOM.
 3. **Internal Control Systems.** This Directive contains internal control provisions and is subject to the requirements of the internal management control program. For HQ USEUCOM and subordinate joint activities, the applicable internal control directive is ED 50-8, Internal Management Control Program.
 4. **Suggested Improvements.** HQ EUCOM J4-EN is responsible for updating this directive. Forward suggested improvements to HQ USEUCOM Attn: ECJ4-EN, Unit 30400, APO AE 09131.
 5. **References.** See Appendix I - Tab A.
 6. **Explanation of Terms.** See Appendix VII.
 7. **Responsibilities.** The JTF Engineer Staff will provide the following during the planning and execution of contingency operations in the JTF AOR:
 - a. Time-Phased Force Deployment List (TPFDL) for engineering activities and units.
 - b. Civil Engineering Support Plan (CESP) in the form of an OPLAN's Engineer Annex or as an appendix to an OPLAN's Logistics Annex.
 - c. Establish JTF Engineering Policy and Theater Guidance.
 - d. Coordinate and plan theater-level engineering.
 - e. Assess contingency engineering operations throughout the AOR and prepare the daily Logistics Engineer Report (LOGENG)
 - f. Receive the Engineer Situation Report SITREP from components or the senior engineer commander as required.

g. Provide engineer plans and estimates, and recommend allocation of engineer resources.

h. Coordinate real estate acquisition and disposal and recommended resolution of area allocation conflicts between JTF service component commanders.

i. Provide monitoring and guidance for implementing base development plans.

8. **Policies and Procedures**. This directive specifies policies and procedures relating to the organization and operation of JCES:

9. **Contingency Engineering**. Depending upon the particular mission, the JTF engineer organization may be organized within the Operations Directorate (J-3), the Logistics Directorate (J-4), or as a special staff answering directly to the JFC. This directive helps to define the structure and standard operating procedures for the JCES. It also outlines Civil Engineering Support Plan (CESP) preparation within the purview of USEUCOM operations. The appendices include Internet links to references and engineer unit data as well as contact information and instructions for required reports. The mission of the JCES is to support the Joint Task Force (JTF) Commander in a contingency operation. These responsibilities include the development of specific deliverables and typically the accomplishment of JCES actions:

a. Provide all JTF staff elements with engineering input needed to prepare estimates.

b. Develop a Time Phased Force Deployment List (TPFDL) for the execution of Theater-level engineering requirements. Refer to the Engineer Staff Estimate section on TPFDL development.

c. Develop a CESP.

d. Coordinate and plan Theater-level contingency engineering support for the operation.

e. Maintain a current assessment of contingency engineering operations throughout the AOR and prepare daily SITREPs on engineering requirements.

f. Prepare and maintain a comprehensive briefing on the status of Theater contingency engineering for the operation.

g. Prepare a detailed Main Supply Route (MSR) analysis to include Military Load Classes of roads and bridges as well as limiting factors such as steep gradients, narrow tunnels and overhead restrictions.

10. **Mobilization and Deployment**. The JTF facility at Kelley Barracks (in proximity to Patch Barracks, the site of HQ USEUCOM) is a good site for standing up a JTF. The facility has an office for engineers. It includes a classified file cabinet, STU-III, and two computers with SLAN capability. This equipment is not deployable and must remain at Kelley Barracks

a. Reservist personnel selected for the JCES will process through the Joint European Reception Unit (JERU) at Patch Barracks. Time permitting, engineer augmentees will report to the fourth floor of Bldg. 2304 to meet the HQ USEUCOM J4 Engineer staff, before reporting to the JTF site.

b. USEUCOM JTF engineers shall complete all pre-deployment readiness tasks such as immunizations before deploying to the JTF site.

11. **Engineer Plans**. The first plan will be

an initial engineering assessment of the situation. JCES personnel will then develop a Civil Engineering Support Plan (CESP) to support the JTF OPLAN or OPORD. The Civil Engineering Support Plan (CESP) can be an engineer annex or an appendix to a logistics annex. The CESP provides JTF policy guidance for executing the engineering mission. The following sections describe the purpose, coordination and format for delineating engineering support:

a. The OPLAN CESP will address the concept of engineering operations, construction policy and general priorities, engineering resources, responsibilities, and coordinating instructions necessary to execute the OPLAN.

b. The CESP is developed after completion of the initial engineer estimate and is developed in coordination with all JTF staff directorates. It will be developed concurrently with the basic OPLAN to ensure engineer-related capabilities and limiting factors are considered prior to course of action selection.

c. A general outline for the CESP is at Appendix II.

d. The CESP is normally Appendix 5 (Engineering Support) to Annex D (Logistics). The CESP should include output from the Joint Engineering Planning and Execution System (JEPES), which is a computer model for estimating construction requirements based on TPFDL and user-generated requirements. If JEPES isn't used, the actual engineer data should be used.

NOTE: The JOPES format requires environmental guidance, which is published as Annex L to USCINCEUR Standard Plan 4000 (U) Environmental Considerations

12. Resource Requirements.

a. Estimate time-phased construction requirements based upon the situation.

b. Determine the engineer resources or facilities required to accomplish the engineer mission. Resource priorities for filling shortfalls are listed in Table 12-1.

c. Determine which projects can be accomplished by contract, then estimate the staff and funding required to execute the contracts. Coordinate with the contract construction agent(s) for their area of responsibility. (See Appendix VI - Tabs A and B.)

d. Estimate troop construction requirements, including types and numbers of units, and develop the TPFDL for the required engineer units. Engineer unit capabilities and availability are shown at Appendix IV. Coordinate with J3 JOPES personnel to generate the TPFDL.

TABLE 12-1 Engineer resource priority levels for determining the priority of engineer resource allocation.

Priority	Engineering Resource
I	Lease/Rent/Acquire or US owned
II	US owned pre-positioned facilities substitutes
III	Host Nation Support
IV	Commercial substitute facilities
V	US Substitute facilities in/out of Theater
VI	In-Theater military engineers
VII	In-Theater contractor
VIII	Out-Theater contractor
IX	Out-Theater military engineers

e. Estimate critical Class IV materials required to support the operation by C-date. Determine local availability, cost and plans for moving supplies from the source or supplier to the supply node or construction site. Coordinate with J4 Logistics Operations to ensure Class IV requirements are integrated into the overall pre-positioning and logistics flow into Theater.

13. Plan Development.

a. Consider the overall situation when developing an assessment on the engineering situation.

b. Develop a list of assumptions as needed to develop the plan. Do not delay developing an interim CESP due to a lack of knowledge about the situation, planning factors, or operational guidance. Instead, use your best judgment in developing a plan and then update it as the operation unfolds.

c. Decide what information is needed and coordinate with the JTF J2 to collect and maintain engineer intelligence data. Define the JTF staff responsibilities required to collect and maintain engineer intelligence data.

d. Consider the Commander's intent and the OPLAN mission to develop an engineer mission statement.

e. Develop the concept of engineering operations to support the mission. Include the following information as a minimum:

(1) Priority of engineer tasks. Priorities may include specific types of support or facilities, priority customers, or primary locations/geographical areas of support.

(2) Engineer unit work locations or areas of responsibility.

(3) Specific engineer task assignments, which are generally accomplished by the engineer troop units and a facilities acquisition team.

(4) Construction standards. Initial standards are normally used for contingency operations.

(5) Civil affairs involvement in the project. Identify command, control and communications among field commanders, facilities acquisition teams, and the host nation to assist with providing engineer support, easements, customs clearance, use of facilities, etc.

(6) Real estate responsibility. One of the service components is assigned responsibility for the country.

(7) Explosive ordnance disposal (EOD) and mine clearance responsibilities and capabilities.

(8) Environmental protection as per Annex L to USCINCEUR Standard Plan 4000 (U) Environmental Considerations

(9) Protective construction policy in support of defensive operations and force protection.

(10) Procedures for construction material support.

(11) Identify command and control relationships for all units supporting the JTF engineer mission. Example JTF organizations for engineers are included at Appendix III, Tab A. Generally, the JTF engineer will function solely as the JTF commander's staff engineer. Rarely will the JTF engineer have command and control of engineer units. Instead, service component commanders will retain operational control over their engineer resources. However, if a Theater-level engineer mission is identified,

the JTF or ground component commander will likely assume operational control of assigned engineer units.

14. **Engineer Staff Estimate.**

a. Staff estimates, including the Engineer estimate, are the foundation for the JTF Commander's estimate.

b. The staff estimate includes development of the TPFDL and OPLAN annexes. The JCES will take the following actions in developing the engineer staff estimate:

- (1) Understand the Commander's Intent and Concept of Operation.
 - (2) Develop a project prioritization scheme; obtain J3 concurrence and update as necessary.
 - (3) Develop troop lists and obtain approval of troop requirements for inclusion in the OPLAN TPFDL.
 - (4) Plan within funding limitations.
- c. Planning resources include the following:
- (1) JCES Deployment Kit (Appendix I - Tab B).
 - (2) Portable Contingency Engineering Library, which is the responsibility of the deployed JCES to setup and maintain. It is up to the JCES to determine what publications to have onboard as hard copy and which are accessible by Internet. See staff references in Appendix I – Tab A for the publication list.
 - (3) Troop engineering assets, capabilities and logistical requirements (Appendix IV).

(4) Contingency acquisition and construction contracting services (Appendix VI).

(5) Crisis Action Planning (CAP) checklist (Appendix I - Tab C).

d. Time Phased Force Deployment List (TPFDL) Development. During a crisis situation, the JCE will recommend troop-engineering resources to accomplish possible courses of action. Ideally, a fully developed, sourced and refined OPLAN would have already been developed. However, take the following seven steps when faced with the less-than-ideal situation of having to develop an original TPFDL. The key is to use the Force Module Subsystem (FMS) capabilities of the Joint Operation Planning and Execution System (JOPES) by using JOPES operators located within the J3, J4, and J5. The basic process follows below:

Step 1--Begin to develop the Engineer's Estimate and review the list of engineering Force Module Subsystems (FMSs) available in the JOPES OPLAN or Force Module database library.

Step 2--Review the engineer units available in Theater. Review each unit's description, capabilities, equipment, and self-sustainment durations for mission suitability.

Step 3--Identify mission shortfalls of in-Theater engineer unit types, by Unit Type Code (UTC). Using the UTCs, identify non-Theater units to insert into the TPFDL. NOTE: All engineer unit UTCs begin with number 4.

Step 4--If USCINCEUR engineer assets are insufficient: USEUCOM must request augmentation from other Unified Commands via the Joint Staff.

Step 5--The JOPES-created TPFDL identifies times for unit employment to include Ready

to Load (RTL) dates, Available to Load (ATL) dates, shipment times to Port of Embarkation (POE) and times to Port of Debarkation (POD). This information will help build deployment schedules to support the Engineer's Estimate.

Step 6--The Joint Flow and Analysis System for Transportation (JFAST), available through JOPES, furnishes a quick-response capability to determine the transportation feasibility for the selected concept of operations. The J4 Joint Movement Division will prepare an analysis to determine the throughput capability of the identified Sea Ports of Debarkation (SPODs) and Aerial Ports of Debarkation (APODs). The JFAST uses TPFDL data to perform this analysis. Problems are then identified so the TPFDL can be further refined.

Step 7--The engineer will analyze the JFAST report to advocate engineering priorities in support of the commander's intent. This will be the basis of the Engineer's Estimate and recommended course of action. Staff coordination is essential to ensure the best recommendations.

e. Material. Availability and transportation of Class IV materials can be vital to the opening of Theater (strategic) APODs, SPODs and GLOCs. Engineering materials to support these "strategic" nodes in a contingency operation will likely be crucial to the initial surge of forces and equipment through the strategic ports and into the maneuver area. Because early-flow of Class IV packages require a corresponding security force element, carefully selecting contracting force modules for engineering material and facilities is paramount. Contingency acquisition teams on location may be able to acquire engineering material. Therefore, either these teams or the required materials must be sourced early in the TPFDL. Transportation for Class IV materials into the Theater must be included in JOPES.

15. JTF Contingency Engineer Staff (JCES) Operations.

a. This section provides guidance for the organization, operation and manning of the JCES. It also provides guidance for prioritizing and executing projects in both hostile and non-hostile environments.

b. Staffing. Refer to Appendix III.

c. Staff SOP. The JCES initially reports to the JTF J4 and provides overall staff support for the preparation of engineering assessments, prioritization and planning of engineer support, and prioritization of engineering work in the JTF AOR. Procedures for logging and tracking message traffic, identifying and tracking contingency engineering support, and the maintenance of a current and accurate status map are essential. ED 55-11 provides guidance to assist in organizing the JCES to meet the initial and continuing engineering staff support required in a contingency.

d. Equipment requirements. Appendix I – Tab B lists staff equipment available for immediate planning. The forward deployed JTF HQ location will drive additional JCES requirements. Specific considerations include utilities, office furnishings, space and storage (unclassified and secure).

e. The following engineering tasks are typical JTF engineering requirements. The JCES needs to consider these areas when planning engineering support for a contingency (See Appendix II):

- Water well drilling
- Bridge erection or repair
- MSR maintenance and improvements
- Missile site preparation
- Class IV material assessment
- Pipelines: water, POL and tank farms

- Logistical Base preparation all classes of supply
- Field hospital erection
- Bunker construction / facility hardening
- MSR/LOC survey, reconnaissance, maintenance
- Barrier and denial operations
- EOD operations
- Power supply and generation
- APOD/SPOD repair, maintenance and enhancement
- Paving operations asphalt / concrete
- Disaster control and Recovery
- Cargo handling sea/air
- Fire fighting
- Water production (ROWPU)
- Displaced Civilian Camps (OOTW)
- Messing and Berthing Facilities
- Environmental Projects
- Disaster Response (OOTW)

f. Execution

(1) For assessment, the engineer must identify construction standards and available construction materials.

Construction standards will be austere in the initial phase of a contingency. This limits the demand on Class IV materials, associated lift, and engineer assets.

Facilities acquisition agents (Appendix VI – Tab A) or real estate agents can enhance operations by arranging to use existing facilities / infrastructure or by leasing prefabricated or relocatable structures.

(2) When new construction is required, the JCES needs to decide whether to use initial or temporary construction standards IAW local conditions. Austere facilities and minimal construction effort characterize initial construction, which is intended for durations of less than six months. In contrast, temporary construction is used for durations as long as 24 months.

It is minimal in nature and is normally the standard for sustained operations. Another option is to use upgraded standards for sustained operations to increase operational efficiency. Facilities acquisition agents will help to determine available standards.

g. Project Prioritization. Facility requirements to support a contingency operation will likely exceed available troop construction assets and require real estate/contracting actions either concurrent with or shortly after the initial surge of forces. For example, a JTF forward headquarters or crane operation at a major commercial seaport might require early facilities acquisition and real estate actions. The JCES will develop a project prioritization scheme to prioritize all projects upon receipt. All projects must be reviewed periodically to ensure the Theater project list is current. The JCES should provide execution recommendations for all priority I projects before addressing lower priority issues. Tables 15-1 and 15-2 below are examples of military mission project priorities for hostile and non-hostile operating environments:

TABLE 15-1 Military Mission Project Prioritization Scheme “Hostile Environment”

Priority	Project Characterization
I	Provides initial protection to sustain deployed US and other relief forces.
II	Provides immediate life saving engineering support to stabilize the population and situation.
III	Provides temporary life sustaining support such as refugee camps, latrines, wash facilities and water points.

TABLE 15-2 Military Mission Project Prioritization Scheme “Non-Hostile Environment”(Humanitarian Assistance/Disaster Relief)

Priority	Project Characterization
I	Projects which, if omitted, would inflict high-penalty costs in loss of life and early defeat of friendly forces
II	Projects which, if omitted, would seriously degrade combat effectiveness, increase vulnerability on the battlefield, increase probability of tactical defeats, and degrade sustainability
III	Projects, which, if omitted, would degrade quality of Combat Service Support (CSS), reduce long-term sustainability, produce equipment and material losses, and adversely affect tactical operations.

h. Project Funding. The JCES should coordinate with the JTF comptroller to ensure Class IV procurement and facilities acquisition plans are consistent with JTF funding policy.

16. Documentation and After Action Procedures.

a. This section describes the documentation requirements for the JCES to ensure staff transition continuity and to provide for functional revisions to this directive based on lessons learned from exercises and actual operations. Primary continuity documents include a Staff Duty Log, a Turnover File and an After Action Report (AAR) for each exercise or operation.

b. Staff Duty Log. All incoming and outgoing messages will be documented in the staff duty log. All JCES action messages will have a corresponding document control number, an action officer’s name, date to be completed, and a summary of actions required.

c. Turnover File. The JCES Chief will maintain a Turnover File (Appendix VII - Tab C) to maintain continuity in the JCES organization and provide reference notes for the after action report. The file is created at initial JTF standup and updated periodically to ensure current data and project status records are maintained. The method of capturing historical data may vary.

d. After Action Report. The JCES will capture historical data for AARs and lessons learned to support current and future staff planning and execution. This data will be incorporated in the JTF historical files, special reports, and lessons learned.

FOR THE COMMANDER IN CHIEF:

OFFICIAL:

DANIEL J. PETROSKY
Lieutenant General, USA
Chief of Staff

AVA N. WEBB-SHARPLESS
Lt Col, USAF
Adjutant General

APPENDICES

- I - Staff References and Equipment Requirements
- II - Civil Engineer Support Plan (CESP)
- III - Administration
- IV - Engineering Assets
- V - Construction Material Support
- VI - Contingency Acquisition
- VII – Reports
- VIII – Glossary

DISTRIBUTION:

P+

USAFE (10)
ATTN: USAFE/CEX
Unit 3050 Box 10
APO AE 09094-5010

USAREUR (10)
ATTN: AESG-AW
Unit 5678, Box 1234
APO AE 09998

USNAVEUR (10)
ATTN: 09C-F
CMR 3456, Box 8765
FPO AE 09997

CDR 6th ASG (5)
ATTN: AE6G-PU
CMR 5432, Box 1357
APO AE 09996

(Less DAOs and ODCs)

APPENDIX I STAFF REFERENCES AND EQUIPMENT REQUIREMENTS

TAB A - Reference List

TAB B - JCES Deployment Kit List

TAB C – Crisis Action Planning (CAP) Checklist

TAB D – Functional Proponents Points of Contact

APPENDIX I STAFF REFERENCES AND EQUIPMENT REQUIREMENTS**TAB A REFERENCE LIST**

The following documents are engineering references that will help the joint engineer to develop Joint Contingency Plans:

1. General Reference The following references are country or area specific:

a. AOR Plans/OPLANs are available on the SLAN EUCOM website--click on "EUCOM Operations Plans" and then "J5 Plans Library." At the bottom of the page, click on the link "**Complete an Account Request Form**" to get a username and password. Contact the J5 representative for OPLANs specific to your situation. Also, check <http://www.dia.smil.mil> for useful planning information.

b. Civil Engineering Support Plan (CESP). You will develop this plan for your situation.

c. Engineering Planning Guides by Country (AOR Country Books). Check with the J4-EN Contingency Engineering Branch to get specific information on the country in question. Also, check the DIA website for engineering intelligence.

d. MILGROUP Points of Contact

e. Copies of Host Nation Agreements

f. Status of Forces Agreement (SOFA)

2. DOD References:

<http://www.dtic.mil/whs/directives>

a. DOD Directive 1315.6, Responsibilities for Military Troop Construction Support of the Department of the Air Force Overseas.

b. DOD Directive 2010.5, DOD Participation in the NATO Infrastructure Program.

c. DOD Directive 4270.5, Military Construction Responsibilities.

d. DOD Directive 4270.36, DOD Emergency, Contingency and Other Unprogrammed Construction.

3. Joint Publications:

<http://www.nmcc.smil.mil/dj9j7ead/doctrine/jel/>

a. AFSC Pub 1, The Joint Staff Officers Guide (Purple Book)

b. JCS Pub 1, Joint Warfare of the US Armed Forces

- c. JCS Pub 0-2, Unified Action Armed Forces (UNAAF).
- d. JCS Pub 1-03, Joint Reporting Structure, Vol II: Part 4, Chapters 35 and 37; Part 13, Chapters 5 and 6.
- e. JCS Pub 3-00.1, Joint Doctrine for Contingency Operations
- f. JCS Pub 3-07.3, JTTP for Peacekeeping Operations
- g. JCS Pub 3-08, Interagency Coordination During Joint Operations
- h. JCS Pub 3-15, Joint Doctrine for Barriers, Obstacles and Mine Warfare
- i. JCS Pub 3-34, Engineer Doctrine for Joint Operations, 5 July 2000
- j. JCS Pub 3-57, Doctrine for Joint Civil Affairs
- k. JCS Pub 4-0, Doctrine for Logistic Support of Joint Operations
- l. JCS Pub 4-01, Mobility Systems Policies/Procedures/Consideration
- m. JCS Pub 4-01.1, Airlift Support to Joint Operations
- n. JCS Pub 4-01.3, JTTP for Movement Control
- o. JCS Pub 4-04, Joint Doctrine for Engineering Support
- p. JCS Pub 5-0, Doctrine for Planning Joint Operations
- q. JCS 5-02.1, Joint Operational Planning System, Vol I, Deliberate Planning Procedures
- r. MJCS-235-86, Planning Factors for Military Construction in Contingency Operations
- s. Joint Operation Planning and Execution System (JOPES) Users Guide Version 3.3.2 (TD 18-14-3)

4. **Federal Acquisition Regulations:**

<http://www.arnet.gov/far/current/pdf/FAR.book.pdf>

- a. FAR 6.302, 6.303, 6.304. Permits other than full and open competition, i.e., limited bidder's lists.
- b. FAR 15.6. Permits source selection, choosing best contractor on factors other than price.
- c. FAR 16.603 and 31.109. Allows letter contracts, very short initial agreements, and phased advance agreements.

- d. FAR 52.212, 236, 245. Defense Priorities and Allocation System--Allows acquisition of materials and supplies first.
- e. FAR 25.102. Allows waiver of the Buy American Act to use foreign materials.
- f. FAR 36.302(a). Allows waiver of pre-solicitation notice to expedite contract.
- g. FAR 9.106(a). Allows waiver of pre-award survey to expedite contract.
- h. FAR 46.703. Allows waiver of warranties.
- i. FAR 19.801(b). Allows discretion in Small Business Program (U.S. Possessions only).

5. **USEUCOM References:**

<http://www.eucom.smil.mil/ecj1/ag/pubs/eds/index.htm>

- a. USEUCOM Directive 5-13, International Agreements; Authority and Responsibility
- b. USEUCOM Directive 55-11, Joint Task Force Headquarters SOP
- c. USEUCOM Directive 56-11 Disposition of and Negotiation for the Recovery of Residual Value of U.S. Excess Facilities Located in Foreign Countries
- d. USEUCOM Directive 60-2, Wartime Host Nation Support Planning and Procedures in U.S. European Command
- e. USEUCOM Directive 60-4, NATO Common Funded Infrastructure Responsibilities
- f. USEUCOM Directive 60-8 Logistics Support Using Acquisition and Cross Service Agreements (ACSA)
- g. USEUCOM Directive 61-4, Military Construction/Engineering in the USEUCOM Area of Responsibility
- h. USEUCOM Directive 62-3, Real Estate Operations
- i. USEUCOM Directive 80-1, Environmental Polices, Procedures and Responsibilities
- j. USEUCOM Directive 80-2, Environmental Executive Agent Remediation Policy

6. **Army References:**

<http://www.adtdl.army.mil/atdls.htm> (FMs,GTAs,MTPs, TMs etc)

<http://www.usapa.army.mil> (DA PAMs, AR's, Forms)

<http://www.usace.army.mil/usace-docs> (Engineer Publications, FMs, TMs, etc)

- a. Army FM 5-100, Engineer Combat Operations
- b. Army FM 5-104, General Engineering
- c. Army FM 3-34.230, Topographic Operations
- d. Army FM 5-116, Engineer Operations: Echelons Above Corps
- e. Army FM 5-412, Project Management
- f. Army FM 5-422, Engineer Prime Power Operations
- g. Army FM 5-424, Theater of Operations Electrical Systems
- h. Army FM 88-29/AF TM 5-785/NAVFAC P-89 Engineering Weather Data
- i. Army FM 3-0, Operations
- j. Army FM 100-17, Mobilization, Deployment, Redeployment, Demobilization
- k. Army FM-100-17-1, Army Prepositioned Afloat (Draft)
- l. Army FM 100-23, Peace Support Operations (Draft)
- m. Army FM 101-5, Staff Organization and Operations
- n. AR 700-137, Logistics Civil Augmentation Program (LOGCAP)

7. **Navy References:**

Naval Facilities Engineering Command Publications at <http://www.navfac.navy.mil/pubs.htm>

Navy Electronic Directives at <http://neds.nebt.daps.mil>

Naval Warfare Publications at

<http://www.nwdc.navy.mil/command/doctrine/cfnavpub/navpub.cfm?navpubid=2>

- a. NAVFAC P-1, Directory, Navy Civil Engineer Corps
- b. NAVFAC P-68 NAVFAC Contracting Manual
- c. NAVFAC P-73 Real Estate Procedural Manual
- d. NAVFAC P-80, Facility Planning Factor Criteria for Navy and Marine Corps Shore Installations
- e. NAVFAC P-314, Construction Battalion Unit Handbook
- f. NAVFAC P-315, Naval Construction Force Manual

- g. NAVFAC P-405, Seabee Planner's and Estimator's Handbook
- h. NAVFAC P-437, Facilities Planning Guide, Vol 1 and 2 (or electronic equivalent)
- i. OPNAVINST C3501.93B, Projected Operational Environment (POE) and Required Operational Capabilities (ROC) for Elements of the Naval Beach Group
- j. OPNAVINST.5450.46J, Doctrine and Policy Governing U.S. Naval Mobile Construction Battalion and Construction Battalion Units (CBU's)
- k. OPNAVINST.544.73E, Mission and Capabilities of U.S. Navy Cargo Handling and Port Group.
- l. NWP 22-3, Ship to Shore Movement.
- m. NWP 22-5, Naval Beach Group.
- n. NWP-22-9, Naval Construction Force Support of Marine Air Ground Task Force (MAGTF) Operations.
- o. OPNAV 41P3B, Table of Advanced Base Functional Components.
- p. NAVFACINST 11310.2E, Mobile Utilities Support Equipment (MUSE) Program.
- q. NAVFAC P-385, Base Development Planning for Contingency Operations.

8. [Air Force References:](#)

<http://afpubs.hq.af.mil>

- a. AFI 10-41, USAF Operational Planning Process
- b. AFI 10-209, Civil Engineering RED HORSE Squadron (replaces AFR 93-9, same subject)
- c. AFI 10-210, Prime BEEF Program
- d. AFI 10-211, Contingency Response Planning
- e. AFI 10-403, USAF Mobility Planning
- f. AFI 10-404, USAF Base Support Planning
- g. AFI 32-2001, Fire Protection Program
- h. AFI 125-101, War Readiness Materials Policy
- i. AFI 10-211, Troop Construction and Engineering Support of the Air Force Overseas

- j. AFM 3-2, Civil Engineering Combat Support Doctrine
- k. AFM 86-3, Vol I, Planning and Design of Theater of Operations Air Base
- l. HQ AFCESA Prime BEEF Wartime Task Standards, Oct 93
- m. HQ AFCESA Handout 93-12
- n. RED HORSE Contingency Operations Pamphlet
- o. USAF Contingency Engineering Course Material (AFIT Course ENG 485)
- p. AFH 10-222 Vol 1, Guide to Bare Base Development
- q. AFH 10-222 Vol 2, Guide to Bare Base Assets
- r. AFH 10-222 Vol 4, Environmental Guide for Contingency Operations
- s. AFH 10-222 Vol 5, Guide to Bare Base Power Plant Installation
- t. AFH 10-222 Vol 6, Guide to Bare Base Facility Erection
- u. AFH 10-222 Vol 7, Emergency Airfield Lighting System (EALS)
- v. AFH 10-222 Vol 8, Guide to Mobile Aircraft Arresting System Installation
- w. AFH 10-222 Vol 9, Guide to Reverse Osmosis Water Purification Unit Installation and Operation
- x. AFH 10-222 Vol 10, Guide to Harvest Falcon Electrical System Installation
- y. AFH 10-222 Vol 12, Guide to Bare Base Mechanical Systems
- z. AFH 10-222 Vol 14, Guide to Fighting Positions, Obstacles, and Revetments
- aa. AFH 10-222 Vol 16, Guide for Use of the Minimum Airfield Operating Surface Marking System
- ab. AFH 10-222 Vol 22, Refugee Camp Planning and Construction Handbook

9. Marine Corps References:

<http://doctrine.quantico.usmc.mil>

- a. FMFM 4, Combat Service Support
- b. FMFM 5-1, Organization and Function of Marine Aviation

- c. FMFM 13, MAGTF Engineer Operations
- d. FMFM 13-4, Naval Construction Force Support of MAGTF Operations
- e. OH 2, Marine Air-Ground Task Force (MAGTF) Operations
- f. OH 4-1, Combat Service Support Operations
- g. OH 5, The Marine Aviation Combat Element (ACE)
- h. OH 6-1, Ground Combat Operations

APPENDIX I STAFF REFERENCES AND EQUIPMENT REQUIREMENTS**TAB B JCES DEPLOYMENT KIT LIST**

The JTF J-4 Operational Equipment List should address current C4I requirements and be tied directly to the JTF staff organization. Recommended equipment includes, but is not limited to the following:

1. Six (6) STU-III phones
2. Four (4) STU-III A phones
3. Two (2) commercial telephones* (push-button instruments desired)

***NOTE: If commercial telephone lines are not available, a satellite telephone (INMARSAT) should be obtained from a Component Command or HQ USEUCOM. In addition, a Tactical Satellite (TACSAT) is highly recommended for remote locations.**

4. One (1) portable unclassified FAX machine
5. One (1) portable classified FAX machine
6. Two (2) modem cards for laptop computers and one (1) STU-III
7. Twelve (12) multi-voltage personal computers with enough GHz, RAM and hard drive to support all software and hardware requirements (3 1/2" HD Drive, ZIP drive, CD-R/W/RW drive, 6 each 17" SVGA Color Monitors and 6 each 21" SVGA Color Monitors with video accelerator cards.) Also, recommend a classified Ethernet card, FAX card and modem for STU-III to include communications software for six of the PCs.
8. One (1) PC network server with SIPRNET connectivity running a current DOD secure Operating System.
9. Two (2) laptop PCs with enough GHz, RAM and hard drive to support all software and hardware requirements.
10. Software: Should be the most current DOD software, which has traditionally been Microsoft based. Requirements include an Operating System (OS) that meets current DOD security guidelines, web browsing and email capabilities, and office programs for word processing, spreadsheets, slide presentations, database management, graphics manipulation, and project management. Specialty software includes but is not limited to DOD-approved Portable Document Format (PDF) file reader, Computer Aided Drafting and Design (CADD), Form Flow, Joint Engineering Planning and Execution System (JEPES), Global Command and Control System (GCCS), Theater Construction Management System (TCMS), Tele Engineering toolkit software, Acquisition Team (AT)-Planner and a Message Text Format Editor.
11. Two (2) Networkable B&W Laser Printers and 2 Networkable Color Laser Printers with additional 64 MB RAM and 8 sets of toner cartridges. (NOTE: Pack printers for shipping and

remove existing toner cartridges prior to shipping), plus 1 plotter and associated supplies for printing maps, graphics, etc.

12. Two (2) laser desk top scanners (map development).
13. Access to Global Command and Control System (GCCS) workstation and printer.
14. Twelve (12) Uninterruptible Power Supplies (UPS) for all PCs to protect hardware from surges and allow time to save data.
15. Two (2) laser color copiers and 2 boxes of copier paper.
16. Two (2) copy machines and 4 boxes of copier paper.
17. One (1) classified shredder and lubrication oil.
18. Eighteen (18) 1/2 x 11 laminator machines (for laminating maps) and lamination supplies.
19. Two (2) overhead projector computer interface devices with interconnecting cables (for SITREP and Power Point briefings).
20. (Optional) One (1) camcorder/TV/VCR set with 10 blank VCR tapes, two spare rechargeable battery packs (for site surveys), and a battery recharger.
21. One (1) 35mm camera with flash and 40 rolls of 36 exposure color slide film.
22. Three (3) digital cameras with proper accessories to hook up to existing printers.
23. Six (6) hand held calculators with metric conversion.
24. One (1) IBM or equivalent typewriter and spare ribbons.
25. Twenty (20) universal Electric Plug Adapters and 10' extension cords.
26. (Optional) Tele Engineering (TE) deployable kits are also available in Theater. These kits are available through NAU, DCSENGR and Tactical units at Brigade level and higher. Each kit consists of 1 ea M4 satellite phone, 1 ea STU III, 1 ea Polycom for VTC, 1 ea KIV 7 for secure communications, 1 ea laptop computer, 1 ea 13" TV with VCR, and 1 ea Digital Video Camera.
27. Joint Service Library List, administrative supplies and binders.

APPENDIX I STAFF REFERENCES AND EQUIPMENT REQUIREMENTS**TAB C CRISIS ACTION PLANNING (CAP) CHECKLIST****PHASE I: SITUATION DEVELOPMENT.**

1. Determine MC&G (Mapping, Charting, and Geodesy) requirements. Coordinate stockage and delivery of supplies.
2. Provide terrain analysis team OPCON to J2.
3. Provide engineer support to newly established JTF J5.
4. Provide engineer to Crisis Action Team (CAT).
5. Alert Task Force Contingency Engineering Management (JTFCEM) and LOGCAP, CONCAP, AFCAP and Field Force Engineering (FFE) proponents for possible augmentation. Note that the JTFCEM organization may be formed by the combatant commander or subordinate joint force commander to augment the combatant command or subordinate joint force staffs. The JTFCEM provides additional service engineering expertise to support deliberate and crisis action planning as well as providing expertise in construction management in contingency and wartime operations. These organizations should be staffed with expertise in combat engineering, general engineering and topographical engineering.
6. Determine Command Critical Information Requirements (CCIR) and Priority Intelligence Requirements (PIR).
7. Provide engineer input during staff estimate process.

PHASE II: CRISIS ASSESSMENT.

1. Request Joint Task Force Contingency Engineering Management JTFCEM, and FFE Support as well as LOGCAP, CONCAP and or AFCAP augmentation.
2. Submit component engineer Liaison Officer (LNO) requirement to J3.
3. Continue staff estimate process.
4. Notify Defense Mapping Agency for possible support.
5. Coordinate with theater topographic unit for support.
6. Notify U.S. Army Engineer School of support requirements.
7. Verify legal authorities/types of funds for construction.
8. Update CCIR and PIR requirements.

9. Provide engineer operations officer to JTF Advanced Echelon (ADVON).

PHASE III: COA DEVELOPMENT.

1. Receive/integrate augmentees into JTF Engineer Section.
2. Assist J2 and J5 preparation with MC&G.
3. Review CONPLANS that address specific contingency.
4. Receive Warning Order and perform mission analysis.
5. Perform staff estimates and development/analysis of COAs.
6. Receive funding authorities and types of funds for construction.
7. Receive and verify types/amounts of Host Nation (HN) available support.
8. Verify availability of reception and operations facilities.
9. Coordinate within staff and component engineers the following issues: optimum units, status, and possible unit tailoring for specified/implied missions.
10. Determine APOD/SPOD conditions, operational requirements, and required engineer support.
11. If conducting a disaster relief operation, determine what impact continued tremors/floods, etc., will have on engineer efforts.
12. Determine engineer response for disease vectors of primary concern.
13. Convene Joint Civil-Military Engineering Board (JCMEB).

PHASE IV: COA SELECTION.

1. Continue receiving CCIR/PIR.
2. Continue monitoring status of engineer units and support.
3. Draft the engineer annex, which includes the Civil Engineering Support Plan (CESP) and environmental protection standards.
4. Convene the Joint Facilities Utilization Board (JFUB).

PHASE V: EXECUTION PLANNING.

1. Continue receiving CCIR/PIR.

2. Continue monitoring status of engineer units and support.
3. Analyze selected COA for engineer supportability.
4. Participate in JTF war gaming of selected COA.
5. Provide engineer annex and input for JTF OPORD.
6. Begin engineer planning for redeployment and recovery.

PHASE VI: EXECUTION.

1. Perform JTF Engineer functions IAW JTF SOP and OPORD.
2. Continue engineer planning for redeployment and recovery.

APPENDIX I STAFF REFERENCES AND EQUIPMENT REQUIREMENTS

TAB D FUNCTIONAL PROPONENTS POINTS OF CONTACT**AMC:**UNIT: **Army Material Command (AMC)****Europe**

DSN PHONE: 375-6068

CML PHONE: 0049-621-487-6068

DSN FAX: 375-2066

CML FAX: 0049-621-487-2066

NIPER EMAIL: cmdgrp@hq.amceur.army.mil**DLA:**UNIT: **Defense Logistics Agency Europe**

DSN PHONE: 338-7602/7129

CML PHONE: 0049-611-380-7602/7129

DSN FAX: 338-7620

CML FAX: 0049-611-380-7679

SECURE DSN FAX: 338-7616

NIPER EMAIL: deuro@europe.dla.mil**EUCOM:**UNIT: **EUCOM Crisis Action Team (CAT)**

DSN PHONE: 430-5075/5915/8126

CML PHONE: 0049-711-680-5915

DSN FAX: 430-5069

CML FAX: 0049-711-680-5069

SECURE DSN FAX: 430-8126/5069

SIPER EMAIL: etccCommandDirectors.PG@eucom.smil.milUNIT: **EUCOM J 4 Cell in CAT**

DSN PHONE: 430-8776

CML PHONE: 0049-711-680-8776

DSN FAX: 430-5069

CML FAX: 0049-711-680-5069

SECURE DSN FAX: 430-8126/5069

NIPER EMAIL: cat-ecj4@eucom.milSIPER EMAIL: cat-j4@eucom.smil.milUNIT: **EUCOM J4 EN Contingency****Engineer**

DSN PHONE: (314) 430-8402/7475/7438

CML PHONE: 0049-711-680-XXXX

DSN FAX: (314) 430-5017

CML FAX: 0049-711-680-5017

SECURE DSN FAX: 430-5017

NIPER EMAIL: ecj4-en.pg@eucom.mil

SIPER EMAIL:

ecj4-en.pg@eucom.smil.milUNIT: **EUCOM J-4 JLOC**

DSN PHONE: 430-7333/4580

CML PHONE: 0049-711-680-XXXX

DSN FAX: 430-5090

CML FAX: 0049-711-680-5090

SECURE DSN FAX: 430-7402

NIPER EMAIL: jloc.pg@eucom.mil

SIPER EMAIL:

jloc_chief@eucom.smil.mil**MARFOREUR:**UNIT: **Marine Forces, Europe G-4**

DSN PHONE: 431-2567,441,438

CML PHONE: 0049-07031-15-

567,441,438

DSN FAX: 431-2519

CML FAX: 0049-07031-15-519

SECURE DSN FAX: 431-2380 (G-2)

NAVEUR:UNIT: **EFAMED Contingency
Engineer**

DSN PHONE: (314) 626-4720 x342

CML PHONE: +39 (081) 568-4720
x342

DSN FAX: (314) 626-4344

CML FAX: +39 (081) 568-4344

SECURE DSN FAX: NA

SIPER EMAIL:

engfldact@dms.naples.navy.smil.mil

UNIT: **NAVEUR Command Center**
 DSN PHONE: 235-4080/4527/4337
 CML PHONE: 044-207-514-4080
 DSN FAX: 235-4683
 CML FAX: 44-1715-14-4683
 SECURE DSN FAX: 235-4797
 SIPER EMAIL: cnecco@navetur.navy.smil.mil
 NIPER EMAIL: cnecco@navetur.navy.mil

UNIT: **NAVEUR Contingency Engineer**
 DSN PHONE: 235-4282
 CML PHONE: 0207-514-4282
 DSN FAX: 235-4585
 CML FAX: 0207-514-4585
 NIPER EMAIL: cnen725@navetur.navy.mil
 SIPER EMAIL:
cnen725@navetur.navy.smil.mil

SOCEUR:

UNIT: **SOCEUR J4**
 DSN PHONE: 430-5707
 CML PHONE: 0049-711-680-5707
 DSN FAX: 430-6463
 CML FAX: 0049-711-680-6463
 SECURE DSN FAX: 430-5149

US Army Corps of Engineers, Europe:

UNIT: **USACE, Europe Operations**
 DSN PHONE: 336-2643/2641/2637
 CML PHONE: 0049-611-816-2643/2641/2637
 DSN FAX: 336-2644 (NS)
 CML FAX: 0049-611-816-2644 (NS)
 SECURE DSN FAX: 336-2670
 NIPER EMAIL:
Naueoc@nau02.usace.army.mil

USAFE:

UNIT: **USAFE Command Center**
 DSN PHONE: 480-8200
 CML PHONE: 0049-637-147-8200
 DSN FAX: 480-9231
 CML FAX: 0049-6371-47-9231
 SECURE DSN FAX: 480-7917

SIPER EMAIL: USAFE.commandcenter@ramstein.af.smil.mil

UNIT: **USAFE J4 EN CAT Contingency Engineer**
 DSN PHONE: 480-8255/8561
 CML PHONE: 0049-6371-47-8255/8561
 DSN FAX: 480-7319
 CML FAX: 0049-6371-47-7319
 SECURE DSN FAX: 480-7319
 SIPER EMAIL: usafe.A4engineering@ramstein.af.smil.mil

UNIT: **USAFE J4 LRC CAT**
 DSN PHONE: 480-8576/8310
 CML PHONE: 0049-6371-47-8576/7300
 DSN FAX: 480-7319
 CML FAX: 0049-6371-47-7319
 SECURE DSN FAX: 480-7319
 SIPER EMAIL:
usafe.A4lrc@ramstein.af.smil.mil
 or usafe.aaxxx@ramstein.af.smil.mil

USAREUR:

UNIT: **USAREUR Crisis Action Team (CAT)**
 DSN PHONE: 370-8966/4906
 CML PHONE: 0049-6221-57-8966
 DSN FAX: 370-7852 (NS)
 CML FAX: 0049-6221-57-7852 (NS)
 SECURE DSN FAX: 370-7444
 NIPER EMAIL:
cat@hq.hqusareur.army.mil
 SIPER EMAIL:
cat-chief@dcops.hqusareur.army.smil.mil

UNIT: **USAREUR DCSENGR Engineer Planner**
 DSN PHONE: 370-6534, 7606
 CML PHONE: 0049-6221-57-XXXX
 DSN FAX: 370-7137 (NS)
 CML FAX: 0049-6221-57-7137 (NS)
 SECURE DSN FAX: NA

APPENDIX II CIVIL ENGINEERING SUPPORT PLAN

1. **General.** The policy and procedures for the Civil Engineering Support Plan (CESP) are at Appendix 6 of the Logistics Annex D in the Chairman Joint Chiefs of Staff Manual CJCSM 3122.03A. Joint Operation Planning and Execution System, Volume II, Planning Formats and Guidance. The website for the CESP format is <http://www.nmcc.smil.mil/dj9j7ead/doctrine/jel/cjcsd/cjcsd/cjcsd/m312203a.pdf>. Included in this appendix are the CESP format and the Suggested Construction Standards for Military Construction and Civil Engineering Support of Joint Operations. Also included is the actual USCINCEUR Standard Plan 4000-98 (U) Suggested Construction Standards for Military Construction and Civil Engineering Support of Joint Contingency Operations (U) with the associated USCINCEUR Standard Plan 4000-98 (U) Standards of Construction (U). These two documents are available through http://www1.eucom.smil.mil/ecj5/j5_plans/j5p_lib.html. In order to access Standard Plan 4000-98, you will need to contact J5 plans for a username and password to access the J5 plans interface on the Web.
2. **Purpose.** Establish procedures and define responsibilities for providing an integrated civil engineering support planning system for joint operations. These instructions encompass the actions required to plan and execute a program to provide facilities necessary for implementation of individual OPLANS and CONPLANS with/without TPFDDs and FUNCPLANS.
3. **Civil Engineering Support Planning.** Civil engineering support planning includes Determining engineering support requirements analyzing of the availability of facilities to fulfill those requirements.
 - a. The Supported Commander's concept of operations will determine civil engineering support requirements. Requirements should reflect the civil engineering support necessary for the expected duration and intensity of operations (limited to the forces employed) and time-phased.
 - b. Facilities are grouped into six broad categories that emphasize the use of existing assets over new construction. Fill the following categories in the priority order listed.
 - (1) US-owned, occupied, or leased facilities.
 - (2) Host-nation, allied, and coalition support for which an agreement exists for the host nation, allied, or coalition nation to provide specific types and quantities of facilities at specified times in designated locations.
 - (3) US-owned facility substitutes pre-positioned in Theater.
 - (4) Facilities available from commercial sources.
 - (5) US-owned facility substitutes stored in CONUS, e.g., Harvest Eagle, Harvest Falcon.
 - (6) Construction of facilities to meet shortfalls once existing assets are exhausted.
 - c. In general, the Supported Commander should plan expeditious facility construction to fill shortfall requirements (i.e., those facilities that cannot be sourced from existing assets identified

in paragraph 3b(1) through 3b(5) above). In these instances, the appropriate service, host-nation, or coalition nation should perform peacetime construction efforts to the maximum extent possible. Contracting support should be used to augment military capabilities. Because construction is time-consuming and entails the risk of not being finished in time to meet mission requirements, supported commanders should seek alternative solutions to new construction. Expedient construction (e.g., rapid construction techniques such as pre-fabricated buildings, clamshell structures, etc.) should also be considered as these methods can be selectively employed with minimum time, cost, and risk to offer in-Theater forces another source of temporary facilities.

4. **Civil Engineering Support Plan.** The culmination of sound civil engineering support planning is developing a comprehensive CESP that identifies essential civil engineering support required for the joint operations of an individual OPLAN. The CESP is incorporated into Appendix 6 to Annex D of an individual OPLAN as described in the "Civil Engineering Support Plan" format, which follows this planning guidance.

a. The CESP should identify overall facility requirements and summarize existing US assets, host-nation support, allied and coalition assets and construction available to satisfy those requirements. It should include requirements for host-nation, contract, allied, coalition, and US civil engineering forces and identify civil engineering capability available for accomplishing construction. It should also address essential combat engineering, emergency war damage repairs, maintenance of LOCs and main supply routes (MSRs), troop beddown, weapons storage and maintenance facilities, support to force protection, acquisition of construction and engineering services, and contract, host nation, allied and coalition support. The CESP should summarize shortfalls in terms of unsatisfied requirements.

b. The JOPES Joint Engineer Planning and Execution System (JEPES) program is a quantitative tool used to provide the general requirements for the CESP appendix to an OPLAN. Due to some non-quantitative aspects, the supported Commander will need to edit and coordinate JEPES results with all organizational users of civil engineering support during CESP preparation.

5. **CESP Outline Format.** The following is a sample outline format for a CESP, with paragraphs stating the type of desired information required.

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APPENDIX 6 TO ANNEX D TO USCINCEUR OPLAN 4999-99 ()
CIVIL ENGINEERING SUPPORT PLAN ()

() References: List references that provide guidance and applicable SOP.

1. () **General.**

a. () **Purpose, Scope and Limitations.** State in general terms what will and will not be

addressed. State the general character and magnitude of the civil engineer effort. Include gross estimate of expected enemy damage and any constraints affecting the engineering model.

b. () Engineering Intelligence

(1) () Refer to Annex B for significant intelligence concerning climatology, terrain, hydrography, and natural and industrial resources in the operational area.

(2) () List sources of engineering intelligence data, including dates of information.

c. () Concept of Civil Engineer Support. Explain the general concept for satisfying civil engineer requirements. Identify the overall facility requirements and summarize the existing US assets, host-nation support, allied, and coalition assets and construction to satisfy those requirements. Include the requirements for host-nation, contract, allied, coalition, and US civil engineering forces for accomplishing construction as well as essential combat engineering, emergency war damage repairs, maintenance of LOCs and main supply routes (MSRs), troop beddown, weapons storage and maintenance facilities, support to force protection, acquisition of construction and engineering services, and contract, host-nation, allied, and coalition support.

d. () Definitions. List definitions that are necessary to understand this plan but are not included in Joint Pub 1-02 or in the Glossary of this volume.

e. () International Agreements and Political Factors.

(1) () General. Summarize agreements, other arrangements, and political factors affecting the engineering model.

(2) () Real Property. State local policies for real property acquisition and use.

(3) () Host-Nation Support. Discuss use of the following, including resources that are expected to be made available. Specify quantity where possible.

(a) () Indigenous labor.

(b) () Local availability of construction materiel, supplies, and equipment.

(c) () Third-country labor force.

(d) () Local contractor.

(e) () Local facilities.

(4) () Limiting Factors. Identify rights, agreements, or other arrangements not now in existence that will be required to execute the plan.

f. () Construction Standards. Indicate the construction standards (per the guidance in Tab A

and Joint Pub 4-04) to be used by all Service components in the operational area and explain proposed deviations from these established standards.

g. () Planning Factors. Explain proposed deviations from the joint planning factors for military construction in contingency operations.

h. () General Priority of Development. Provide any general guidance for prioritizing engineer efforts. Include areas such as relative geographic, functional, and base priorities, Theater construction policy, etc.

i. () Protective Construction Policy. Define the command policy for protective construction and repair of damage. Include:

(1) () Statement of the enemy's capability to inflict damage. (A quantitative evaluation is not required.)

(2) () Protection required for weapon systems, personnel, and materiel.

(3) () Self-help versus engineer troop effort.

j. () Contractor. Discuss the availability and possible use of US or third-country construction contractors.

k. () Allied and Coalition Forces. Discuss the availability and possible use of allied and coalition civil engineering forces.

l. () Construction Policy. Provide the Supported Commander's guidance for construction of new facilities. In general, the Supported Commander should plan expeditious facility construction to meet shortfall requirements (i.e., those facilities that cannot be sourced from existing assets). In such instances, the appropriate Service, Host-nation, or alliance perform construction during peacetime, if possible. Contracting support should be used to augment military capabilities. Because construction is time-consuming and entails the risk of not being finished in time to meet mission requirements, supported commanders should seek alternative solutions to new construction. Expedient construction should also be considered. Expedient construction includes several types of rapid construction techniques such as pre-fabricated buildings, inflatable buildings, clamshell structures, etc. These construction techniques entail minimal time, cost, and risk to offer in-Theater forces another source of temporary facilities.

2. () Responsibilities for Civil Engineering Support Planning.

a. () Primary Responsibility. Identify each joint command echelon responsible for civil engineering support planning (i.e., unified command, sub-unified command, or joint task force) and identify each one's specific tasks.

b. () Supporting Responsibility. Identify each Service component command's civil engineering support planning responsibilities addressed in the OPLAN. Note that LOCs, bases, ports, depots, and airfields, may be jointly used and will require assignment of responsibility to

one component commander to ensure complete integrated planning, subsequent programming, and necessary coordination and construction.

3. () **Command Relationships**. Indicate in this paragraph, any recommendations to deviate from existing command relationships as they relate to the execution of support described in this appendix.

4. () **Time Phased Requirements**. Summarize construction and civil engineering support requirements and identify US civil engineering forces capability available for accomplishing those requirements. Provide time phased summaries and analysis of civil engineering forces to meet the requirements at least in terms of the five areas listed below. If the JOPES Joint Engineering Planning and Execution System is used, an analysis of each area related to the JEPES reports should be stated in each subparagraph below. Planners are encouraged to use graphic representations for their analysis. Report data is not required, but planners should be prepared to submit the data to the Joint Staff upon request. If JEPES is not used, indicate how the information was derived.

a. () **Facility Shortfalls**. Indicate alternate means of accommodating major functions.

b. () **Materiel Requirements**. Indicate in the analysis significant out-of-Theater requirements by general type and gross tonnage.

c. () **Civil Engineering Force Shortfalls**. Analyze required versus available work-hours at Theater and regional levels. Identify shortfalls by area, duration, and specific skill types. Summarize shortfalls in terms of unsatisfied requirements and assess the impact on OPLAN execution.

d. () **War Damage Repair**. Identify locations where heavy attacks are anticipated and estimate percent of engineer workload for repairs. Assess the potential effect on materiel, equipment, personnel readiness, and adequacy of assigned engineer force to repair.

e. () **Host-Nation Assignments**. Identify extent of reliance on host nation engineering assets and impact if host-nation engineers are not available.

5. () **Summary of Critical Factors Affecting the CESP**. Summarize major problem areas addressed in JEPES that may inhibit OPLAN implementation. Analyze possible solutions to these problems and evaluate the implications of each alternative in terms of its effect on the OPLAN.

Tab

A -- Suggested Construction Standards for Military Construction and Civil Engineering Support of Joint Operations

6. **Suggested Construction Standards**. The Chairman Joint Chiefs of Staff Manual suggests construction standards for military construction and civil engineering support of joint operations.

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TAB A TO APPENDIX 6 TO ANNEX D TO USCINCEUR OPLAN 4999-99 () SUGGESTED CONSTRUCTION STANDARDS FOR MILITARY CONSTRUCTION AND CIVIL ENGINEERING SUPPORT OF JOINT OPERATIONS ()

() References: List all references pertinent to this tab.

1. () Purpose. To provide suggested construction standards for the planning, design, and construction of facilities in support of joint operations.

2. () Standards of Construction

a. () Standards of construction determine the types of materiel and construction techniques used in constructing facilities in support of joint operations. Contingency construction standards provide criteria to efficiently accomplish the engineer combat support mission. These standards provide facilities a quality consistent with the mission requirements, personnel health and safety, and expected availability of construction resources. Where mission requirements are similar, services should use the same construction standards.

b. () The JEPES lists facility components by facility category code. The services establish construction standards for each category code by selecting specific components that are consistent with construction standards defined in the following paragraphs. Initial and temporary construction standards are described as follows:

(1) () The initial standard is intended for immediate austere operational support of units upon arrival in Theater. It includes austere facilities that minimize engineer construction effort. Facility use is limited, normally ranging from one to six months (depending on the specific facility). In some cases, replacement by more substantial or durable facilities is required.

(2) () The temporary standard provides for sustained operations. It is the minimum standard required to sustain operations for up to 24 months. In some cases, it replaces the initial standard. Where mission requirements dictate, it can be used from the start of the operation.

c. () Refer to Joint Pub 4-04 for further guidance on construction standards.

7. USCINCEUR Construction Standards. The USCINCEUR standard plan 4000-98 (U) suggested construction standards for military construction and civil engineering support of joint contingency operations.

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TAB A TO APPENDIX 5 TO ANNEX D TO USCINCEUR STANDARD PLAN 4000-98 (U)
SUGGESTED CONSTRUCTION STANDARDS FOR MILITARY CONSTRUCTION AND
CIVIL ENGINEERING SUPPORT OF JOINT CONTINGENCY OPERATIONS (U)

- (U) REFERENCES:
- a. (U) Joint Pub 4-04, Joint Doctrine for Engineering Support (Final Draft), 26 Sept 1995 (U).
 - b. (U) USCINCEUR Directive 61-4, Military Construction/Engineering in the USEUCOM Area of Responsibility, 9 March 1992 (U).
 - c. (U) Joint Pub 5.00.2, Joint Task Force Planning Guidance and Procedures, 13 Jan 1999 (U).

1. (U) Purpose. To provide suggested construction standards to use in planning, designing, and constructing of facilities in support of joint contingency operations.

2. (U) Standards of Construction

- a. (U) References a and b provide definitions of standards of construction. Construction in support of the USCINCEUR Plans will normally be austere and generally compatible with initial and temporary standards. Deviations from these standards may occur; however, the facility requirement must operationally justify the deviation. The exhibit to this tab provides examples of construction types.
- b. (U) Initial and temporary standards are described below.
 - (1) (U) The initial standard is intended for immediate austere operational support of units upon arrival in Theater. The initial standard has austere facilities that minimize engineer construction effort. Intended facility use is for a limited time ranging from one to six months (depending on the specific facility). In some cases, replacement by more substantial or durable facilities is required during the course of operations.
 - (2) (U) The temporary standard provides for sustained operations. The facilities provided are the minimum required to increase efficiency of operations for time

periods extending to 24 months. In some cases, it replaces the initial standard. Where mission requirements dictate, it can be used from the start of the operation.

8. Standards of Construction Exhibit USCINCEUR initial and temporary construction suggests standards for various types of construction.

Exhibit 1 X Standards of Construction

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Exhibit 1 To Tab A To Appendix 5 To Annex D to USCINCEUR Standard Plan 4000-98 (U)
Standards of Construction (U)

STANDARDS OF CONSTRUCTION		
TYPE OF CONSTRUCTION	INITIAL	TEMPORARY
Site Preparation	Clearing and grading for facilities sites, including drainage, revetments for POL and ammo storage and aircraft parking, aggregate for heavily used hardstands and soil stabilization.	Engineering site preparation, including pavement for vehicle traffic areas and aircraft parking, building foundations and concrete floor slabs.
Troop Housing/Dining/Admin/Mission Structures	Organic tentage with wooden floors	Relocatable structures such as: 1) HARVEST EAGLE/FALCON 2)Hard backed GP medium tents (rigid walls and floors) 3) FORCE PROVIDER
Electricity	Tactical generators, high voltage and low voltage distribution.	Non-tactical and/or high voltage distribution.
Water	Water points.	Limited distribution to hospitals, dining halls, and other large users.
Cold Storage	Portable reefer with freezer	Refrigeration installed in

STANDARDS OF CONSTRUCTION		
TYPE OF CONSTRUCTION	INITIAL	TEMPORARY
	units for medical, food service, and maintenance storage.	temporary structures.
Sanitation	Organic equipment evaporative ponds, pit or burnout latrines, lagoons for hospitals, and sewage lift stations.	Waterborne to austere treatment facility. Priority: hospitals, dining halls, bathhouses, decontamination sites and other high-volume water users.
Airfield Pavement	Tactical surfacing including matting, aggregate, and soil stabilization.	Conventional pavement. ⁽¹⁾
Fuel Storage	Bladders	Bladders and steel tanks.
⁽¹⁾ Note: The type of airfield surfacing to be used will be based on the expected number, types and weight of aircraft involved in operations, as well as material availability.		

APPENDIX III ADMINISTRATION

TAB A - JTF Organization

TAB B - JTF Engineer Manning and Responsibilities

TAB C – JTF Engineer Boards

TAB D - JTF Engineer Critical Tasks

APPENDIX III ADMINISTRATION

TAB A JTF ORGANIZATION

General: Based upon specific mission requirements, the JTF engineer organization may be task organized within the Operations Directorate (J-3), the Logistics Directorate (J-4), or organized as a special staff answering directly to the JFC. The below figures provide some example configurations.

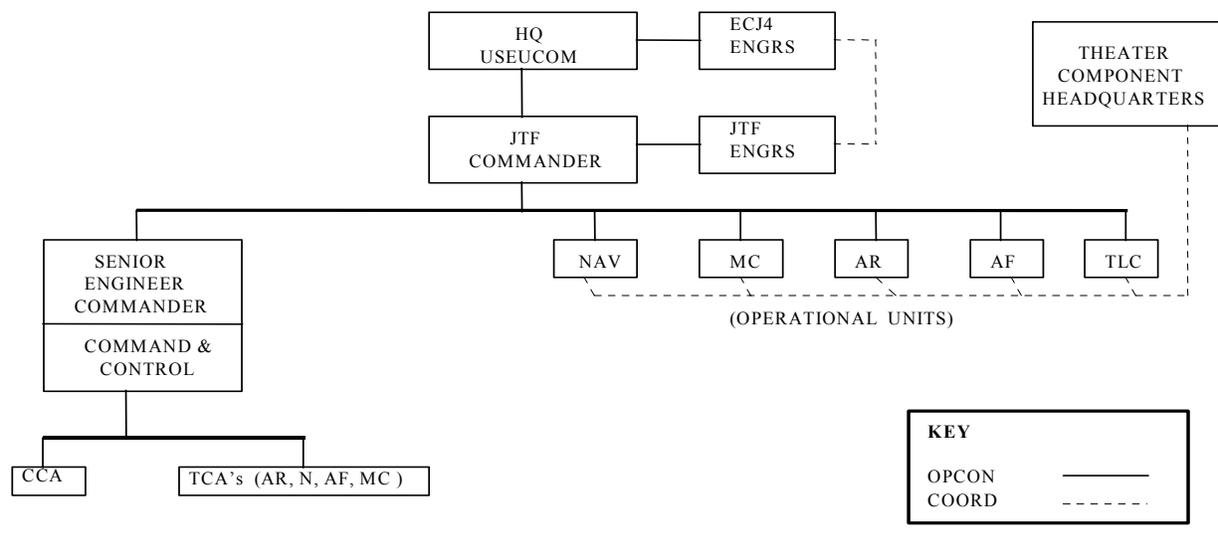


FIGURE 1: An example of a JTF organization where engineering operations constitute the predominant activity such as in a Humanitarian/Civic Action (H/CA)

APPENDIX III ADMINISTRATION

TAB A JTF ORGANIZATION

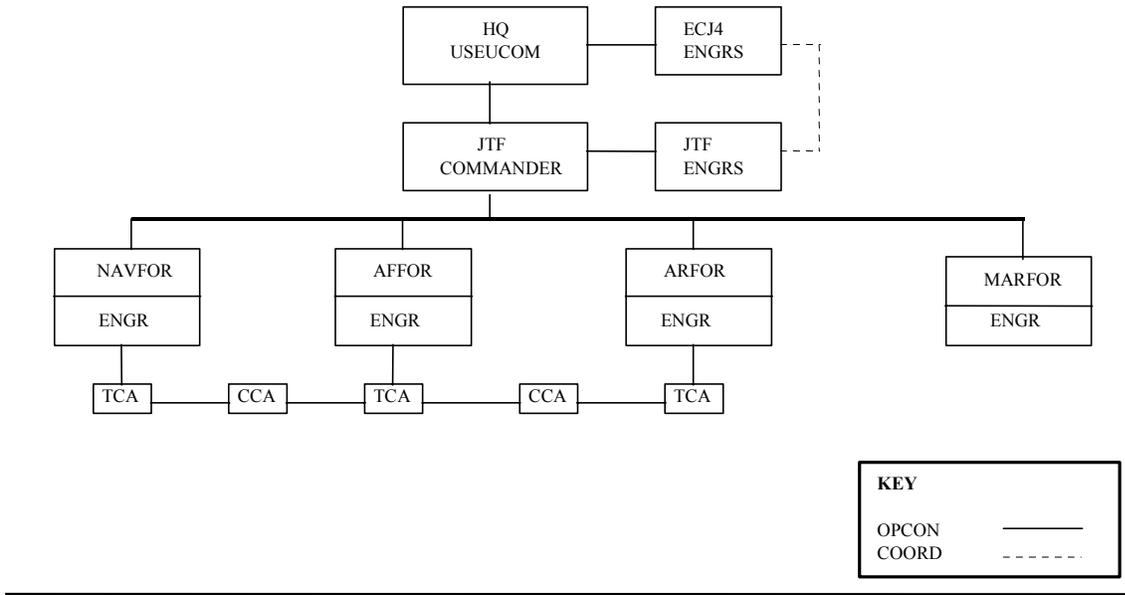


FIGURE 2: JTF organization in which engineering operations are not the predominant activity such as in an LRC or MRC. A combined task force (e.g., a NATO scenario) could also use this organization.

APPENDIX III ADMINISTRATION

TAB A JTF ORGANIZATION

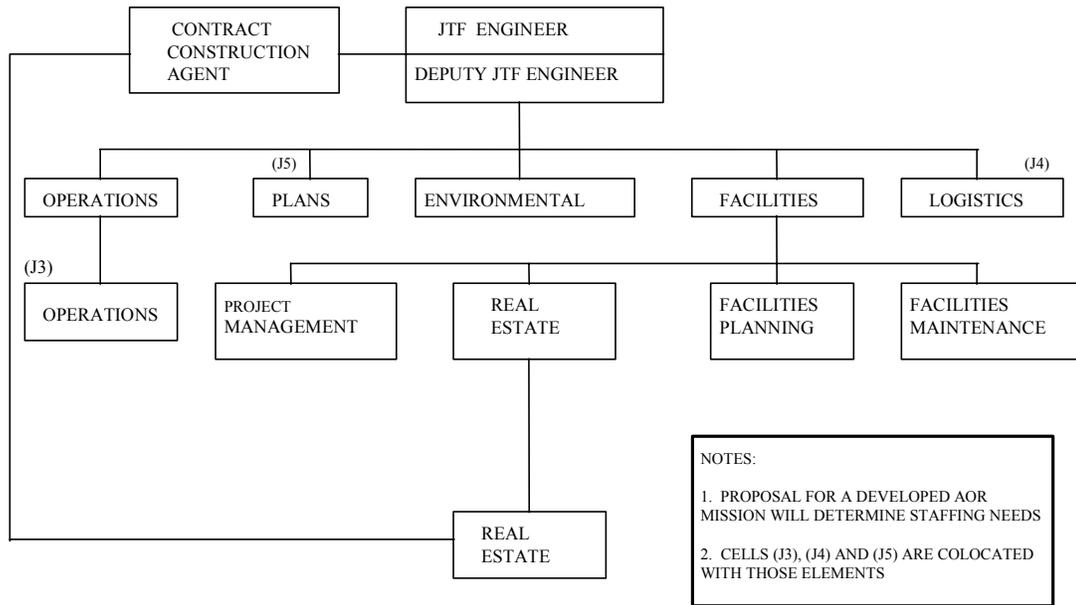


FIGURE 3 Joint Task Force Contingency Engineer Staff (JCES). Note that for a developed AOR, the Mission determines the staffing needs.

APPENDIX III ADMINISTRATION**TAB B JTF ENGINEER MANNING AND RESPONSIBILITIES**

1. Engineering Staff Manning. Manning is dependent upon both the JTF organization supported and mission requirements. There is no approved solution. The below Engineer staff composition is recommended as a basis from which to add or subtract personnel IAW Theater specific requirements. Added to this list should be elements of a Forward Engineer Support Team Augmentation (FEST A).

TITLE	GRADE	SC	QTY
ENGINEERING STAFF			
CHIEF ENGINEER	O6/O7	TS	1
STAFF ENGINEER (PLANS)	O5/O6	TS	1
STAFF ENGINEER (OPS)	O5/O6	TS	1
STAFF ENGINEER (OPS)	O4/O5	S	1
STAFF ENGINEER (ENVIR)	GS12/O4	S	1
CONST SUPERVISOR	E7/E8	S	1
DRAFTSMAN	E4/E5	S	1
CLERK TYPIST	E4/E5	S	1
LOGCAP/CONCAP/AFC AP/ ACO	GS12/O4	S	1
REAL ESTATE OFFICER	GS12/O4	S	1

2. Engineer Staff Responsibilities. Configuration may vary but, will include responsibilities for the managing Engineer Plans, Operations and Facilities (Real Estate, Master Planning, Project Management, Construction, Environmental etc) to include associated sections to run current and future operations.

a. **Chief Engineer.** Provides overall guidance, policies, and procedures for engineer operations in support of the JTF. The Chief coordinates interservice engineer support requirements and monitors engineer deployment, employment, and task progress. Specific responsibilities are to:

(1) Evaluate component commander's facility requirements with respect to COMJTF's plans.

(2) Assess the risks of shortfall on the ability to accomplish assigned missions.

(3) Coordinate with and provide guidance to DOD-specified Contract Construction Agents (CCAs).

- (4) Direct the allocation of component commanders' civil engineering forces and construction material (Class IV).
- (5) Establish and enforce JTF construction policy.
- (6) Set priorities for JTF civil engineering missions.
- (7) Task components for JTF construction missions, tasks, or projects.
- (8) Identify and support projects required for joint operations that exceed component resource capabilities or funding authority.
- (9) Coordinate and provide staff support to service component engineers in areas that exceed capabilities of deployed forces.
- (10) Coordinate interservice engineer support requirements and agreements within the JOA.
- (11) Request the latest engineer intelligence data from deployed or deploying service engineer units to assist in identifying force-projection engineer requirements (including soils data, availability of construction materials, and host-nation construction support) and enemy engineer capabilities.
- (12) Establish engineer staff links between the AFFOR, NAVFOR, MARFOR and ARFOR engineer staff sections through the JTF or theater engineer staff and headquarters.
- (13) Provide necessary Army engineer LO support.
- (14) Develop the joint task-organization relationships that enhance service component engineers' capabilities following deployment of army engineer units.
- (15) Determine if service component units need augmentation from Army construction units.
- (16) Develop procedures for Army engineer units to be able to acquire additional Class IV construction materials from service component engineers or vice versa.
- (17) Perform the general duties of a special staff officer and, depending upon the mission's requirement for engineering support (level of effort and intensity), either directly report to the CJTF on the employment of engineering assets or indirectly advise the CJTF on engineering matters under the staff cognizance of the J3/J4.
- (18) Direct the functions of the JTF Engineer Staff.
- (19) Serve as JTF proponent for construction funding to include planning, submitting, programming and monitoring funding of required construction.
- (20) Establish and issue JTF engineering policy and guidance to include establishing the JTF Engineer scope of authority.

- (21) Determine and integrate engineering scope and execution into JTF operations.
 - (22) Coordinate and chair the Joint Facilities Utilization Board (JFUB), the Joint Civil-Military Engineering Board (JCMEB), and the Joint Environmental Management Board (JEMB).
 - (23) Coordinate engineering issues with USEUCOM J4 (Facilities and Engineering Division).
 - (24) Determine, disseminate and monitor JTF compliance with environmental protection standards.
 - (25) Attend and participate in CJTF Update and Joint Coordination Board (JCB) meetings.
 - (26) As needed, establish a Joint Acquisition Review Board (JARB) to assist in prioritizing the JTF commander's priorities.
- b. **Plans Section.** Anticipate and plan for future engineer requirements at least 72 hours out specific responsibilities are to:
- (1) Perform comprehensive analysis of all engineer tasks required to implement the commander's plan. Quantify engineer support requirements.
 - (2) Plan for engineer intelligence and dissemination thereof.
 - (3) Plan construction, repair and maintenance of essential utilities and facilities in support of future operations.
 - (4) Plan construction, repair and maintenance of camps, advanced landing fields, warehouses, hospitals, roads, bridges, piers, pipelines and river-crossing sites.
 - (5) Dependent upon METT-T, provide JTF Engineer Plans personnel to serve in the JTF J5.
 - (6) Provide support to the Joint Civil-Military Engineering Board (JCMEB).
 - (7) Prepare Civil Engineering Support Plans (CESP) when required. The CESP follows the format for a standard five-paragraph order focusing on engineering operations and is more typically a separate OPLAN annex rather than an appendix to the logistics annex.
 - (8) In coordination with the JTF Engineer Operations Section, J7, JTF Surgeon and SJA determine and disseminate applicable environmental standards for JTF operations.
 - (9) Provide engineer input to JTF OPORD.
 - (10) Provide an engineer planner to the Operational Plans Team (OPT). This responsibility will remain and transfer when the OPT becomes J3 Future Operations.

(11) Provide an engineer officer to serve as the engineer representative on the JTF Higher Headquarters LNO Team to the Host Nation (HN) armed forces headquarters.

c. Operations Section. Specific responsibilities are to:

(1) Determine engineer units that can best accomplish required tasks and evaluate plans for and coordinate engineer support requirements.

(2) Identify HN, Contract Construction Agent (CCA), and troop construction/engineering capabilities and resources.

(3) Comply with theater policy on which method of construction will be used.

(4) Coordinate/provide technical advice, quality control and environmental compliance standards for HN/CCA/troop assets.

(5) Integrate engineering execution into JTF operations.

(6) Update and ensure compliance with CINC standards of construction as outlined by the JCMEB/CESP.

(7) Oversee engineering/construction (acquisition) operations.

(8) Recommend priorities.

(9) Manage and forward the MIPL (Master integrated Priority List) for construction/engineering priority to the command for approval.

(10) Monitor execution and status of combat and civil engineer operations to include construction and maintenance of lines of communication, landing zones, barriers, obstacles, bridges and pipelines.

(11) Maintain current status of engineer units to include personnel, equipment and essential material.

(12) Identify and resolve requirements for procurement, storage and distribution of engineer equipment and supplies.

(13) Based on METT-T, develop required engineer reports.

(14) Evaluate and reconcile component requests for real estate, use of existing facilities and inter-service support.

(15) Coordinate with J1, J4 and J7 regarding the allocation of resources and routes for Dislocated Civilian (DC) movement, control and if necessary, camp construction (layout, time and materials) and maintenance.

(16) Maintain liaison and coordination with higher, adjacent and component commands on engineer matters.

(17) Recommend traffic regulations dictated by physical conditions of routes of communications.

(18) Man the Engineer Watch in the initial Crisis Action Team (CAT). This responsibility will remain and transfer when the CAT dissolves and the Joint Operations Center (JOC) becomes operational.

(18) Provide engineer input for JTF FRAGOs.

(19) In coordination with the J2, plan engineer reconnaissance, field surveys, terrain studies and mapping operations, including technical assistance, in collecting and processing of information for the preparation and revision of maps.

(20) In coordination with the J2, determine requirements for Mapping, Charting and Geodesy (MC&G) products and provide certain special terrain analyses. Coordinate adequate MC&G stockage.

(21) Provide terrain analysis staff OPCON to J2. Staff conducts detailed terrain analysis in support of Intelligence Preparation of the Battlefield (IPB) and targeting process.

(22) Monitor compliance of JTF operations with applicable environmental standards.

(24) Perform routine coordination with Facilities and the Engineering Division.

(25) Provide support to the Joint Facilities Utilization Board (JFUB).

(26) Maintain the JTF Engineer Section Log.

d. **Facilities Section**. The Facilities Section provides policy interpretation, oversight, and project prioritization recommendations. Components and JTF Directorates will identify unresolved facility requirements to the JTF Engineer during planning and execution. The Facilities Section ensures facility requirements are consistently optimized against expected operational requirements, the duration of need, and the forces to be supported based on standard designs and planning factors. It recommends actions to accelerate, terminate, modify, or continue current in-theater construction contracts based on CJTF guidance and the recommendations of component commanders. The Facilities Section provides a comprehensive analysis of existing AO facilities and additional facilities. From this analysis, the section submits construction requirements to the Construction Branch. They also coordinate and employ contract support, troop construction, and host nation resources to satisfy facility and construction material requirements, ensures compliance with policies and decisions of the JFUB and Conducts liaison with Host Nations, subordinate commands, and coalition members on facility engineer issues. The Facilities Section is composed of five sub-sections with the following responsibilities:

(1) Facilities maintenance.

- (a) Determines the repair or replacement policy.
- (b) Manages maintenance support contracts.
- (c) Accepts, evaluates and prioritizes work order requests.
- (d) Requests troop support when appropriate through the operations section.
- (e) Develops maintenance repair/support contracts.
- (f) Manages repair/self-help supplies.

(2) Real Estate. (Some of these duties may be performed by the Contract Construction Agent)

(a) Real estate operations involve the acquisition, management, and disposal of land and facilities to support joint operations. The JFC determines what real estate is needed to satisfy operational requirements. Acquisition of land and facilities not owned by the United States Government (USG) is accomplished through assignment, international agreements such as SOFAs, memoranda of agreement, leasing from the HN, or direct leasing from the private sector. The Law of Land Warfare delineates how and when property can be occupied and used during a declaration of war. It states in part that only property, which is imperatively demanded by the necessities of war, can be seized. Occupation and use of such property without compensation applies only to public property. Private property cannot be confiscated for any reason. It can, however, be requisitioned. The requisitioning of real property requires the payment of compensation. Real estate planning should be initiated as contingency plans are developed to identify land and facility requirements needed in support of joint operations.

(b) Facilities required to support JTF operations are acquired according to the following priorities:

- (1) Existing facilities owned, occupied or leased by the United States in the JOA.
- (2) U.S.-owned relocatable buildings and facility substitutes, such as tents and prepackaged structures, pre-positioned in the JOA.
- (3) Exercise the provisions of wartime host nation support agreements.
- (4) Facilities from commercial sources.

(c) Contingency planning must consider the acquisition of real property and lease costs. Of primary concern is determining what facilities are needed and whether they exist in the JOA. Priorities for property acquisition should be established taking into account when the property is needed.

(d) The U.S. Army Corps of Engineer Contingency Real Estate Support Team (CREST) or the Navy Facilities Engineer Command (NAVFACENGCOM) provides real estate

teams to the JCES for contingency operations. Real estate responsibilities generally follow the contract construction agent areas of responsibility. These teams will initially work under the Facilities Section (Real Estate) when deployed. Upon the activation of a regional office by the CCA, control of the Real Estate Teams will transfer to that office and the Facilities Section will continue to have staff responsibility for real estate management in support of JTF operations.

(e) Acquisition. Facilities are fundamental to Joint Reception, Staging, Onward movement and Integration (JRSOI), logistic sustainment, and some combat operations. If the HN infrastructure does not support initial or sustained operations, engineers will construct, improve, and maintain required facilities. If local governments are capable of maintaining or improving existing infrastructure, agreements may be developed for their support. Facility acquisitions should emphasize using existing assets over new construction. All requests for real property acquisition will be processed through the JTF Engineer and approved by the Joint Facilities Utilization Board (JFUB). Individual services will not negotiate or acquire real property separately. The JTF Real Estate Team will negotiate all leases or other contractual agreements for real property.

(f) Maintenance. Real property will be maintained in the "as-leased" condition. No modifications will be made to any real property without prior approval of the JFUB.

(g) Disposal. When real estate is no longer needed by the service component for the purpose requested, it will be reported to the JTF Engineer. A date that the property is to be vacated will be established and all government-owned property will be removed by the occupying service component. The real property must be placed in the "as-leased" condition by the occupying service component prior to the vacate date.

(h) Real Estate has the following specific responsibilities:

- (1) Provides technical real estate guidance and advice.
- (2) Recommends policies and operational procedures.
- (3) Acquires, manages, disposes of and administers payment of rents and damages. Handles claims, and prepares records and reports for the real estate used.
- (4) Exercises staff supervision over real estate operations.
- (5) Ensures compliance with international agreements and laws of land warfare as they pertain to real estate.
- (6) Directly processes seizure, requisition, or lease of real property in liberated or occupied countries.

(i) Contract Construction Agent (CCA). The US Army Corps of Engineers (USACE) is prepared to deploy CREST to be OPCON to the CCA when in Theater. The CREST will provide the JCES with the capability to perform all real estate functions to include leasing with authority to contract for the US government in a contingency. The scope of the real estate mission assigned by the COMJTF determines the size of the CREST.

(3) Facilities Planning.

(a) Base Master Planning. An overall facility master plan is required when developing and siting construction projects during an operation. Like facilities such as accommodation, messing, and administration may be sited in the same area and away from hazardous areas such as fuel and ammunition storage. Security, mission requirements, existing infrastructure, and costs will be considered during master planning.

(b) Project Development (Scoping, Estimating, and Scheduling). The JCES must prepare the design criteria for construction in order to meet user's requirements. The JTF Engineer will probably require outside assistance should the project scope be considerable or extensive in technical requirements. Project development provides the CJTF with information concerning the size of the project and resources (money, manpower, equipment, materials) required to execute the work, plus the timeframe for execution.

(c) Project Programming. Project programming will follow established procedures set by the CINC. The Joint Civil-Military Engineering Board (JCMEB) prioritizes projects and determines the means of execution should resources not be available to complete all projects within the desired schedule.

(d) Project Approval (environmental, Host Nation, and other approvals). All required approvals must be obtained prior to proceeding with project execution.

(e) Project Design. The JTF Engineer may be required to coordinate design either internally or with external agencies or contractors. The JTF Engineer will conduct design reviews and approve final designs for the CJTF prior to execution or initiation of contracting procedures.

(f) Specific Responsibilities for facility planning consist of planning for future construction, programming construction funding requirements and recommending contingency contract construction guidance.

(4) Project Management.

(a) Regardless of the executing agent, the JTF must monitor project execution in order to address issues that will impact the command. These issues include project progress, materials, logistics, change orders, and costs. Major construction projects compete with assets supporting current operations no matter what the means of execution. The JTF Engineer must rapidly resolve conflicts to avoid negative impacts on construction.

(b) Specific Responsibilities include developing construction priorities and policies, implementing construction standards, allocating force construction capability, managing construction materials, providing quality assurance oversight, coordinating design and design reviews and monitoring construction progress.

(5) Environmental Management.

(a) Environmental considerations extend far beyond the engineer and logistic communities. Operators, intelligence staffs, medical representatives, legal counsel, and other members of a JFC's staff have a shared responsibility to ensure the incorporation of environmental considerations into operations and exercise planning. An environmental site survey should be conducted prior to deployment whenever possible to document current environmental conditions. Coordination with preventive medicine to assess environmental health risks to deployed personnel is essential. Coordination with other DOD agencies such as the Defense Logistics Agency and other USG departments like the Departments of State and Energy may also be necessary. In the event other nations are involved in the operations or exercises, coordination with appropriate allied and coalition partner counterpart staff agencies is critical.

(b) Environmental responsibilities include advising the commander on applicable environmental laws, actions taken to mitigate environmental damage, and reviewing construction plans and environmental support plans for all planning and operational requirements.

APPENDIX III ADMINISTRATION**TAB C JTF ENGINEERING BOARDS**

1. The Commander, JTF (CJTF) may establish the following engineering boards:

a. Joint Civil Military Engineering Board (JCMEB).

(1) The JCMEB establishes policies, procedures, priorities, and overall direction for civil-military construction and engineering requirements in the JOA.

(2) The JCMEB is a temporary board activated by the CJTF and staffed by personnel from the component commands and DOD agencies or activities in support of the JTF.

(3) The JCMEB arbitrates all issues referred to it by the JFUB and, if appropriate, assumes responsibility for the preparation of the CESP.

(4) The JCMEB will coordinate its activities with the CINC or theater construction managers. Construction and engineering requirements that the JCMEB cannot satisfy from within JTF resources will be elevated for support.

(5) The JCMEB will identify and direct Host Nation (HN), contract construction agents, and troop construction/ engineering capabilities and resources.

(6) The JCMEB will plan engineer support in the collection and processing of information for preparation and revision of maps.

b. Joint Facilities Utilization Board (JFUB).

(1) The JFUB evaluates and reconciles component requests for real estate and use of existing facilities.

(2) The JFUB is activated on order of the CJTF and chaired by the JTF Engineer. The members comprise the components and any special activities such as legal, engineering, and civil affairs.

(3) The JTF Engineer provides administrative support to the JFUB.

(4) The JFUB functions as the executive agency for tasking of the JCMEB.

c. Joint Environmental Management Board (JEMB).

(1) The JEMB establishes policies, procedures, priorities, and provides oversight of environmental management in the JOA.

(2) The JEMB prepares the Environmental Management Support Plan as required. Provides environmental management input to JTF mission analysis, logistics estimates, OPLANs, and OPORDs.

(3) The JEMB monitors compliance with environmental protection standards.

(4) The Director of the JEMB will be the JTF Engineer. Members will comprise service components and special activities such as legal, civil affairs, surgeon, logistics, and comptroller.

(5) The JCES acts as the executive agent for the JEMB and provides administrative support for preparation of preliminary products for deliberation and final products.

APPENDIX III ADMINISTRATION**TAB C JTF ENGINEERING BOARDS****TAB C-1 JOINT CIVIL-MILITARY ENGINEERING BOARD (JCMEB)****1. GENERAL.**

The JCMEB is a temporary board, which may be activated by the CJTF. The JTF forms, organizes and operates the JCMEB to plan and execute the management of civil-military construction and engineering projects. The JTF Joint Civil-Military Engineering Board (JCMEB) is formed at the discretion of the JTF to prioritize civil military construction and engineer projects to improve the allocation of resources to better meet mission requirements.

a. The JCMEB establishes policies, procedures, priorities, and overall direction for civil-military construction and engineering requirements in the theater or Joint Operations Area (JOA).

b. The JCMEB arbitrates all issues referred to it by the Joint Facilities Utilization Board (JFUB). If appropriate, it may assume responsibility for the preparation of the Civil Engineering Support Plan (CESP) or at a minimum provide guidance to the JTF Engineer for the CESP development.

c. If applicable, the JCMEB will coordinate its activities with the regional or Theater Construction Managers (TCM).

d. Forward unresolved shortfalls in construction and engineering requirements to regional or CINC construction managers.

e. If a separate staff, the JTF Engineer has overall staff responsibility for the JCMEB. If located within the J4, the JTF Engineer will be the executive agent for the J4, which has JCMEB staff responsibility.

f. The JCMEB provides oversight of civil-military construction and engineering projects/resources in the JOA.

g. The JCMEB examines capabilities and forecast construction and engineering requirements.

h. The JCMEB arbitrates issues referred to by the JFUB.

i. The JCMEB recommends allocation and apportionment of construction and engineering resources to CJTF.

j. The JCMEB provides construction and engineering input to JTF mission analysis, logistics estimates, OPLANS and OPORDS.

k. The JCMEB establishes policies, procedures, priorities and oversight of environmental requirements for construction and support for the proper handling and disposal of hazardous material.

2. ORGANIZATION.

Upon notification by the JTF Engineer/J4, the JCMEB will meet at the JTF Headquarters. The composition of JCMEB will vary, depending on the nature of the contingency, the JTF and other organizations and agencies involved.

a. When integrating joint service representation in the JCMEB, consider the following:

(1) Identify the nature of current and future operations and primary users/operators, service components, commands, activities and agencies supporting JTF operations.

(2) Fill key leadership positions from the JTF HQ (J4/Engineer). To enhance cohesion, consider J4 or JTF Engineer as Director, JCMEB.

(3) Select appropriate balance of service and staff representation.

b. Designate JCMEB Director. Consider the following duties/responsibilities:

(1) Advise CJTF on construction and engineering requirements/resources.

(2) Manage civil-military engineering programs issues.

(3) Maintain thorough knowledge and understanding of JTF OPLANS, OPORDS, and component and supporting forces concepts of operations/ support.

(4) Convene meetings/deliberations of the JCMEB.

(5) Supervise development/dissemination procedures for requesting construction and engineering support.

(6) Coordinate JCMEB activities with CINC and service component construction managers.

(7) Direct identification and submission of JTF requirements to HN for construction and engineering requirements.

(8) Coordinate quality surveillance and procurement inspection programs.

(9) Provide broad guidance and supervision to JCMEB members.

c. Designate JCMEB members. Consider the following duties/responsibilities:

(1) Maintain thorough knowledge and understanding of JTF OPLANS, OPORDS, and component and supporting forces concepts of operations/support.

- (2) Represent the interests and requirements of the service components, commands, activities and agencies during JCMEB deliberations.
- (3) Ensure accuracy and clarity of status reports, information, and statistical data.
- (4) Prepare, coordinate, and present briefings, as required -- decision cycle, situation changes, changes in concept of support, etc.
- (5) Prepare plans and orders as required.
- (6) Coordinate joint activities -- relay requests for information/resources, answers to request, status of resources/units.
- (7) Advise CJTF and staff, to include J5 Joint Planning Group (JPG), concerning construction and engineering issues. Participate in planning deliberations concerning assigned areas.

d. JCMEB Board Members:

- (1) Chairman:
JTF Engineer
- (2) Members:
ARFOR Representative (If part of JTF)
MARFOR Representative
NAVFOR Representative
AFFOR Representative
JTSOTF Representative
J4 Representative
J7 Representative
JTF Comptroller/Resource Manager
JTF Staff Judge Advocate (SJA)
- (3) Special Members:
DOD Contract Construction Representative
DOD Real Estate Representative
DLA/DRMO Representative
JTF PAO
TCM/RCM Representative
American Embassy Representative (by invitation only)
USAID Representative (by invitation only)
Other (by invitation only)
- (4) Support Staff:
JTF Engineer JTFCEM/JCES personnel

3. [PROCEDURES](#).

- a. As required by the JTF mission, the JTF Engineer will activate the JCMEB under authority of CJTF.
- b. The JCMEB meeting locations and physical arrangements will be coordinated and executed by the JTF Plans Section (JTFCEM/JCES personnel). The JTF Engineer Plans Section will announce the JCMEB meeting locations and times.
- c. The JTF Engineer (Deputy JTF Engineer, if absent) chairs the JCMEB meeting.
- d. JCMEB members are shown above. Members must be empowered as decision-makers for their organizations.
- e. JCMEB decisions will strive for unanimity. In the absence of unanimity, a majority of voting members will determine the issue. Only members (not special members) vote on JCMEB issues. The Chairman will vote only in case of a tie.
- f. When determining issues, a minimum JCMEB quorum shall consist of: JCMEB Chairman, J4, J7, JTF Comptroller/Resource Manager, JTF Staff Judge Advocate, and service component(s) representatives (affected by issues under consideration).
- g. JCMEB decisions will be forwarded to the JTF Chief of Staff for final approval.
- h. Reclamas of JCMEB actions are to be forwarded to the JTF Chief of Staff.
- i. The JCMEB special staff (JTF Engineer Plans Section (JTFCEM/JCES personnel)) are responsible for preparing meeting agenda and read-ahead materials (if applicable); maintaining minutes of all JCMEB meetings; preparing appropriate documentation of all JCMEB actions (messages, memorandums, CESP); coordinating final approval of JCMEB actions; and disseminating approved JCMEB actions.
- j. Commander JTF tasking a JTF staff section to act as executive agent for the JCMEB to provide administrative support for preparation of preliminary products for deliberation and final products.
- k. Command JTF tasks JTF staff sections, service components, and supporting activities /agencies to provide logistic support for the JCMEB. Consider:
 - (1) Meeting/deliberation facility.
 - (2) Automated Data Processing (ADP) equipment.
 - (3) Communications equipment and message access.
- l. When convening the Joint Civil-Military Engineering Board, consider the following:
 - (1) Convene meetings/briefings of the JCMEB on a regular, cyclic basis and as required.

(2) Arbitrate issues referred to the JCMEB by the JFUB.

(3) Forward engineering and construction requirements that cannot be satisfied with JTF resources to CINC's wartime construction manager.

(4) Develop/coordinate/disseminate construction and engineering plans and policies to service components, commands, activities, and agencies.

m. Develop/disseminate policies and standardized procedures. Consider the following:

(1) Develop information displays, formats, briefing slides and topics.

(2) Implement reports and briefing schedule.

(3) Establish the delegation of authority -- to JCMEB Director, Board Members regarding board deliberations, products, and operations.

n. Ensure the adequacy of information exchange and flow.

(1) Internal to the JCMEB, consider requirements to:

- Verify/confirm information.

- Inform/coordinate with adjacent/related boards.

- Inform JCMEB Director.

(2) External to the JCMEB, consider requirements to:

- Inform/request support from supported CINCs and service component construction managers.

- Inform/coordinate with other supporting forces, agencies, and organizations.

o. [Recording/maintenance/storage of information](#). To help maintain historical files and ensure readily available information, the JCMEB will use the following:

(1) Duty logs and journals.

(2) Minutes of JCMEB meetings/briefings.

(3) Message/communication logs.

(4) Databases.

(5) Information charts.

(6) Statistical displays.

(7) Maps/overlays.

(8) After action notes/input.

APPENDIX III ADMINISTRATION**TAB C JTF ENGINEERING BOARDS****TAB C-2 JOINT FACILITIES UTILIZATION BOARD****1. GENERAL.**

a. The JTF organizes and operates the JFUB to evaluate and reconcile Service component requests for real estate, facilities, inter-Service support, and construction within the JOA. A Joint Facilities Utilization Board (JFUB) is formed at the discretion of JTF, when operations within the Joint Operations Area (JOA) warrant creation of a management organization to evaluate and reconcile Service component use of real estate and existing facilities. Other specific responsibilities are as follows:

b. The JFUB evaluates and reconciles component requests for real estate, use of existing facilities, inter-service support, and construction to ensure compliance with JCMEB policies, procedures and directions. The JTF Engineer Operations Section will handle most JFUB work and issues as routine staff actions with assistance by other selected JFUB members.

c. The JFUB provides administrative support and functions as the executive agency for the tasking of the JCMEB.

d. If a separate staff, the JTF Engineer has overall staff responsibility for the JFUB. If located within the J4, the JTF Engineer will be executive agent for the J4, which has JFUB staff responsibility.

e. If a JFUB in the JOA is required, consider:

- (1) Mission, threat, duration of support, and size of the JTF.
- (2) JTF requirements -- troop strength, tactical objectives, etc.
- (3) Relationships with Joint Civil-Military Engineering Board (JCMEB), Service components and CINC's JFUB/JCMEB.
- (4) Availability of host nation support -- facilities, real estate.

f. When identifying the primary Tasks of the JFUB. Consider:

- (1) Establishing policies, procedures, priorities and oversight of joint facilities utilization in the JOA.
- (2) Evaluating and reconciling component requests for real estate and facilities.
- (3) Monitoring the purpose and use of existing facilities.
- (4) Developing and coordinating inter-Service support agreements.

- (5) Checking new/renovated construction projects for compliance with JTF's priorities.
- (6) Providing administrative support to the JCMEB.
- (7) Serving as executive agent and referring issues to the JCMEB for resolution.

2. ORGANIZATION.

a. Upon notification by the JTF Engineer/J4, the JFUB will meet at the JTF Headquarters. The composition of JFUB will vary depending on the nature of the contingency, the JTF and other organizations and agencies involved. When integrating joint service representation in the JFUB do the following:

(1) Identify the nature of current and future operations and primary users/operators, Service components, commands, activities and agencies supporting JTF operations.

(2) Fill key leadership positions from the JTF HQ -- consider Deputy CJTF, COS or J4 as JFUB Director.

(3) Select appropriate balance of service and staff representation -- consider legal, civil affairs, engineer and surgeon representation.

b. Designate a JFUB Director to execute the following duties/responsibilities:

(1) Advise CJTF on joint facilities utilization.

(2) Manage the joint facilities utilization program.

(3) Maintain thorough knowledge and understanding of JTF OPLANS, OPORDS, and component and supporting forces concepts of operations/support.

(4) Convene and Conduct the JFUB meetings.

(5) Direct the identification and submission of JTF requirements to the Host Nation (HN) for real estate, facilities and construction.

(6) Coordinate with the CINC and Service component facilities managers.

(7) Provide broad guidance and supervision to JFUB members.

c. Designate JFUB members. Consider the following duties/responsibilities:

(1) Maintain thorough knowledge and understanding of JTF OPLANS, OPORDS, and component and supporting forces concepts of operations/support.

(2) Represent the interests and requirements of the Service components, commands, and supporting activities/agencies during JFUB deliberations.

- (3) Ensure accuracy and clarity of status reports, information, and statistical data.
- (4) Prepare, coordinate, and present briefings, as required -- decision cycle, situation changes, changes in concept of support, etc.
- (5) Prepare plans and orders, as required.
- (6) Coordinate joint activities – answer all requests. Relay requests for information and resources; provide status of resources and units.
- (7) Advise CJTF and staff (including J5 Joint Planning Group) concerning real estate, facilities, inter-Service support agreements, and construction issues; participate in planning deliberations concerning assigned areas.

d. **JFUB Board Members:**

- (1) Chairman:
JTF Engineer
- (2) Members:
ARFOR Representative (if part of JTF):
MARFOR Representative
NAVFOR Representative
AFFOR Representative
JTSOTF Representative
DOD Contract Construction Representative
DOD Real Estate Representative
DLA/DRMO Representative
- (3) Special Members:
JTF Comptroller/Resource Manager
JTF Staff Judge Advocate (SJA)
J4 Representative
J7 Representative
DOD Contractor (e.g. LOGCAP, AFCAP, CONCAP)-by invitation
American Embassy Representative (by invitation only)
USAID Representative (by invitation only)
Host Nation Representative (by invitation only and after coordination with American Embassy)
Non-Governmental/Private Volunteer Organization(s) (by invitation only after coordination with J7 and American Embassy)
Other (by invitation only)
- (4) Support Staff:
JTF Engineer JTFCEM/JCES personnel

3. PROCEDURES.

a. As required by the JTF mission, the JTF Engineer will activate the JFUB under authority of CJTF.

b. The JFUB meeting locations and physical arrangements will be coordinated and executed by the JTF Operations Section (JTFCEM/JCES personnel). The JTF Engineer Operations Section will announce the JFUB meeting locations and times.

c. Most JFUB work and issues will be handled as routine staff actions by the JTF Engineer section with assistance by above selected JFUB members. Non-contentious routine issues will be resolved without convening a formal JFUB meeting.

d. The JTF Engineer (Deputy JTF Engineer if absent) chairs all formal JFUB meetings.

e. JFUB members are shown above.

f. Formal JFUB meeting decisions will strive for unanimity. In the absence of unanimity, a majority of voting members will determine the issue. Only members (not special members) vote on JFUB issues. The Chairman will vote only in case of a tie.

g. When determining issues, a minimum JFUB quorum shall consist of JFUB Chairman, Service component(s) representatives and DOD organizations/ agencies (affected by issues under consideration).

h. Disposition of JFUB actions.

(1) Routine decisions will be forwarded to the JTF staff and other organizations via appropriate communications.

(2) Formal JFUB meeting minutes and decisions will be forwarded to the JCMEB for information.

(3) Unresolved, contentious issues will be forwarded to the JCMEB for arbitration.

i. Reclamas of JFUB actions are to be forwarded to the JCMEB or JTF Chief of Staff.

j. The JFUB special staff (JTF Engineer Operations Section (JTFCEM/JCES personnel)) are responsible for preparing meeting agenda and read-ahead materials (if applicable); maintaining minutes of all JFUB meetings; preparing appropriate documentation of all JFUB (routine or formal meeting) actions (messages, memorandums, CESP); and disseminating JFUB actions.

k. Commander, JTF will task a JTF staff section to act as executive agent for the JFUB to provide administrative support for preparation of preliminary products for deliberation and final products.

1. Commander, JTF will task JTF staff sections, Service components, and supporting activities /agencies to provide logistic support for the following:
 - (1) Meeting facility.
 - (2) Automated Data Processing (ADP) equipment.
 - (3) Communications equipment and message access.
- m. Convene meetings/briefings of the JFUB on a regular, cyclic basis and as required.
- n. Establish priorities for real estate, facilities, inter-Service support, and construction based upon JFUB deliberations.
- o. Refer unresolved issues/conflicts to the JCMEB for resolution.
- p. Develop/coordinate/disseminate JFUB plans and policies to Service components, commands and supporting activities/agencies.
- q. Develop/disseminate policies and procedures for requesting real estate, facilities, inter-Service support, and construction resources.
- r. Develop standardized procedures to:
 - (1) Develop information displays, formats, briefing slides and topics.
 - (2) Establish reports and briefing schedule.
 - (3) Develop/disseminate formats for requesting real estate, facilities, inter-Service support, and construction.
- s. Establish/delegate authority to JFUB Director and Board Members regarding board deliberations, products, and operations.
- t. Ensure the adequacy of information exchange and flow.
- u. Consider internal JFUB requirements to:
 - (1) Verify and confirm information.
 - (2) Inform and coordinate with appropriate members.
 - (3) Keep the JFUB Director informed.
- v. Consider external JFUB requirements to:
 - (1) Inform and request support from JCMEB and supported CINC's JFUB and JCMEB.

(2) Inform and coordinate with Service components, commands, activities, and agencies.

w. Accomplish information recording, storage and handling by:

(1) Duty logs.

(2) Order logs.

(3) Message/communication logs.

(4) Databases.

(5) Information charts/briefings.

(6) Statistical displays.

(7) Maps/overlays.

(8) After action notes/input.

APPENDIX III ADMINISTRATION**TAB C JTF ENGINEERING BOARDS****TAB C-3 JOINT ENVIRONMENTAL MANAGEMENT BOARD (JEMB)**1. GENERAL.

The CJTF may establish a JEMB to assist in managing environmental requirements. The JEMB is a temporary board, chaired by the combatant command or subordinate joint force J-4 or engineer, with members from the joint staff (as required), components, and any other required special members (e.g., legal, medical, and civil affairs). The board establishes policies, procedures, priorities, and the overall direction for environmental management requirements in the operational area. The JEMB will coordinate its activities with the combatant command or subordinate joint force engineering staff. The JEMB also provides guidance on development of "Environmental Considerations" to an OPLAN or OPOD and, if appropriate, assumes responsibility for preparing of this annex.

2. ORGANIZATION.

a. Upon notification by the JTF Engineer/J4, the JEMB will meet at the JTF Headquarters. The composition of JEMB will vary depending upon the nature of the contingency, the JTF and other organizations and agencies involved.

b. JEMB Board Members:

- (1) Chairman:
JTF Engineer
- (2) Members:
ARFOR Representative (If part of the JTF)
MARFOR Representative
NAVFOR Representative
AFFOR Representative
JTSOTF Representative
DOD Contract Construction Representative
DOD Real Estate Representative
DLA/DRMO Representative
- (3) Special Members:
JTF Comptroller/Resource Manager
JTF Staff Judge Advocate (SJA)
J4 Representative
J7 Representative
DOD Contractor (e.g. LOGCAP) (by invitation only)
American Embassy Representative (by invitation only)
USAID Representative (by invitation only)

Host Nation Representative (by invitation only and after coordination with American Embassy)

Non-Governmental/Private Volunteer Organization(s) (by invitation only after coordination with J7 and American Embassy)

Other (by invitation only)

(4) Support Staff:

JTF Engineer JTFCEM/JCES personnel

3. PROCEDURES.

a. As required by the JTF mission, the JEMB will activate under authority of the CJTF by the JTF Engineer.

b. The JEMB meeting locations and physical arrangements will be coordinated, executed, and announced by the JTF Environmental Section. The JTF Engineer Operations Section will announce the JEMB meeting locations and times.

c. The JTF Engineer (Deputy JTF Engineer, if absent) chairs the JEMB meetings.

d. JEMB members are shown above. Members must be empowered as decision-makers for their organizations. All are voting members.

e. JEMB decisions will strive for unanimity. In the absence of unanimity, a majority of voting members will determine the issue so long as law does not govern the issue. The Chairman will vote only in case of a tie. The Overseas Environmental Baseline Guidance Document (OEBGD) and the Final Governing Standards (FGS), while not applicable to operations, may also be used as a source for additional environmental standards.

f. When determining issues, a minimum JEMB quorum shall consist of JEMB Chairman, service component(s) representatives and DOD organizations /agencies (affected by issues under consideration).

g. JEMB decisions will be forwarded to the JTF Chief of Staff for final approval.

h. Reclamas of JEMB actions will be forwarded to the JCMEB or JTF Chief of Staff.

i. The JEMB Environmental Division is responsible for preparing meeting agendas and read-ahead materials, maintaining JEMB meeting minutes, coordinating final approval of JEMB actions, preparing appropriate documentation on all JEMB actions, as well as disseminating approved JEMB actions.

APPENDIX III ADMINISTRATION**TAB D JTF ENGINEER CRITICAL TASKS**

1. Provide initial Crisis Action Team manning.
2. Conduct initial Engineer Assessment.
3. Determine Staff Manning and Task Organization based on METT-T.
4. Transition the ACE and Brigade staff into the JTF.
5. Identify and integrate augmentation of 412th ENCOM, NAU, USACE, ODCENG.
6. Coordinate with staff and component engineers.
7. Monitor deployment, employment and progress of engineer forces committed to M/CM/S, TOPO and civil military missions.
8. Provide facility services including facilities planning, facilities maintenance, real estate and project management.
9. Identify, plan and coordinate future engineer requirements and environmental adherence.
10. Coordinate and chair boards (JCMEB, JFUB, JEMB).
11. Monitor engineer logistics.
12. Coordinate base campsite selection.
13. Coordinate efforts of contractors on the battlefield. This becomes especially critical when contractors from each service component compete for the same resources and real estate.
14. Establish a Joint Acquisition Review Board (JARB) to prioritize the JTF commander's priorities.

APPENDIX IV ENGINEERING ASSETS

- TAB A General
- TAB B Engineer Capabilities Matrix
- TAB C Type Unit Characteristic "TUCHA" Summary
- TAB D Air Force Engineering Assets
- TAB E Army Troop Engineering Assets
- TAB F Marine Engineering Assets
- TAB G Navy Engineering Assets

APPENDIX IV ENGINEERING ASSETS

TAB A GENERAL

1. Engineer Assets, Capability Matrix, and Type Unit Characteristic "TUCHA"

a. The purpose of this Appendix is to assist the JTF engineer in assessing potential assets available for engineer taskings. This Appendix serves as a management tool to help the engineering staff during the initial stages of planning. Knowing what assets are potentially available will define engineer mission capabilities. Final validation as to the availability of engineering assets rests with the owning service components. To help with this process, Figure 4 provides an Engineer Capability Matrix, which compares a list of typical engineering capabilities (left column) with engineering assets from all the services (top row). Capabilities are matched with potential service assets. The bottom of the chart provides an index key to help assess the level of match between capability and asset. An empty box indicates no match. When there is a match, the engineer unit tabs can be used to provide specific detail on each of the services resources. These tabs (Air Force, Army, Marine, and Navy) present the following types of data in a standard format:

- Organizational Structure
- Mission
- Manning
- Unit Movement Data
- Capabilities
- Points of Contact
- Sustainability
- Request For Support
- Equipment
- Other (references)

b. Identify engineering assets by Unit Type Codes (UTCs) beginning with the number 4. A current list of engineer unit UTCs, known as a Type Unit Characteristic (TUCHA) summary may be accessed through the Global Command and Control System (GCCS), or may be provided by EUCOM J4 systems staff. (A sample page follows the Engineer Capabilities Matrix.) Each tab also includes a list of references, which should be included in the JCES deployable library.

2. The Logistics Civil Augmentation Program (LOGCAP)

a. Reference. AR 700-137, LOGCAP, 16 December 1985.
http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R700_137/CCONTENTS

b. General. Under the U.S. Army's Logistics Civil Augmentation Program (LOGCAP), civilian contractors may provide a variety of engineering and logistics support to JTF units. LOGCAP may be used extensively when the U.S. participates in bare base contingency operations. Normally, LOGCAP resources should be utilized as a follow-on capability to supplement and replace military resources. In order to be used effectively, use of LOGCAP must be fully integrated into operational and logistical planning. Generally, the JTF should plan to use military assets during the first 45-60 days of a contingency operation. This should be

followed by a transition period of approximately 15 days in order to transition from military to civilian contractor capabilities. This timeline can be adjusted based on the factors discussed below.

c. **LOGCAP** is a contract for services, and as such, the contract can be written to provide a wide variety of capabilities. LOGCAP provides the means to disengage U.S. forces from service support missions for redeployment out of or employment in other parts of the theater. LOGCAP may also provide a capability that does not exist in the active force, e.g., concrete paving capability. The contract can be written to provide any service or capability that does not require combat or employment in unsecured areas. Some possible areas of employment are listed below.

(1) Support Planning. The LOGCAP contractor can perform basic support planning in support of military planning. This may include the design of base camps and other facilities. It may also include the planning of logistic support for items such as food, fuel and ammunition. The planning is limited based on restrictions precluding site surveys in hostile or unsecured areas.

(2) Establish, Operate, and Maintain Base Camps. This includes the planning, site work, layout, construction and upkeep for a specified number of personnel in specified locations.

(3) Combat Service Support Augmentation. LOGCAP can be used to provide messing facilities, laundry facilities, morale and welfare support activities and other service support.

(4) Unit Replacement. LOGCAP can be contracted to provide port support activities, airfield operations activities, medical clinics, mortuary affairs, fuel handling and storage, transportation services, unarmed physical security, construction assets, or any other service support organization.

d. Planning Factors. The following are some aspects that must be considered in the use of the LOGCAP contract.

(1) LOGCAP Option. The use of LOGCAP is normally considered after military resources and Host Nation assets are exceeded. But can be used at any time to facilitate the operation. Once the scope of the mission is determined, a rough order of magnitude (ROM) cost is calculated by the LOGCAP Contractor and presented as part of the Engineer staff recommendation.

(2) Security for the Contractor. LOGCAP provides an unarmed civilian service support force. Before LOGCAP personnel deploy into an area it must be completely secure. It must be secure from ground attack or sabotage, out of artillery range and safe from aerial bombardment. The commander needs to consider the cost of his combat capability for the security force to guard the contractors' sites.

(3) Funding. LOGCAP is not an open-ended contract. Funding imposes limits on the scope. The funds earmarked must cover the scope of the proposed contract. If not, the parties will have to renegotiate the scope of the contract. The funds available must also cover the cost of contingencies that may arise during the life of the contract. 5% to 10%[^] of the initial cost of

the contract should be set aside for contingencies. The time when funds will become available also has an impact on LOGCAP planning and employment.

(4) Level of Detail of OPLANS. Planning must be refined to the point that a contract can be written which stipulates specific times, quantities, and locations for specified support. If this cannot be done, as in contingency missions, the cost of a LOGCAP contract may be prohibitive. The contractor is going to execute where the contract says, when it says, for the number of people specified. Should the command decide not to execute a part of the contract, it will not have to pay for that part of the performance specification. However, if the command decides not to execute a part of the contract, the contractor still may have to be paid for work or preparation already performed in anticipation of execution. The timing of decisions to change the contract is critical and must be made as early in the execution as possible.

(5) Time Required for Contractor Mobilization. As stated before, the contractor may require 45 to 60 days to mobilize. The contractor does not have a workforce standing by to go to work. He hires, as he needs certain skills. If the government wants a workforce standing by, it would have to pay for it. Another 15 or more days will be required for handover or establishment of the service in country. This means that any service will have to be supported with government assets or will have to be done without assets for this mobilization period.

(6) Transportation/Logistics Constraints. Because the command is not providing military units and supplies for contracted operations in theater, it doesn't mean that these contracted personnel, equipment and supplies will not constrain the flow of forces. Berthing space in ports and parking space at airports are finite quantities. For the contractor to be able to flow his supplies and organization, they must be considered during planning as government supplied. In some cases, the government and the contractor will be competing for the same ships and planes. If the contractor is required to perform by day 45, he must be allowed to flow his force, even if this means delaying military forces or materials. If not, the command may be required to pay the contractor for the government-imposed delay.

(7) Availability of Qualified Local Labor. The cost of the contract may depend on the availability of qualified local labor. If the contractor must deploy an entire workforce from outside of theater, his services will cost that much more.

(8) Potential Changes to the OPLAN. The contractor will perform only those services specified in the contract and included in his offer. Any deviations or changes to these specified services require a change to the contract. Although contingencies can be written into the contract, they will not be inexpensive options. Also, there will be a time delay in the execution of these contingency options.

e. [Responsibilities.](#)

(1) The J Staff. The planning staff must decide what services LOGCAP should be contracted to perform in support of the mission, as well as the impact of using LOGCAP to provide those services. These impacts include loss of control of the service, security for the contractor, costs, and shortfalls that the contract does not provide. Although LOGCAP is services related, the execution of the contract impacts the J3 and the J5, as well as the J4.

(2) JTF Engineer. The JTF Engineer is responsible to plan for those portions of the LOGCAP contract which impact on the employment of engineering forces, or which concern engineering support to services. He must also plan and advise the commander on any shortfalls in support not covered in the LOGCAP contract.

(3) LOGCAP is an Army program whose proponent is Headquarters, Department of the Army, ODCSLOG, DALO-PLO (Plans and operations) DSN 227-1514/1625.

(4) Transatlantic Division, U.S. Army Corps of Engineers, Winchester, Virginia, provides LOGCAP contract administration. DSN (312)265-3753/3672 or commercial (540)665-3753/3672.

(5) For LOGCAP support and execution in Theater, contact US Army Engineer District, Europe, Wiesbaden, DSN 336-2641/2/3 or commercial 0611-816-2641/2/3.

(6) If a LOGCAP contract is written in support of an operation, a contracting officer will be assigned from the U.S. Army Corps of Engineers to manage the contract. This contracting officer will ensure contract compliance, quality control and will negotiate any changes to the contract. He will also process pay estimates, payments and manage contract funds. If USACE is also the CCA, the CCA will perform this function.

(7) LOGCAP Contractor. The contractor is required to perform to the terms of the contract. He is not required to perform any work not specified in the contract, even if it may be required in order for him to perform his contract obligations.

3. Construction Capabilities Program (CONCAP).

a. The U.S. Navy's Construction Capability (CONCAP) contract is a world-wide, highly flexible, rapid-response, cost-reimbursable construction contract to provide the Navy and other Services and Departments a tool to execute contingency construction under various military, humanitarian, disaster recovery, and other contingency scenarios.

b. The contract has the same construction capabilities as military engineer units and can be employed in support of military scenarios/situations. The only difference is that a CONCAP contractor is not equipped to carry out military defensive or offensive operations. It is not intended to replace all functions and capabilities of military engineer, combat engineer or Seabee units.

c. The primary intent of CONCAP is to provide various types of construction with associated planning and design. The contract also includes the capability to provide logistics and other support requirements related to construction. The contract is flexible enough to provide mobilization services (embarkation) for personnel, equipment, and material in support of mobilization efforts (Naval Construction Forces (NCF)). The contractor can also set up and operate a Material Liaison Office (MLO) on site in support of NCF Operations and projects.

d. Specific types of CONCAP work anticipated:

(1) Construction and/or repair of runways, roads, bridges, causeways, piers, depots/

warehouses, clinics, field hospitals, operation/maintenance facilities, communications facilities, berthing/messing facilities, and ammo dumps.

(2) Specialty construction including dredging, POL facilities, aerial photography surveys, soils engineering, concrete/asphalt plants, environmental restoration, and power generation operation.

(3) Miscellaneous capabilities including planning, embarkation, material management, and logistics support in conjunction with construction.

e. CONCAP Administration

(1) The Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA, administers CONCAP. Each of the other NAVFAC Engineering Field Divisions (PACDIV, SWDIV, SOUTHDIV) also has authority to issue and administer CONCAP contract task orders for each of their AORs.

(2) LANTDIV has responsibility for the East Coast of CONUS from ME to NC. OCONUS operations include the Caribbean and Europe. Note that EFAMED is the LANTDIV component in Europe.

(3) PACDIV is responsible for the Pacific and Southwest Asia.

f. Engineering Field Divisions (EFD) Points of Contact:

EFAMED (Europe)

EFA MED Ops Officer 39-081-568-4720 x 309
Head, Contracts 39-081-568-4720 x 320

LANTDIV (Non-Europe)

Head, Const and A/E Branch (757) 322-8255/ 307-1871 (beeper)
CONCAP PCO/ACO (757) 322-8289
Contingency Engineer (757) 322-8302

PACDIV

PACDIV CONCAP ACO (808) 474-5404
PACDIV Contingency Engineer (808) 472-1177

g. CONCAP Activation Steps.

(1) Contact appropriate CONCAP Contracting Officer (above) to coordinate funding, planning and requirements.

(2) Provide initial funding for planning/design if required.

(3) Develop Scope of Work (SOW) and provide funding for task order.

(4) Coordinate with Contracting Officer and Contractor to refine requirement (as required) and start work.

h. Previous Work Performed by CONCAP.

(1) Airfield Overlay/Repair and Arrestor Gear Replacement at Aviano, Italy (\$9.8M).

(2) Runway Repairs in Morocco (\$2.0M).

(3) Construction of Sewage Treatment Plant in Souda Bay, Crete (\$2M).

(4) Aerial Photography and Road Alignment Profile Survey in Bosnia (\$1.3M).

(5) Construction/Renovation of facilities to allow relocation of Special Operations.

(6) Command South from Panama to Puerto Rico (\$14M).

(7) Hurricane Recovery in the Azores, Puerto Rico, Florida, and North Carolina (\$73M).

i. Typical CONCAP Scenarios.

(1) SOUTHCOM/JTF Commander requests CONCAP support for Port facilities to support a rapid mobilization in South America. CONCAP provides the design, logistics plan, project execution, and Seabee project support to execute dredging, causeway/pier construction, and wreckage removal.

(2) NAVCENT requests urgent security upgrades required for force protection throughout the Middle East. CONCAP provides surveys, analysis, initial designs, logistics, and project construction.

(3) President issues an evacuation order for an area in Central Africa. EUCOM / NAVEUR requests CONCAP support through EFAMED. CONCAP performs planning, logistics, and project construction of storage/temporary facilities, runway upgrades and utilities.

(4) Base/Regional Commander requests typhoon relief support through PACDIV for a typhoon strike on a Pacific Island. CONCAP team performs damage assessment, recovery, and repair to provide immediate relief through temporary shelters, mobilized logistics, material, and manpower.

4. **Air Force Contract Augmentation Program (AFCAP).**

a. The Air Force Contract Augmentation Program (AFCAP) is a contract force multiplier to augment Civil Engineer and Services capabilities in support of worldwide deployment operations. It supports contingency planning principally in military operations other than war.

b. Air Force policy prohibits AFCAP from responding to those operations reserved for the military: operations in high threat environments and immediate military response such as initial beddown.

c. AFCAP can be used to provide construction support at existing overseas locations to expand operational capability or replace war reserve materiel assets during extended military operations. AFCAP may also be used for base recovery operations resulting from natural disasters, accidents, or terrorist attacks. Furthermore, AFCAP may augment the base sustaining force at Air Force bases from which Civil Engineer and Services forces have been deployed.

d. AFCAP can provide the full scope of Civil Engineer capabilities and logistics, with the exception of explosive ordnance disposal and flight line crash fire rescue operations. Capabilities include:

(1) Professional engineering services and infrastructure support such as architectural and engineering design, maintenance, repair, sustainment, construction, and reconstitution.

(2) Commercially available equipment such as generators, vehicles, HVAC, laundry, tools, shop equipment, construction materials, etc.

(3) Emergency management, structural fire protection, facility hardening, dispersal, obstacles, redundancy measures, and non-environmental site restoration.

(4) Environmental management services, permits, hazardous materials/waste management and disposal.

(5) Air Force services capabilities and logistics, to include food service, troop support, lodging, laundry, fitness, and recreation with the exception of mortuary affairs and field exchange.

e. The Air Force Civil Engineer Support Agency (AFCESA) and the 325th Contracting Squadron at Tyndall AFB, FL, administer AFCAP. Air Force Major Command Civil Engineers and governmental agencies may act as the requestor or customer for AFCAP support. Customers are responsible for securing funding for AFCAP related requirements.

(1) Air Force requestors in the EUCOM theater should contact USAFE/CEXO at DSN 480-6726.

(2) Other government agencies requesting AFCAP support should contact AFCESA directly at:

HQ AFCESA/CEXR
139 Barnes Drive, Suite 1
Tyndall AFB, FL 32403-5319
DSN: 523-2275 (5-AFCAP-5) or 523-6147
Commercial: (850) 283-2275 or 523-6147
FAX DSN: 523-6383, FAX Commercial: (850) 283-6383

f. More information regarding AFCAP may be obtained from AFCESA at www.afcesa.af.mil.

5. **Field Force Engineering (FFE)**.

a. **General.** Field Force Engineering (FFE) is a U.S. Army Corps of Engineers initiative to provide engineer capabilities early in Theater. As a subset of Army engineer operations, FFE provides and maintains operational infrastructure (e.g., operations, logistics, and command and control facilities) and provides engineering expertise throughout the battlefield. FFE fully supports the Army's requirement to be strategically responsive and dominant at every point on the spectrum of operations. Many of the technical engineering capabilities required for the theater of operations are generally beyond the capability of combat engineer troop units deployed to the theater. A mix of troop unit construction capability and USACE civilian and military personnel and contracted capabilities will provide FFE to the JFC under the senior engineer commander (see Figure 5). Support elements from USACE would make up the potential augmentation to the JCES depicted in Figures 1,2,3.

Field Force Engineering	Combat Engineering
-Plan and design infrastructure	-Mobility
-Base development and contract construction	-Counter mobility
-Technical assistance	-Survivability
-Environmental engineering/base lining	-Geospatial Engineering
-Real estate acquisition	

FIGURE 4 Field Force Engineering and Combat Engineering Capabilities

b. **Key USACE Support Functions.**

- (1) Theater infrastructure engineer assessment and planning for OPLANS/ CONPLANS.
- (2) Engineer planning and analysis during crisis action planning.
- (3) Real estate services including acquisition and disposal of real property – requires early deployment and execution capability (CREST).
- (4) Facilities design, installation master planning, and infrastructure planning services.
- (5) Contract construction.
- (6) Environmental engineering services including baseline environmental assessments.
- (7) Technical engineering assistance to commanders at all echelons throughout the AO.
- (8) Geospatial engineering and water detection services through USACE laboratories.
- (9) Force protection engineering.
- (10) Hardened target weapons affect assessments.
- (11) Base camp and facilities operations and maintenance services through contracting, as required.

c. FFE Concept of Operations.

(1) **Employment Concept.** FFE is provided through deployed tactical engineer units and USACE personnel (both deployed and at home station). The engineer commander will maintain his flexibility and determine the mix of capabilities (e.g., troop, USACE civilian, and contractor) based on the tactical situation, time-phased requirements, capabilities required/available, funding, and force caps. USACE will task organize its capabilities to meet the varying time-phased requirements. The concept is applicable in both joint and combined operations to provide better decisions that can be implemented faster. The Forward Engineer Support Team (FEST) concept integrates the non-TOE unit engineer capabilities (i.e., USACE, other Services, host nation, etc) to provide infrastructure planning, engineering design and assessment, contract construction, real estate operations, and environmental engineering to meet both military and civil requirements. The FEST is a temporary TDA organization that is directly subordinate to a USACE division commander. It is task organized to provide field force engineering to the Army Service Component Commander (ASCC) and the Joint Force Commander (JFC). It can provide the full range of USACE capabilities in support of operations with a combination of deployed USACE personnel, reach back capability to the rest of USACE, and the leveraging of contractor capabilities in the AO and worldwide.

(2) **Deliberate Planning.** The CINC and ASCC staff engineers are supported by USACE LNO planners and engineer command (ENCOM) forward (Fwd) staff and the ASCC deputy chief of staff, engineer (DCSENG) to facilitate the timely consideration of engineering options that effectively take advantage of knowledge and technology for deliberate and crisis action planning. In addition, the engineer planning team can reach back to the CONUS engineer base (including the US Army Engineer School (USAES), the ENCOMs, and USACE) for expertise through Tele-engineering (real time linkages of expertise to the operator via secure voice and video) and other means of communications to conduct real time analysis and to solve problems as they are identified. The CINC/ASCC staff engineer leads in the coordination with the rest of the CINC/ASCC staff and the staffs of the major subordinate commands in the development of a coordinated engineer concept of operations. The USAES provides expertise in combat engineering and engineer systems. The ENCOM (Fwd) provides theater-level Army troop engineer planning expertise to the development of the civil engineer support plan (CESP). The USACE planners bring technical engineering expertise to the development of the CESP at the CINC and Army component levels. The USACE planners also leverage their command's specialized expertise of the AO to provide additional engineer intelligence to the supported commander. In addition, USACE can leverage its worldwide databases, experience, and relationships with public and private sectors in foreign countries to achieve superior war fighting effectiveness.

(3) **Crisis Action Planning.** During crisis action planning the ENCOM and USACE bring additional planning capabilities to the CINC/ASCC engineer staffs to help provide superior knowledge/skills to better support the decision-maker. The ENCOM provides additional support for planning from its active duty personnel. USACE can augment its deployed planners (FEST-Augmentation (FEST-A)) and provide expertise and trained teams through reach back. USACE base development and host nation (HN) infrastructure planning teams are battle-rostered and can be immediately brought to bear by the forward deployed USACE LNOs through the USACE division commander. [Note that the additional USACE planners may be further deployed as part

of the Deployed Joint Task Force Augmentation Cell (DJTFAC) to continue operational planning in the AO for the joint force commander (JFC)].

(4). **Early Entry Operations**. Field force engineers are deployed, initially, as force deployment enablers. Their focus is on the Reception, Staging, Onward movement, and Integration (RSOI) of maneuver and support forces. Engineer units provide the expedient improvements to HN infrastructure that enables/expedites the early entry of US forces and command and control and operational facilities to support initial operations. In addition, the engineers provide land and facilities (leased and/or constructed) for the intermediate staging base(s). USACE technical teams may be deployed with further leveraging through reach back to assess HN infrastructure (e.g., ports, airfields, and bridges). In addition, USACE deploys its Contingency Real Estate Support Team (CREST) to conduct initial real estate acquisition operations and, in non-forced entry operations, conducts environmental baseline assessments, and leverages Host Nation (HN) and regional capabilities through contracting to support the sustained reception, staging, and onward movement of US forces.

(5) **Force Buildup**. FFE troop and USACE capabilities are blended to provide environmental baseline assessments, acquire real estate, develop and maintain Army MSRs, establish base camps incorporating engineered force protection, and provide infrastructure for the deployed forces. With a forward element (FEST-Main (FEST-M)), USACE uses its full reach back capabilities to provide facilities planning for all deployed forces.

(6) **Sustainment Operations**. FFE teams are generally more forward deployed in the AO while in the more stable part of the AO, the FEST-M focuses non-TOE unit capabilities on facilities upgrades and contracted infrastructure maintenance. Facilities engineer teams provide engineer management (programming and assessment) for base camps. USACE maintains and, if necessary, upgrades HN infrastructure to support military operations.

(7). **Redeployment Operations**. FFE capabilities will be used to support the rapid redeployment of US forces in the AO. At the termination of US operations, USACE may provide most of the engineering redeployment operations, closeout of base camps (including environmental cleanup) and turnover of leased property back to the HN and private parties.

d. **Engineer Relationships**. Combat engineer units deployed as part of maneuver forces are augmented by FFE teams. In a Small-Scale Contingency (SSC) or Security Assistance and Stability Operation (SASO), FFE teams may be assigned under a single engineer commander. In larger scale operations including a major theater of war (MTW), the FFE teams may be placed from the division rear through the communications zone and linked back to the industrial base.

(1) **SSC/SASO** In SSC and SASO situations USACE may be engaged in HN projects (under its own authorities) prior to the deployment of US forces or as the result of US increased attention in the HN. The senior engineer troop commander may be a division combat engineer in need of significant augmentation to the engineer brigade staff in order to plan for and execute FFE missions. That augmentation may come from other engineer organizations including USACE. For significant contract construction, real estate and technical engineer support to the deployed JFC and his missions, USACE will provide a the FEST-M to execute assigned missions.

(2) **MTW** In a MTW FFE teams may be assigned to both the Corps and to the ENCOM, when activated and deployed. Both the ASCC and JFC engineers assess FFE capabilities in the AO and their balanced employment throughout the battle space. The ENCOM provides C2 for FFE teams not otherwise assigned to the echelons below Corps. The FEST-M may be under the operational control (OPCON) of the ASCC, receiving its Army engineer taskings from the ENCOM, and providing real estate and contract construction agent capabilities to all services in theater.

e. **USACE North Atlantic Division Concept of Operations.**

(1) **Overview.** The Army's engineers are the land force commander's primary engineering capability in the AO. The level and extent of engagement by Army engineer troop units and USACE is a function of Mission, Enemy, Terrain, Time – Troops, Civilians (METT-TC) and political considerations. The North Atlantic Division (NAD) is the USACE Army Engineer asset for EUCOM. The USACE NAD division commander uses METT-TC to provide USACE FFE capabilities to the CINC/ASCC throughout the battle space and across the spectrum of operations. He determines whether the mission requires the establishment of a FEST-M. The division commander also works with the supported CINC/ASCC to integrate USACE's capabilities (e.g., FEST-M) with the supported JFC and deployed engineer troop units. NAD engineering service capabilities for military support are leveraged in a fashion very similar to USACE support for disaster operations in the US supplementing state and local operations in support of FEMA and under USACE authorities.

(2) **Deliberate Planning.** The NAD division commander engages in deliberate planning with the supported CINC and Army Service Component Command (ASCC) engineer staffs through the forward-deployed USACE LNO/Planners. In coordination with ENCOM planners, a Contingency Response Unit (CRU) planning team develops USACE contingency support plans for scenarios tasked by the LNO/Planners – the NAD division commander prioritizes USACE planning efforts. In addition, the division commander may task an Infrastructure Assessment Team (IAT) or Base Development Teams (BDTs) to support deliberate planning.

(3) **Crisis Action Planning.** Per guidance from the NAD division commander, the LNO/Planners have authority to reach back for additional engineer expertise. HQUSACE will provide funding for engineer expertise during deliberate and crisis action planning. The division commander may augment the LNO/Planner during Crisis Action Planning (CAP) with a Forward Engineer Support Team – Augmentation (FEST-A). A FEST-A is battle-rostered (e.g., two to nine personnel) to meet planning staff requirements at each planning headquarters with engineer requirements as determined by the CINC and ASCC. The NAD division commander may deploy several FEST-As. The FEST-As engage with the Infrastructure Assessment Team (IAT) on infrastructure assessments and capabilities especially at the CINC level and ASCC levels. The FEST-A at the ASCC level may also be engaged with the Base development Teams (BDTs) in planning for Army base camps and infrastructure requirements. The NAD division commander in turn prioritizes/de-conflicts and requests technical assistance as needed. The USACE LNO/Planners at the CINC and ASCC keep each other and the NAD division commander informed about ongoing planning activities.

f. **USACE Teams.** Military functional teams support potential USACE FFE missions and are maintained by their proponent USACE organizations to deploy into the EUCOM AO and/or

provide real-time reach back engineering. Deployable USACE civilian personnel are pre-POMed (preparation for overseas movement) and trained to provide specific technical support tailored to EUCOM contingency needs. In contingencies, USACE command personnel would be equipped for personal survival as required by the supported CINCs and equipped with communications compatible with the military systems and capable of communicating with higher headquarters. Equipment unique to a CINC support requirement would be maintained at the supporting district. In peacetime, USACE divisions will be linked to their supported CINC/ASCC through SIP-R-NET. In addition, districts with military support teams may be linked through SIP-R-NET as well. TeleEngineering sets provide a classified closed system wherever deployed. Each division with a CINC support mission will maintain a TeleEngineering system with trained personnel for immediate deployment. The following USACE teams are available to support EUCOM Contingency operations:

- Contingency Response Unit (CRU)
- Forward Engineer Support Team Augmentation (FEST-A)
- Forward Engineer Support Team Main (FEST-M)
- Base Development Team (BDT)
- Infrastructure Assessment Team (IAT)
- Engineer Logistics Support Team (ELST)
- Contingency Real Estate Response Team (CREST)
- Water Detection Response Team (WDRT)
- Rapid Response Team (RRT)

(1) **Contingency Response Unit (CRU)** The CRU has planning teams for each of the USACE MSCs with overseas responsibilities. In peacetime, these teams develop USACE input to OPLANs and CONPLANs and assist the USACE division commander in developing USACE plans for military operations. In support of operations, CRU personnel may be deployed to augment the USACE MSC and its FESTs in contingency operations. The CRU personnel provide additional battle staff capabilities for the USACE division commander and may be deployed from the USACE division HQ as a FEST-A or as part of a FEST-M.

(2) **Forward Engineer Support Team-Augmentation (FEST-A)** Provides the CINC, ASCC, and Theater Army major subordinate command staff engineers with additional specialized engineer planners that have reach back capability to USACE during crisis action planning. When supporting contingency operations, one or more already deployed FEST-As may be deployed as a component of the JCES, as part of the CINC DJTFAC and/or a component of the JTF's Army staff engineer. Team skills consist of Theater-level engineer planning. The use of the Theater Construction Management System (TCMS), Contingency plan writing and Concept of Operations development. The USACE division commander deploys FEST-As to augment engineer-planning capabilities in theater. FEST-As are tailored to meet the specific needs of the supported command and can deploy within 8 days of notification. Teams normally consist of a FEST A Chief (Engineer Major), Real Estate Specialist, Structural Engineer (routes, bridges, tunnels), Civil Engineer (master planning, SOWs), Civil Engineer (Utilities), Civil Engineer (Construction), Environmental Engineer, Contract Specialist and Force Protection Specialist. Team requirements are coordinated with the CINC and ASCC engineers. At the CINC/ASCC level, the FEST-A supplements the USACE LNO/Planners who generally remain with the CINC and ASCC HQ. When deployed with the JTF and/or the Army component staff

engineer, the FEST-A members receive their taskings/guidance from that staff engineer but are part of the deployed FEST-M.

(3) **FEST-Main (FEST-M)** The FEST-M is USACE's execution organization in the AO. A LTC or COL depending on METT-TC considerations commands it. Normally a colonel commands the district-level FEST-M organization and a lieutenant colonel would command an area office level (FEST-M). A district-level FEST-M may have one or more area offices. An area office may have one or more field offices to support construction activities. Within the operational chain of command, the FEST-M commander supports the senior engineer commander in the AO. All USACE personnel deployed into the AO (including the FEST-A members) are under the command and control of the FEST-M commander. The FEST-M executes assigned contract construction, real estate services, technical assistance, engineer planning, design, geospatial engineering, and environmental engineering missions. The FEST-M maximizes use of reach back capabilities including TeleEngineering. While the supported command may provide basic sustainment services (e.g., beddown, laundry, food) the FEST-M must be prepared to be self-sustaining in whole or in part. The FEST-M commander continuously shapes the capabilities of the organization to meet the ever-changing demands of the tactical situation and operational environment. Functionally, it consists of construction and engineering plus support personnel from the USACE NAU District and is augmented by members of the Base Development Team(s), IAT and other expertise as required.

(4) **Base Development Team (BDT)** The BDT provides installation-level master planning and facilities design expertise for intermediate staging bases (ISBs), base camps, forward operating bases (FOBs), and displaced personnel camps. Teams may be activated for crisis action planning through the termination of operations – this may not be a continuous requirement. Each team is assigned responsibility for planning and designing a major theater installation. Team skills consist of Master Planning, austere theater facilities design, Force Protection Engineering, use of the Theater Construction Management System (TCMS) and Environmental Assessment and Engineering. Depending on the number of base complexes to be designed, the NAD division commander may be assigned BDTs from other USACE divisions to meet short-time frame requirements for multiple base camps, logistics bases, and intermediate staging bases. As the JTF and FEST-M deploy into the AO, selected personnel from each BDT may deploy as part of FEST-M.

(5) **Infrastructure Assessment Team (IAT)** The IAT provides engineering infrastructure assessments for strategic/operational military deployments and civil-military operations. It also provides expertise in support of crisis action planning and early entry operations through redeployment. Teams may be activated for crisis action planning through the termination of operations – this may not be a continuous requirement. During CAP the IAT supports the FEST-As on infrastructure assessment and capabilities. The IAT may be a district team or a virtual team (i.e., members come from within the division and/or are made available as infrastructure expertise from other members of USACE (e.g., laboratories, centers of expertise (CXs), and members of the Corps with intimate knowledge of the AO). A team will be required for each country where major US forces are deployed. Team skills consist of HN infrastructure assessment, Transportation systems planning and design, Ports and airfields, Roads, Inland waterways, JLOTS, Water resources, Power systems, Environmental engineer planning, and the use of the Theater Construction Management System (TCMS).

(6) **Engineer Logistics Support Team (ELST)** The ELST provides logistics support for USACE Field Force Engineering. Specific missions include reception of deploying USACE personnel, arrangement for transportation and lodging, and provision of supplies for USACE operations. The Engineer Logistics Support Team deploys to the in-country reception area as an augmentation to the deploying USACE mission management team under the FEST-M commander. Skills consist of reception and mission support, lodging acquisition, transportation support from reception point to duty station and providing USACE equipment and supplies for operations.

(7) **Contingency Real Estate Team (CREST)** Acquires (leases, temporary easements, hold harmless agreements) real estate for use by US forces. Documents real estate condition prior to use by US forces. The CREST disposes of real estate after use by US forces and provides temporary office space, beddown space, and other support facilities for USACE operations. Skills consist of HN property appraisals, documentation of real estate use by US forces, legal agreements with HN and private interests. Teams are activated early and are the initial deployers to provide real estate for use by deploying US forces. The number of real estate teams deployed depends on the amount of real estate to be acquired.

(8) **Water Detection Response Team (WDRT)** The WDRT locates adequate quantities of subsurface water to meet military requirements. Skills consist of Worldwide data acquisition and database maintenance, use of DOD remote sensing capabilities and local site investigations. Upon activation, the team examines existing databases, textural information, and in-house experience to determine high-potential water sources from source data and imagery. Teams from geophysics and or supporting specialties will deploy for on-site investigations prior to the arrival of well drillers.

(9) **Rapid Response Team (RRT)** The RRT provides time-critical removal of toxic and radioactive materials from contaminated sites. Team skills include the ability to conduct local site investigations and develop engineer solutions for remediation of contaminated sites. On order, the RRT can deploy assessment teams to identified locations. The deployed RRT assets are OPCON to the supported USACE division commander. Contractor support for clean up of contaminated sites can begin within 14-40 days of initial site investigation.

APPENDIX IV ENGINEERING ASSETS

TAB B ENGINEER CAPABILITES MATRIX

Capabilities	AIR FORCE				ARMY												MARINES				NAVY																				
	P R I M E B E F F	R E D			E B C H * *	H Q C o E n g B r g	H Q E N C O M B r g	H Q S P C o E B C H	E n g C o E B C H	E n g C o T o p o	E n g C o C o n s p t	E n g C o P o r t s	E n g C o D e p t r k	E n g C o P i p l i n g	P R I M P O W E R T m	E n g B r g C o	M i s c T r u c k s			C b t E n g S p t B a t	E n g S p t B a t			M o b C o n s B a t	A i r D e t s	A m p h C o n s B a t	C a r g o H n d B a t	C o n s B a t U n i t	M o b U t i l i t S p t	U H 2 O C o n s T m	C o n s R e g M n t										
Water Well Drilling		A2				2	*2										2			A2					A1,2																
Bridge Erec/Repair						1,2	*2	1	1,2	1,2					A1,2					A2	A2				A1,2	B1,2															
Main Supply RTE O&M		B2			1,2	1,2	*2		1,2	1,2															A1,2																
Missile Site Prep		B2			1,2	1,2	*2		1,2																																
Pipelines: H2O/POL/Tank	B1,2	A2					*2							A2						A2					A1,2	A1,2	A2					A2									
Logistic Base Prep					1,2	1,2	*2									2									A1,2	A1,2															
Field Hospital Erec					1,2	1,2	*2		1,2							2												A2													
Facility Hardening	A1,2	B2			1,2	1,2	*2		1,2							2									A1,2	A1,2															
MSR/LOC Survey/O&M					1,2	1,2	*2		1,2	1,2						2				A2	A2				A1,2	A1,2															
Airfield Fire Protection	A1,2						*2									2																									
Bare Base Activation	A1,2	A2					*2						2			2									A1,2	B1,2															
Explosive Demolition Ops		B2			1,2	1,2	*2		1,2											B2																					
Power / Generation	A1,2	A,2					*2							A1,2																											
APOD/SPOD O&M	A1,2	B2					*2					A2				2									A1,2	A1,2	A2														
Pavement O&M	A1,2	B2			1,2	1,2	*2		1,2	1,2															A1,2			B2													
Messing/Berthing Facs	B1,2	B2			1,2	1,2	*2		1,2	1,2	1,2					1,2									A1,2	A1,2		A2													
Environmental Projects	B1,2	B2			1,2	1,2	*A2									2																									
Expeditionary Airfield		A2																																							
Rapid Runway Repair	A1,2	B2			1,2	1,2	*2		1,2	1,2										A2	A2				A1,2	A1,2															
A&E Design / PM	A1,2	A2					*2									2																									
Disaster Prep & Recovery	A1,2	A2																							A1,2	B1,2															
Cargo Handling Air/Sea																																									

Index Key: 1 - In Theater 2 - Out Theater A - Primary B - Secondary
 Notes: * ENCOM has forward element in Theater to manage assets.
 ** EBCH - Engineering Battalion Combat Heavy

FIGURE 5 Engineer Capabilities Matrix to compare engineering capabilities and assets

APPENDIX IV ENGINEERING ASSETSTAB C TYPE UNIT CHARACTERISTIC "TUCHA" SUMMARY

UNIT CODE	UNIT NAME	SVC CODE
Air Force		
4F7AA	CES CIVIL ENGINEERING	F
4F7AB	CES FIRE FIGHTERS	F
4F7AG	CES BAK-12 BARRIER SYSTEM TEAM	F
4F8AA	CES RED HORSE	F
4F9AC	CES PB CEMIRT DEPOT MAINT TM	F
4F9AD	CES PAVEMENTS EVALUATION TEAM	F
4F9AE	CES RAPID RUNWAY RPR STOWS 33	F
4F9AF	CES PB SELF-SUSTAINABILITY PKG	F
4F9AP	CES PRIME BEEF POWER PRO TEAM	F
4F9B1	CES BAK-12 EXPEDIT BARRIER SYS	F
4F9DA	CES PB FL SP THREAT RESP HVY TM	F
4F9DB	CES PB FL SP THREAT RESP LIT TM	F
4F9DC	CES PB FL SP THREAT RESP AUG TM	F
4F9DD	CES PB THREAT RESP THEATER/JTF	F
4F9DE	CES PB FS THREAT RESP CONT CTRL	F
4F9DF	CES PB LIGHTWGHT NBC RECON SYS	F
4F9DH	CES OPEN AIR CON CONTR AREA SET	F
4F9E8	CES PRIME BEEF ARC FOLLOW TEAM	F
4F9E9	CES PRIME BEEF EN ROUTE SPT TM	F
4F9EA	CES PRIME BEEF AEF TEAM A	F
4F9EB	CES PRIME BEEF AEF TEAM B	F
4F9EC	CES ADVANCED RECON TEAM	F
4F9EE	CES AIRFIELD LGHTNG INSTL TM	F
4F9EN	CES LIMITED AREA/EQUIP DECON TM	F
4F9EP	CES PRIME BEEF AEF TEAM C	F
4F9EW	CES PRIME BEEF TEAM A1 V	F
4F9EZ	CES PRIME BEEF TEAM P1 V	F
4F9FA	CES PB SR FIRE PROTECT MGMT AUG	F
4F9FC	CES P23 FIRE TRUCK ACFT CRASH	F
4F9FE	CES P4 FIRE TRUCK ACFT CRASH	F
4F9FF	CES FIRE FIGHTING SUPPORT KIT	F
4F9FG	CES P19 FIRE TRUCK ACFT CRASH	F
4F9FJ	CES PB FIRE PROT INCID CMD TM	F
4F9FL	CES PRIME BEEF ENG SUSTAINMENT	F
4F9FM	CES P10 ACFT CRASH/RESCUE TRUCK	F
4F9FN	CES PB FIRE PROTECTION MGMT AUG	F
4F9FP	CES PB FIRE PROTECTION OPS TM	F
4F9FU	CES P20 RAMP PATROL VEH	F
4F9FW	CES P18 WATER CARRIER VEH	F

4F9FX	CES QUICK REACTION SUPPORT KIT	F
4F9H1	CES RED HORSE HEAVY VEH PACKAGE	F
4F9H2	CES PKG RED HORSE AUTO BLD MACH	F
4F9H3	CES PKG RED HORSE WELL DRIL KIT	F
4F9H4	CES RED HORSE ASPHALT BATCH PLT	F
4F9H5	CES RED HORSE CONCRETE BTCH PLT	F
4F9H6	CES RED HORSE QUARRY OPERATIONS	F
4F9R1	CES TM RED HORSE, R-1	F
4F9R2	CES TM RED HORSE, R-2	F
4F9R3	CES TM RED HORSE, R-3	F
4F9R4	CES TM RED HORSE, R-4	F
4F9S4	CES FP STAFF AUGMENTATION TM	F
4F9S5	CES STF AUG FIRE PROTECT S 5	F
4F9S6	CES STAFF AUGMENTATION TEAM	F
4F9SA	CES MANAGEMENT TEAM	F
4F9X1	CES PRIME BEEF EOD LEAD TEAM	F
4F9X2	CES PRIME BEEF EOD FOLLOW TEAM	F
4F9X3	CES PRIME BEEF EOD BASE SUPT TM	F
4F9X6	CES ARMORED BASE RECOVERY VEH	F
4F9X7	EOD MCV PKG (EQUIPMENT ONLY)	F
4F9X9	CES PB EOD HIGH THREAT AUG TM	F
4F9XA	CES PRIME BEEF EOD MGT TM	F
4F9XB	CES PRIME BEEF EOD CTCY SUPT TM	F
4FZ99	CES ENGN G AND SVCS MISC	F
Army		
40411	HHC, ENGR BN AIR AASLT	A
41D77	ENGR CO ENGR BN HVY DIV	A
41SNN	PLATOON HQS	A
41ZZZ	ENGR BN, ABN DIV	A
42411	ENGR BN, ABN DIV	A
42433	ENGR CO PIPELINE CONST	A
42B77	HHD ENGINEER BRIGADE	A
42FEE	QUARRY TEAMS	A
42SNN	HHC ENGR BDE THEATER ARMY	A
42ZZZ	ENGR BN INF DIV LT	A
43411	HHC, ENGR BN, ABN DIV	A
43PPP	ENGR EQUIP OP TEAMS	A
43RNN	HHC ENGR BN ABN DIV	A
43SNN	HHC ENGR TOPO BN TA	A
43ZZZ	ENGR BN AIR ASSLT DIV	A
44222	ENGR CO ACR	A
44411	ENGR CO, ENGR BN, ABN DIV	A
44444	ENGR BN ABN DIV	A
44533	ENGR CO ASSLT FLTBRG RIB	A
44D77	SUPPORT PLT ENGR BN HVY D	A
44FEE	REAL ESTATE TEAM	A

44RNN	ENGR CO ENGR BN ABN DIV	A
44SNN	TOPO ENGR CO	A
44ZZZ	ENGR FFTG TM - FFTG HQ	A
45411	ENGR CO, BDE CBT TM	A
45533	ENGR CO ASSLT FLTBRG M4T6	A
45QNN	ENGR COMBAT BN HEAVY	A
45ZZZ	ENGR FFTG TM - FIRE TRUCK	A
46411	ENGR BN INF DIV LT	A
46533	ENG TM BN HQ	A
46JJJ	ENGR CO PANEL BRIDGE	A
46QNN	HQ SPT CO COMBAT BN HVY	A
47411	HHC, ENGR BN INF DIV LT	A
48411	ENGR CO ENGR BN INF DIV LT	A
48AAQ	ENGR PORT CONST CO	A
48AAT	ENGR CBT BN CORPS	A
49411	ENGR BN AIR ASSLT DIV	A
49ZFF	ENGR FFTG TM FIRE TRUCK	A
4A411	ENGR CO ENGR BN AASLT	A
4AAAB	ENGR CBT SPT EQUIP CO	A
4AAAD	ENGR CO PIPELINE CONST	A
4AAF0	ENGR FFTG TM BRUSH FIRE T	A
4AAFX	ENGR ADMIN TM BNQ	A
4AAFZ	ENGR FFTG TM WATER TRUC	A
4AJJJ	ENGR CO MDM GIRDER BRIDG	A
4AQNN	CONTROL MAINTENANCE TEA	A
4ARNN	ENGR BN HVY DIV RIBBON	A
4AUGU	AUG TO TOE TYPE UNITS ENGR OR TOPO	A
4B222	ENGR BN INF DIV LT	A
4B411	ENGINEER BDE	A
4B533	ENGR FFTG TM FFTG HQ	A
4BBBBB	ENGR CO ENGR BN INF DIV	A
4BQNN	CONTROL SUPPORT DET	A
4BRNN	BRIDGE COMPANY RIBBON	A
4BTTT	ENGR CO HVY SEP BDE	A
4C222	HHC ENGR BN INF DIV LT	A
4C333	ENGR CBT CO MECH CORPS	A
4C411	III CORPS ENGR BDE (AOE)	A
4C533	ENGR FFTG TM FIRE TRUCK	A
4C766	ENGR CBT BN CORPS MECH	A
4C777	III CORPS ENGR BDE (AOE)	A
4CBBB	HHC, ENGR BN, INF DIV	A
4CELL	CELLULAR TOE UNIT ENGINEERS	A
4CPPP	ENGR EQUIP OP TEAMS	A
4CRNN	HHC ENGR BN AIR AASLT	A
4D222	ENGR CO ENGR BN INF DIV L	A
4D333	HHC EN CBT BN MECH CORP	A

4D411	ENGR FFTG TM - FFTG HQ	A
4D533	ENGR FFTG TM WATER TRUC	A
4DAAN	ENGR CBT CO CORPS	A
4DAAP	HHC ENGR CBT BN CORPS	A
4DQNN	LT WT DIVING TM	A
4DRNN	ENGR CO ENGR BN AASLT	A
4E411	PRIME POWER PLATOON	A
4E722	ENGR CO SEP INF BDE	A
4EF77	AVN MAINT CO (3D RAS)	A
4F333	ENGR CBT BN MECH CORPS	A
4F411	POWER LINE PLATOON	A
4FRAG	ENGINEER FUNCTIONS FRAG	A
4FTTT	ENGR CO ENGR BN HVY DIV	A
4G411	ENGR BN (TOPO), TA	A
4GM77	ENGR EQUIP OP TEAMS	A
4GP77	ENGINEER BDE	A
4GVVV	HHC COMBAT ENGINEER GROUP	A
4H533	ENGR EQUIP OP TEAMS	A
4HC66	HHC ENGR BN CORP M	A
4HP77	ENG BN CORPS ENG BDE	A
4HVVV	ENGR CO DUMP TRUCK	A
4JC66	EN CO EN BN C W	A
4JJJJ	ENGR CO, ENGR CBT BN, HVY	A
4JVVV	ENGR CBT BN CORPS WHL	A
4K1ZZ	POWER LINE TEAM	A
4K722	UTILITIES 4000 TEAM	A
4KC66	ENGR FFTG TM BRUSH FIRE TR	A
4KRNN	HHC ENGR BDE CORPS	A
4KVVV	HHC ENGR CBT BN CORPS	A
4L1ZZ	DREDGE TM CMD CNTRL PLN	A
4L222	ENGINEER BN AIR AASLT	A
4LC66	ENGR FFTG TM CRASH RES	A
4LRNN	HHC COMBAT ENGINEER GROUP	A
4LVVV	ENGR CBT CO CORPS	A
4M222	ENGR CO LIGHT EQUIP ABN	A
4MC66	PHOTOMAPPING SQUAD	A
4MG77	ENGR BN TOPO TA	A
4MMMM	ENGR CO, BDE CBT TM	A
4MPPP	ENGR CO DUMP TRUCK	A
4N222	ENGR CO LIGHT EQUIP	A
4NC66	GRAPHICS SUPPORT SQUAD	A
4NHHH	HHC, ENGR BN, ABN DIV	A
4NSNN	ENGR CO CSE ENG BDE	A
4P222	ENGR CBT BN ABN	A
4PC66	TECHNICAL CONTROL SECTION	A
4PG77	ENGR TOPO CO CORPS	A

4PHHH	ENGR CO, ENGR BN, ABN DIV	A
4PVVV	ENGR CO MDM GIRDER BRIDG	A
4Q222	ENGR CBT BN CORPS LIGHT	A
4QC66	HHD PRIME POWER BN	A
4QCCC	BRG CO EN BN M4T6 CL60	A
4QHHH	ENGR CO, BDE CBT TM	A
4QJJJ	ENGR CO ENGR BN HVY DIV	A
4QM77	PWR PLANT OP MAINT TEAM	A
4QVVV	ENGR CO PANEL BRIDGE	A
4R222	HHC ENGR CBT BN ABN	A
4RC66	ENGR CO PRIME POWER BN	A
4RCCC	BRG CO EN BN RIBBON	A
4RHHH	HHC,ENGR BN INF DIV LT	A
4RRRR	MULTIROLE BRIDGE COMPANY	A
4RSNN	TOPO PLANNING CONTROL TEA	A
4RVVV	HHC ENGR COMMAND	A
4S222	HHC ENGR CBT BN CORPS LT	A
4SC77	TERRAIN ANALYSIS LID	A
4SCCC	ENGR BN INF DIV	A
4SHHH	ENGR CO ENGR BN INF DIV LT	A
4SSNN	SURVEY SQUAD	A
4T222	ENGR CO ENGR CBT BN ABN	A
4TBBB	ENGINEER BN, HVY DIV	A
4TCCC	ENGR BN INF DIV	A
4TDAU	ENGINEER FUNCTIONS FRAG	A
4THHH	HHC,ENGR BN AIR AASLT	A
4TUTL	ENGINEER TITULAR	A
4U222	ENG CO ENG CBT BN CORPS L	A
4UA77	HHC ENGR CBT BN CORPS M	A
4UBBB	HHC, ENGR BN, HVY DIV	A
4UHHH	ENGR CO ENGR BN AASLT	A
4UM77	ENGR PORT CONST CO	A
4UPPP	UTILITIES 4000 TEAM	A
4VBBB	ENGR CO,ENGR BN,HVY DIV	A
4VEBB	PRIME POWER PLATOON	A
4VM77	ENGR CO ACR	A
4VSNN	MAP DISTRIBUTION SQUAD	A
4WA77	ENGR CO ENGR CBT BN C M	A
4WFEE	ENGR CO CONST SUPPORT	A
4WM77	PRIME POWER BATTALION	A
4WSNN	TERRAIN ANALYSIS SQUAD	A
4X7MF	HHC ENGR COMBAT BN HEAV	A
4X7MH	EN EQ MNT CO EN CBT BN	A
4X7MK	ENGR CO ENGR CBT BN HVY	A
4XC77	ENGR CBT BN CORPS MECH	A
4XCBL	ENGR CO CONST SUPPORT	A

4XN77	ENGR BN AA DIV SE	A
4XSNN	PRINTING SQUAD	A
4YC77	HHC ENGR CBT BN CORPS M	A
4YD77	ENGR BN HVY DIV	A
4YQNN	HHC ENG BN HVY DIV	A
4ZC77	ENGR CO ENGR CBT BN C M	A
4ZD77	HHC ENGR BN HVY DIV	A
4ZSNN	TERRAIN DIR SPT ELEMENT	A
Navy		
40101	NMCB	N
40102	NMCB AIR DET	N
40103	NMCB LESS AIR DET	N
40104	NMCB AIR ECHELON	N
40105	NMCB SEA ECHELON	N
40106	NMCB AIR ECH LESS AIRDET	N
40107	ONE-HALF NMCB	N
40108	HALF OF NMCB-LESS-AIRDET	N
40109	NMCB DET	N
40111	NMCB DET	N
40112	NMCB WELL DRILLING TEAM	N
40201	WDR J CO RRR PERSONNEL	N
40202	WDR K CO UTILITIES PERS	N
40203	WDR L CO STRUCTURAL PERS	N
40204	WDR M CO GENERAL PERS	N
40205	WDR H CO HEADQRTRS PERS	N
40206	WDR M CO LESSAIRDET PERS	N
40211	WDR J CO EQUIPAGE	N
40212	WDR K CO EQUIPAGE	N
40213	WDR L CO EQUIPAGE	N
40214	WDR M CO EQUIPAGE	N
40215	WDR H CO EQUIPAGE	N
40216	WDR M CO LESAIRDET EQUIP	N
40301	NCR HQ	N
40401	NCB HQ	N
40500	NCFSU	N
40501	NCFSU ECH1 HQ ADMIN LOGISTICS	N
40502	NCFSU ECH2 ENGINEER SUPPORT	N
40503	NCFSU ECH3 EQ OPS MNT+LNGHAUL	N
40504	NCFSU ECH4 AUG EQUIP SUPPORT	N
40505	NCFSU ECH5 FACILITIES	N
40506	NCFSU ECH6 COLD WEATHER AUG	N
40507	NCFSU ECH7 WELL DRILL EQUIP	N
40508	NCFSU ECH8 SOIL STABIL EQUIP	N
40509	NCFSU ECH9 ASPH PAVE + PLANT	N
40510	NCFSU ECH10 CONCRETE PLANT	N
40511	NCFSU ECH11 BRIDGE+WATERFRONT	N

40512	NCFSU ECH12 TRANSM LINE EQUIP	N
40513	NCFSU ECH13 EARTH MOVE+COMPAC	N
40514	NCFSU ECH14 QUARRY CRUSHER EQ	N
40601	UCT	N
40602	UCT AIR DET	N
40603	UCT LESS AIR DET	N
40604	UCT ARCTIC DET	N
40701	CBU (PAX ONLY)	N
40703	CBU FLEET HOSP SUPP PERS (PAX ONLY)	N
40751	CBHU	N
40801	CBMU	N
4300U	ABFC A18 OICC W/O FACILITIES	N
4300W	ABFC A18 OICC W/FACILITIES	N
44101	HOMEPORT NCR HQ STAFF	N
4AUGA	NMCB AUGMENT	N
4AUGS	NAVFAC AUGMENT	N
4NAVY	OICC/ENVIRONMENTAL ENG UNIT/ENG FIELD DIV	N
<u>Marine Corps</u>		
4HTGA	COMBAT ENGINEER BN, MARDIV	M
4HVLC	ENGINEER SPT CO, CBT ENGR BN	M
4HVLM	CBT ENGR SPT CO, CEB/MPS PREPO	M
4HVLP	DET, ENGR SPT CO, CEB/MPS FIE	M
4HWGA	CBT ENGR CO, CBT ENGR BN, DIV	M
4HWGB	CBT ENGR CO/MPS PREPO	M
4HWGP	CBT ENGR CO/MPS FIE	M
4HWGR	ENGR CO/NALMEB FIE	M
4TBAA	TOPOGRAPHIC PLATOON	M
4TBAB	DET, TOPO/MPS PREPO	M
4TBAP	DET, TOPO PLT/MPS FIE	M
4WBGA	ENGINEER SPT BN, FSSG	M
4WDAA	ENGR SPT CO, ENGR SPT BN, FSSG	M
4WDEC	DET (MEB) ENGR SPT CO, ENGR SPT BN	M
4WDEF	DET, ENGR SPT CO, ESB/MPS PREPO	M
4WDEP	DET, ENGR SPT CO/MPS FIE	M
4WEGA	BRIDGE CO, ENGR SPT BN, FSSG	M
4WELC	DET (MEB) BRIDGE CO, ENGRSPTBN	M
4WELF	DET, BRIDGE CO/MPS PREPO	M
4WELP	DET, BRIDGE CO/MPS FIE	M
4WFGA	BULK FUEL CO, ENGRSPTBN, FSSG	M
4WFGB	BULK FUEL CO (-)/MPS PREPO	M
4WFGP	BULK FUEL CO (-)/MPS FIE	M
4WFLC	DET (MEB) BULK FUEL CO	M
4WFLP	DET (MEB) BRIDGE CO, ENGR SPT BN	M
4WGGA	ENGR CO, ENGR SPT BN, FSSG	M
4WGGB	ENGR CO, ESB/MPS PREPO	M

4WGGP	ENGR CO, ESB/MPS FIE	M
<u>Coast Guard</u>		
4AP40	ENGINEERING SUPPORT TEAM	P
4CEU2	COGARD CIVIL ENG UNIT	P
4FDCC	COGARD FAC DESIGN CONSTR CENTR	P
There were no Joint Engineer Unit Type Codes (UTCs).		

APPENDIX IVTAB D AIR FORCE ENGINEERING ASSETS

AIR FORCE UNIT DATA

- D.1 PRIME BEEF A TEAM
- D.2 PRIME BEEF B TEAM
- D.3 PRIME BEEF EP TEAM
- D.4 FULL SPECTRUM THREAT RESPONSE HEAVY TEAM
- D.5 FULL SPECTRUM THREAT RESPONSE LIGHT TEAM
- D.6 FULL SPECTRUM THREAT AUGMENTATION TEAM
- D.7 EOD LEAD TEAM
- D.8 EOD FOLLOW TEAM
- D.9 EOD MANAGEMENT TEAM
- D.10 ARMORED BASE RECOVERY VEHICLE
- D.11 ARMORED MUNITIONS CLEARANCE VEHICLE
- D.12 EOD HIGH THREAT AUGMENT TEAM
- D.13 FIRE PROTECTION INCIDENT COMMAND TEAM
- D.14 FIRE PROTECTION MANAGEMENT AUGMENT TEAM
- D.15 FIRE PROTECTION OPERATIONS TEAM
- D.16 FIRE PROTECTION QUICK REACTION SUPPORT KIT
- D.17 RED HORSE ADVON AND DESIGN ECHELON
- D.18 RED HORSE GENERAL CONSTRUCTION ECHELON
- D.19 RED HORSE HORIZONTAL CONSTRUCTION ECHELON
- D.20 RED HORSE VERTICAL CONSTRUCTION ECHELON
- D.21 RED HORSE OUTSIZED AND OVERSIZED HEAVY VEHICLE SET
- D.22 RED HORSE AUTOMATIC BUILDING MACHINE EQUIPMENT SET
- D.23 RED HORSE WELL DRILLING KIT
- D.24 RED HORSE ASPHALT BATCH PLANT
- D.25 RED HORSE CONCRETE BATCH PLANT
- D.26 RED HORSE QUARRY OPERATIONS

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.1 PRIME BASE ENGINEER EMERGENCY FORCE (PRIME BEEF)
A TEAM 4F9EA

ORGANIZATIONAL STRUCTURE: AFI 10-210

MISSION: Engineer force to support missions (including recovery) at contingency operating locations.

MANNING: 4 Officers and 51 Enlisted for a total of 55.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 2 aircraft pallet positions
4. Units within Theater with their associated Unit Type Codes (UTCs): One each 4F9EA at Aviano, Lakenheath, Spangdahlem, and Ramstein.

CAPABILITIES: Provides initial beddown support at bare base and forward operating locations or follow-on sustainment support for smaller-scale contingencies and provides engineer support for other major Theater war missions at contingency operating locations, aerial ports, en route bases, or critical stateside bases. When combined with two 4F9EP, provides initial beddown for up to 1,200 personnel and a lead aviation squadron using expedient or existing facilities as well as sustainment support of facilities and utilities. Provides command and control; individual protective equipment and clothing, M-16, M-9, and ammunition, consolidated tool kits, team kit and equipment are required. 32E3 officers holding any specialty suffix can fill 32E3X positions.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit is not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits only, no vehicles.

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.2 PRIME BASE ENGINEER EMERGENCY FORCE (PRIME BEEF)
B TEAM 4F9EB

ORGANIZATIONAL STRUCTURE: AFI 10-210

MISSION: Engineer force to support missions (including recovery) at contingency operating locations.

MANNING: 2 Officers and 40 Enlisted for a total of 42.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 2 aircraft pallet positions
4. Units within Theater with their associated Unit Type Codes (UTCs): One each 4F9EB at Spangdahlem and Mildenhall.

CAPABILITIES: Provides initial beddown support at bare base and forward operating locations or follow-on sustainment support for smaller-scale contingencies and provides engineer support for other major Theater war missions at contingency operating locations, aerial ports, en route bases, or critical stateside bases. Augments one 4F9EA and two 4F9EP to provide supplemental beddown for an additional aviation squadron by providing expedient or existing facilities as well as sustainment support for facilities and utilities. Individual protective equipment and clothing, consolidated tool kits, M-16, M-9, and ammunition, team kit and equipment are required. 32E3 officers holding any specialty suffix can fill 32E3X positions.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit is not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits only, no vehicles.

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.3 PRIME BASE ENGINEER EMERGENCY FORCE (PRIME BEEF)
P TEAM 4F9EP

ORGANIZATIONAL STRUCTURE: AFI 10-210

MISSION: Engineer force to support missions (including recovery) at contingency operating locations.

MANNING: 1 Officer and 24 Enlisted for a total of 25.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 1 aircraft pallet position
4. Units within Theater with their associated Unit Type Codes (UTCs): 2 each 4F9EP at Aviano, Lakenheath, and Spangdahlem, and four at Ramstein.

CAPABILITIES: Provides initial beddown support at bare base and forward operating locations or follow-on sustainment support for smaller-scale contingencies and provides engineer support for other MTW missions at contingency operating locations, aerial ports, en route bases, or critical stateside bases. When combined with a 4F9EA and another 4F9EP, provides initial beddown for up to 1200 personnel and a lead aviation squadron using expedient or existing facilities as well as sustainment support of facilities and utilities. Provides command and control, individual protective equipment and clothing, consolidated tool kits, M-16, M-9, and ammunition, team kit and equipment are required. 32E3 officers holding any specialty suffix can fill 32E3X positions. (Note: Air Reserve Components may fill 3 level positions with the next higher skill level).

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for a unit in Theater. If a unit is not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: Defense Message System (DMS) format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits only, no vehicles.

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.4 FULL SPECTRUM THREAT RESPONSE HEAVY TEAM 4F9DA**

ORGANIZATIONAL STRUCTURE: AFI 32-4001

MISSION: Provides limited nuclear, biological, chemical, and conventional (NBCC) defense supporting activities ranging from smaller-scale contingency operations to Major Theater War (MTW) and response to major accidents and natural disasters for an air base with up to 2,400 personnel. Requires augmentation from 4F9DC.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 1 aircraft pallet position plus one vehicle
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9DA at Aviano, Lakenheath, Spangdahlem, and two at Ramstein.

CAPABILITIES: Capabilities include preliminary risk/vulnerability assessments and threat analysis, planning, detection, identification, warning and reporting, decontamination, contamination control area, and disaster response equipment, technical data, roll-on/roll-off capability, and 463L pallets. Personnel will deploy with individual protective equipment and clothing, M-16, M-9, and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and one vehicle (HMMV or 6 Pax).

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.5 FULL SPECTRUM THREAT RESPONSE LIGHT TEAM 4F9DB

ORGANIZATIONAL STRUCTURE: AFI 32-4001

MISSION: Provides limited nuclear, biological, chemical, and conventional (NBCC) defense supporting activities ranging from smaller-scale contingency operations to MTW and response to major accidents and natural disasters for an air base with up to 1,200 personnel.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 1 aircraft pallet position plus one vehicle
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9DB at Spangdahlem and two at Mildenhall.

CAPABILITIES: Capabilities include preliminary risk/vulnerability assessments and threat analysis, planning, detection, identification, warning and reporting, decontamination, contamination control area, and disaster response equipment, technical data, roll-on/roll-off capability, and 463L pallets. Personnel will deploy with individual protective equipment and clothing, M-16, M-9, and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and one vehicle (HMMV or 6 Pax).

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.6 FULL SPECTRUM THREAT RESPONSE AUGMENTATION
TEAM 4F9DC

ORGANIZATIONAL STRUCTURE: AFI 32-4001

MISSION: Provides additive technical expertise, support, and manpower to other 4F9DX UTCs in full spectrum threat response, nuclear, biological, chemical, and conventional (NBCC) defense and major accidents and disaster response operations.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: Pax only
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9DC at Mildenhall, 2 each at Aviano and Spangdahlem, 3 each at Lakenheath, and 4 each at Ramstein.

CAPABILITIES: Personnel skills include detection, identification, warning and reporting, decontamination, and contamination control operations. Provides additive manpower supporting activities ranging from smaller scale contingency operations to MTW. Personnel will deploy with individual protective equipment and clothing, M-16, M-9, and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and no vehicle.

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.7 PRIME BEEF EOD LEAD TEAM 4F9X1**

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: EOD force required to support major Theater war locations, contingency missions at aerial ports, enroute bases or critical stateside bases.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 3 aircraft pallet positions.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9X1 at Ramstein and Aviano and two each at Lakenheath and Spangdahlem.

CAPABILITIES: Provides limited capability for Low Intensity Conflict (LIC), Military Operations Other Than War (MOOTW), and force protection build up. Supports lead aviation squadron by protecting resources and personnel from the effects of explosive hazards, munitions accidents, terrorist explosive devices, and unexploded ordinance from limited attacks. The Up Armored Heavy Mobile Multi-Wheeled Vehicle (UA-HMMV) will protect EOD teams conducting munitions safing operations at contingency locations. NOTE: LIC, MOOTW, force protection build-ups will require tailoring of the UTC to meet the threat deployment duration. Team capabilities include render safe disposes of US, foreign conventional, chemical, and improvised explosive devices. Personnel will deploy with personal protective clothing, GAU 5, M-9 weapons, ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits, two UA-HMMVs and one M1097 (trailer).

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.8 PRIME BEEF EOD FOLLOW TEAM 4F9X2**

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: EOD force required to support MTW locations, contingency missions at aerial ports, enroute bases or critical stateside bases. Augments an EOD lead team to provide additive EOD support to both a lead and a follow aviation squadron.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 2 aircraft pallet positions.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9X2 at Lakenheath, Incirlik, Spangdahlem, and two at Aviano.

CAPABILITIES: Provides limited EOD support, ordinance safing and clearance operations at air heads, landing zones and captured or recaptured air bases in similar operations other than war. NOTE: LIC, MOOTW, force protection build-ups will require tailoring of the UTC to meet the threat deployment duration. Team capabilities include render safe disposes of US, foreign conventional, chemical, and improvised explosive devices. Personnel will deploy with personal protective clothing, GAU 5, M-9 weapons, ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits, one HMMV, and one M1097 (trailer).

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.9 PRIME BEEF EOD MANAGEMENT TEAM 4F9XA

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: EOD force required to support MTW beddowns, contingency operating locations, LIC, MOOTW, force protection build ups at aerial ports, enroute bases or critical stateside bases where an EOD lead (4F9X1) and/or EOD follow teams (4F9X2) already exist or are scheduled for deployment.

MANNING: 1 Officer and 1 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: Pax with excess baggage.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9XA at Ramstein, Spangdahlem, Aviano, and Lakenheath.

CAPABILITIES: Provides base support. Personnel will deploy with personal protective clothing, GAU 5, M-9 weapons, ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: None.

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.10 ARMORED BASE RECOVERY VEHICLE 4F9X6

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: This UTC is used in multiples to provide EOD teams a mobile armored reconnaissance and UXO safing vehicle for base recovery and force protection operations.

MANNING: Not Applicable

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 1 aircraft pallet position.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9X6 at Spangdahlem and Ramstein.

CAPABILITIES: One up-armored high mobility multi-wheeled vehicle (UA-HMMWV) complete with associated hand tools and specialized maintenance equipment. High threat MOBS and COBS require two 4F9X6. This UTC is usually deployed by air with a deploying EOD team; however, it may be pre-positioned or deployed by surface movements.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Requires base operating support for maintenance requirements.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: None.

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AIR FORCE ENGINEERING ASSETS

TAB D.11 ARMORED MUNITIONS CLEARANCE VEHICLE 4F9X7

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: This UTC is used in multiples to provide EOD teams a heavily armored prime mover for specialized large area clearance operations during Base Recovery After Attack (BRAAT), which involve random delay aircraft, or artillery dispensed mines and submunitions.

MANNING: Not Applicable.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 2 aircraft pallet positions.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9X7 at Aviano and Ramstein.

CAPABILITIES: One armored Munitions Clearance Vehicle (MCV) complete with associated hand tools and specialized maintenance equipment. High threat MOBs and COBs require 2 each 4F9X7s.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: None.

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.12 PRIME BEEF EOD HIGH THREAT AUGMENT TEAM 4F9X9

ORGANIZATIONAL STRUCTURE: AFI 32-3001

MISSION: EOD force required to support essential EOD war fighting requirements for regional conflict operations at contingency operating locations, aerial ports, en-route bases or critical stateside bases.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: Pax with excess baggage.
4. Units within Theater with their associated Unit Type Codes (UTCs): Two each 4F9X9 at Aviano, Lakenheath, Spangdahlem and five each at Ramstein and Incirlik.

CAPABILITIES: Augments 4F9X1, 4F9X2, and 4F9XA UTCs supporting operations vulnerable to enemy aircraft or ballistic missile attack. Operates independently (in multiples) at stateside aerial/transfer ports. Personnel will deploy with personal protective clothing, GAU 5, M-9 weapons, ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: None.

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.13 PRIME BEEF FIRE PROTECTION INCIDENT COMMAND**
TEAM 4F9FJ

ORGANIZATIONAL STRUCTURE: AFI 32-2001

MISSION: Provides fire ground/hazardous materials incident command and control for single or multiple 4F9FP UTCs (Fire Protection Operations Teams) in support of operations at a bare base, co-located operating base, forward operating location or other contingency operating locations, aerial ports, en route bases, or critical stateside bases.

MANNING: 2 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: Pax with excess baggage.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9FJ at Lakenheath and two each at Spangdahlem, Aviano, and Ramstein.

CAPABILITIES: Team is capable of providing 24-hour fire ground incident command and control for aircraft, structural, POL, and munitions fire suppression and rescue operations. Team is also capable of providing base operating support fire prevention functions and limited fire prevention inspections. Fire fighters will deploy with individual protective equipment and clothing, individual mobility equipment required, weapons and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY:

Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and no vehicles.

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.14 PRIME BEEF FIRE PROTECTION MANAGEMENT AUGMENTATION
TEAM 4F9FN

ORGANIZATIONAL STRUCTURE: AFI 32-2001

MISSION: Provides essential fire protection management for combined 4F9FJ (CE Fire Protection incident command team) and four or more 4F9FP UTCs (Fire Protection Operations Teams) in support of operations at a bare base, co-located operating base, forward operating location or other contingency operating locations, aerial ports, en route bases, or critical stateside bases.

MANNING: 1 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: Pax only.
4. Units within Theater with their associated Unit Type Codes (UTCs): 1 each 4F9FN at Aviano, Lakenheath, Ramstein, Spangdahlem and Mildenhall.

CAPABILITIES: Team is capable of providing fire protection management oversight and provides senior leadership advice on vital information for minimizing loss of life, property damage, and limiting damage from fire that would seriously degrade mission capability. When combined with a second team, 4F9FN is capable of providing 24-hour coverage. A CMSgt (E-9) is desired at operational locations where there are over 44 firefighters. Fire fighters will deploy with individual protective equipment and clothing, individual mobility equipment required, weapons and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and no vehicles.

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.15 PRIME BEEF FIRE PROTECTION OPERATIONS TEAM 4F9FP**

ORGANIZATIONAL STRUCTURE: AFI 32-2001

MISSION: Provides 24-hour staffing for a single Aircraft Rescue Fire Fighting (ARFF) vehicle operations or provides staffing for 1 rapid re-supply water tender and fire alarm communications. In support of a bare base or forward operating location or other MTW missions at contingency locations, aerial ports, en route bases, or critical stateside bases.

MANNING: 6 Enlisted.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: ½ aircraft pallet
4. Units within Theater with their associated Unit Type Codes (UTCs): Two each 4F9FP at Mildenhall, three each at Aviano and Lakenheath, five each at Spangdahlem, and eight each at Ramstein.

CAPABILITIES: Type of aircraft determines the amount of fire suppression agent required (in gallons). One 4F9FP UTC is required for each ARFF vehicle. When combined with additional 4F9FP UTCs, one 4F9FJ and one 4F9FN, the team is capable of providing 24-hour crash rescue/fire suppression services and fire ground command and control. The team can also provide limited support for structural, POL, and munitions fires. HAZMAT response capabilities are limited to HAZMAT defensive operations. Fire fighters will deploy with individual protective equipment and clothing, individual mobility equipment required, weapons and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Unit deploys with tool kits and no vehicles.

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.16 PRIME BEEF FIRE PROTECTION QUICK REACTION SUPPORT
KIT 4F9FX**

ORGANIZATIONAL STRUCTURE: AFI 32-2001

MISSION:

Provides fire fighting, medical, administrative, spares, personnel protective equipment, rescue tools, agent, and reserving equipment necessary to establish essential fire fighting operations at contingency operating locations.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 24 hours
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 2 aircraft pallet positions.
4. Units within Theater with their associated Unit Type Codes (UTCs): One each 4F9FX at Spangdahlem, Mildenhall, Lakenheath, Aviano, and two each at Ramstein.

CAPABILITIES: Includes critical equipment for fire fighting vehicles to enable safe and essential crash and structural operations, rescue, first responder medical care, hazardous materials incident mitigation and rapid intervention actions. This equipment-only UTC must deploy with fire protection personnel and fire fighting vehicles to provide a minimum fire suppression and rescue capability.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Not self-sustaining, requires base operating support.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will task USAFE for unit in Theater. If unit not available within Theater, EUCOM will send a message requesting a Civil Engineering Squadron (CES) Prime BEEF unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: Equipment only UTC.

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.17 RED HORSE R-1 ADVON AND DESIGN ECHELON 4F9R1

ORGANIZATIONAL STRUCTURE: AFI 10-209

MISSION: RED HORSE directly supports combat air power worldwide. The unit provides air component commanders a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the Commanders in Chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: 16 personnel.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 16 hours (personnel only 12 hours)
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 1 C-141
4. Units within Theater with their associated Unit Type Codes (UTCs): Two 4F9R1 equipment sets at Camp Darby, IT.

CAPABILITIES: R-1 is an air- transportable echelon that deploys 16 hours after notification with 16 personnel to perform initial surveys and advance planning. Provides command and control, individual protective equipment and clothing, M-16, M-9, ammunition, consolidated tool kits, team kit and equipment. 32E3 officers holding any specialty suffix can fill 32E3X positions.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of theater support.

EQUIPMENT: R-1 deploys with contingency support equipment necessary to ensure self-sufficiency at the deployment location for five days. Fuel, water, current intelligence, and convoy maps must be obtained at the Port Of Debarkation (POD). 4 Vehicles.

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.18 RED HORSE R-2 GENERAL CONSTRUCTION ECHELON 4F9R2

ORGANIZATIONAL STRUCTURE: AFI 10-209

MISSION: RED HORSE directly supports combat air power worldwide. The unit provides air component commanders a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the Commanders in Chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: 148 personnel.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 96 hours (personnel only 24 hours)
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 11 Aircraft (C-5/C-17)
4. Units within Theater with their associated Unit Type Codes (UTCs): Two 4F9R2 equipment sets at Camp Darby, IT.

CAPABILITIES: R-2 is an air-transportable echelon that deploys 96 hours after notification. It consists of 148 personnel and a complete equipment/vehicle package capable of performing base development/beddown construction, rapid runway repair, and bomb-damage repair during the initial phase of contingencies. It also has the command and control element, orderly room personnel, and key one-deep positions (e.g. safety, readiness, security forces). 32E3 officers holding any specialty suffix can fill 32E3X, positions.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: R-2/3/4 deploy with contingency support equipment necessary to ensure self-sufficiency at the deployed location for five days. Fuel and water must be obtained at Point of Debarkation (POD). 56 Vehicles.

Equipment list for R-2:

AMB MOD 4X4	1
TRK TRAC 64000GVW	4
TRK PU 4DR 4X4	2
TRK CGO PU 5000GVW 4X4	7
TRK SH VAN 19000GVW 4X6	1
TRK TK GAS 1200 GAL	1
TRK DUMP 44500GVW 6X6	4
TRK CGO 2.5T M1078	6
TRL TR WTR 400GAL *	2
TLR CHS 2 1/2TON	2
TRL CGO 1 1/2TON M105	3
STLR 35TON LB 4W *	2
STLR 50TON LB 6W	1
TRL DITCH TLT BED	1
STLR ISO CNTR 34TON	2
TLR HIGH MOBILITY	1
TRAC FTRACD SZ T7	1
LODR W BACKHOE	2
LODR SCP 2 1/2 CY	3
TRNHR DED SP PT	1
GRADER SZ II	2
DISTR WTR TRK 1500 GAL	1
DISTR WTR STLR 5000 GAL	1
CLNR VAC MLTPU	1
SWEEPER FRONT MTD	1
RLR VBRG SP DED TY	1
TRK FL 10K AT 463L	1
TRK F/L AT 13K	1

APPENDIX IV**AIR FORCE ENGINEERING ASSETS****TAB D.19 RED HORSE R-3 HORIZONTAL CONSTRUCTION ECHELON 4F9R3**

ORGANIZATIONAL STRUCTURE: AFI 10-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides air component commanders a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: 120 personnel.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 6 days (personnel only 24 hours)
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 9 Aircraft (C-5/C-17)
4. Units within Theater with their associated Unit Type Codes (UTCs): Two 4F9R3 equipment sets at Camp Darby, IT.

CAPABILITIES: R-3 is a 120-person, heavy horizontal construction team that deploys 6 days after notification. This echelon will follow R-2 into the Theater and contains specialized skills necessary to perform site development; construct and repair runways, taxiways, ramps, roads, and revetments; and accomplish heavy earthwork. It has a limited facility and infrastructure capability. R-3 and R-4 are essentially self-sufficient air transportable echelons. 32E3 officers holding any specialty suffix can fill 32E3X positions. (NOTE: Air Reserve Components may fill 3 level positions with the next higher skill level.)

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: R-2/3/4 deploy with contingency support equipment necessary to ensure self-sufficiency at the deployed location for five days. Fuel and water must be obtained at Point of Debarkation (POD). 48 vehicles.

Equipment list for R-3:

TRK TRAC 6X4 DED	1
TRK TRAC 64000GVW	4
TRK PU 4DR 4X4	1
TRK CGO PU 5000GVW 4X4	7
TRK CRL 15 PAX 4X2	1
TRK DP 55000GVW 6X6	5
TRK TK GAS 1200 GAL	1
TRK CGO 2.5T M1078	2
TRL TR WTR 400GAL *	1
TRL CGO 1 1/2TON M105	2
STLR 35TON LB 4W *	1
STLR 50TON LB 6W	1
STLR ISO CNTR 34TON	1
TRAC FTRACD SZ T4	1
TRAC FTRACD SZ T7	1
TRAC WHLD IND DED	1
LODR W BACKHOE	1
LODR SCP 2 1/2 CY	1
LODR SCP PT 4CY	2
COMPACTOR SHEEPS	1
GRADER SZ 6	2
DISTR WTR STLR 5000 GAL	1
CLNR VAC MLTPU	1
SWEEPER FRONT MTD	1
RLR RD SP PT	1
RLR RD MTZ VBRG	1
DISTR BIT TRK MTD	1
PAVING MACH RUBR TIRE *	1
RLR VBRG SP DED TY	2
TRK FL 10K AT 463L	1

APPENDIX IV

AIR FORCE ENGINEERING ASSETS

TAB D.20 RED HORSE R-4 VERTICAL CONSTRUCTION ECHELON 4F9R4

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides air component commanders a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: 120 personnel.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 8 days (personnel only 24 hours)
2. Lift requirements: Air Transportable
3. Size/Weight/Cube: 8 Aircraft (C-5/C-17)
4. Units within Theater with their associated Unit Type Codes (UTCs): Two 4F9R4 equipment sets at Camp Darby, IT.

CAPABILITIES: R-4 contains special skills necessary to construct and repair facilities and infrastructure. It has a limited capability to do earthwork, roads, and airfields. R-3 and R-4 are essentially self-sufficient air transportable echelons. Personnel will deploy with individual protective equipment and clothing, M-16, M-9, and ammunition.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: R-2/3/4 deploy with contingency support equipment necessary to ensure self-sufficiency at the deployed location for five days. Fuel and water must be obtained at Point of Debarkation (POD). 36 vehicles.

Equipment list for R-4:

TRK TRAC 64000GVW	2
TRK TP MAINT-CNTRN	1
TRK PU 4DR 4X4	2
TRK CGO PU 5000GVW 4X4	6
TRK CRL 15 PAX 4X2	1
TRK TK GAS 1200 GAL	1
TRK DUMP 44500GVW 6X6	3
TRK CGO 2.5T M1078	6
TRL TR WTR 400GAL *	1
TRL CGO 1 1/2TON M105	2
STLR 35TON LB 4W *	1
STLR 50TON LB 6W	1
STLR ISO CNTR 34TON	1
TLR HIGH MOBILITY	1
LODR W BACKHOE	1
LODR SCP 2 1/2 CY	1
GRADER SZ II	1
DISTR WTR TRK 1500 GAL	1
RLR RD MTZ VBRG	1
MIXER CNRT TRL *	1
TRK FL 10K AT 463L	1

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.21 H-1 RED HORSE OUTSIZED AND OVERSIZED HEAVY VEHICLE
SET 4F9H1

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides air component commanders a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 8 days
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater. Two 4F9H1 equipment sets at Camp Darby, IT.

CAPABILITIES: Heavy vehicle package normally requiring surface movement, non-air transportable by in-Theater, C-130 type aircraft. When combined with 4F9R2 and two 4F9R3 UTCs, it fully supports the vehicle requirements of a deployed RED HORSE squadron.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX within Theater /supporting CINC/J4 for out of Theater.

EQUIPMENT: 12 vehicles.

TRK WRK 5 TON	1
STLR LB 50T AND OVER	1
TRAC FTRACD SZ T9 *	2
SCRPR MTZ 18CY	2
LODR FTRACD 2 1/2CY	2
CR WHLD HYD 15TON	1
EXCAV CRAW MTD	2
MXR ROT TIL SP TRAC	1

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.22 H-2 RED HORSE AUTOMATIC BUILDING MACHINE EQUIPMENT
SET 4F9H2

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 8 days
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater with their associated Unit Type Codes (UTCs): Two 4F9H2 equipment sets at Camp Darby, IT.

CAPABILITIES: Equipment-only UTC that gives in-place RED HORSE personnel the ability to construct two MIC-120 and one MIC-240 K-span facilities for use as covered storage, aircraft parking shelters, sunshades, or totally enclosed facilities. Re-supply of construction materials is required once initial resources are depleted. This UTC must be deployed with 4F9R2 and 4F9R4 UTCs. Requires a minimum of 60 personnel to execute this capability. Can be tasked separately to provide a stand-alone capability with the addition of specific vehicles, personnel, and consumables. May be deployed without consumables if base operating support is already in place.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT: 2 MIC-120 K-span machines, 3 K-span trailer, 1 MIC-240 machines, 3 loaders, 7 compressors, 150 forms w/ keyway, 3 concrete forms, and 3 generator sets.

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.23 H-3 RED HORSE WELL DRILLING KIT 4F9H3

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 48 Hours
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater with their associated Unit Type Codes (UTCs): None.

CAPABILITIES: Vehicle and equipment kit that provides RED HORSE personnel the ability to drill and pipe groundwater sources for the production of potable and non-potable water. Both shallow and deep wells may be drilled. This UTC augments other RH UTCs except 4F9R1, and requires 10 dedicated personnel to conduct sustained well drilling operations. This UTC can be deployed as a complete kit or with limited consumables when base operating support is already in place.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or CINC/J4 for out of Theater support.

EQUIPMENT:

Rig tender trailer	1
Well drilling machine	1
Rig tender	1
Mud tank	1
Bags of cement	90
Quick gel	160
Generator	1

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.24 H-4 RED HORSE ASPHALT BATCH PLANT 4F9H4

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 7 days
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater with their associated Unit Type Codes (UTCs): None.

CAPABILITIES: Equipment-only UTC provides RED HORSE forces the ability to produce asphalt at locations where commercially produced asphalt is not available.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT:

Fuel tank	1
Generator, mineral filler silo	1
Asphalt storage tank	1
Baghouse	1
Control cab	1
Recycle bin	1
Drum mixer	1
Cold feed bin	1

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.25 H-5 RED HORSE CONCRETE BATCH PLANT 4F9H5

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 48 hours
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater with their associated Unit Type Codes (UTCs): One 4F9H5 equipment set at Camp Darby, IT.

CAPABILITIES: Vehicle and equipment UTC provides RED HORSE forces the ability to produce concrete at locations where it is not commercially produced or available.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send a message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT:

Concrete trucks	6
Concrete mixing plant	1
Cement silo	1
Steam cleaner	1

APPENDIX IVAIR FORCE ENGINEERING ASSETSTAB D.26 H-6 RED HORSE QUARRY OPERATIONS 4F9H6

ORGANIZATIONAL STRUCTURE: AFI 32-209

MISSION: RED HORSE directly supports combat air power worldwide. The echelon provides a dedicated, flexible airfield and base heavy construction and repair capability, along with many special capabilities that allow the commanders in chief (CINC) to move and support missions as the air order of battle dictates. An active duty RED HORSE squadron consists of 400 personnel plus 4 augmentees and approximately 1,400 short tons of vehicles and heavy construction and support equipment.

MANNING: None.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 48 hours
2. Lift requirements: Surface
3. Size/Weight/Cube:
4. Units within Theater with their associated Unit Type Codes (UTCs): One 4F9H6 equipment set at Camp Darby, IT.

CAPABILITIES: Vehicle and equipment UTC provides RED HORSE forces the ability to conduct quarry operations in support of rapid runway repair operations, concrete production, paving operations, revetment erection, hardening, and drainage preparation where quarry products are not commercially produced or available.

POINTS OF CONTACT: USAFE/CEXO Contingency Operations DSN 480-6726.

SUSTAINABILITY: Self-sustaining.

REQUEST FOR SUPPORT:

1. Method to Request: Send message to EUCOM with request. In turn, EUCOM will send message requesting a RED HORSE unit to support CINC/J4.
2. Documents required: DMS format.
3. Point of Contact: USAFE/CEX for within Theater or supporting CINC/J4 for out of Theater support.

EQUIPMENT:

20 TON ROCK DUMP*	4
ROCK DRILL *	3
ROCK CRUSHER *	1
CONVEYOR (24 ft)*	3

APPENDIX IVTAB E ARMY TROOP ENGINEERING ASSETS

ARMY UNIT DATA

- E.1 ENGINEERING BATTALION - COMBAT HEAVY
- E.2 HEADQUARTERS AND HEADQUARTERS COMPANY, ENGINEER BRIGADE
- E.3 HEADQUARTERS ENGINEER COMMAND
- E.4 ENGINEER COMPANY, TOPOGRAPHIC THEATER ARMY
- E.5 ENGINEER COMPANY, CONSTRUCTION SUPPORT
- E.6 ENGINEER COMPANY, PORT CONSTRUCTION
- E.7 ENGINEER COMPANY, DUMP TRUCK
- E.8 ENGINEER COMPANY, PIPELINE CONST-SUPPORT
- E.9 ENGINEER TEAM, PRIME POWER
- E.10 ENGINEERING BRIDGE COMPANIES
- E.11 ENGINEER BATTALION, HEAVY DIVISION
- E.12 HHD, ENGINEER BRIGADE
- E.13 MISCELLANEOUS TEAMS – LIGHT DIVING TEAM, HEAVY DIVING TEAM,

FIRE FIGHTING TEAM

- E.14 ENGINEER COMPANY, COMBAT SUPPORT EQUIPMENT
- E.15 ENGINEER BATTALION, CORPS (MECH)
- E.16 ENGINEER BATTALION, CORPS (WHEEL)

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.1 ENGINEER BATTALION - COMBAT HEAVY

ORGANIZATIONAL STRUCTURE: Refer to publication FM 5-116. Only one Combat Heavy Bn (-) in Theater. Augmentation would come from active and reserve units in CONUS. Currently, the USAREUR Theater has two line companies and one Headquarters and Support Company (HSC). The third line company for the Combat Heavy Company is in the reserves. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Perform construction, maintenance, and rehabilitation of facilities and lines of communications (LOCs) in support of the Theater of operations.

MANNING: 31 Officers, 618 Enlisted for a total aggregate of 649.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Lift Requirements: Required for two line Companies and one Headquarters and Support Company (HSC).
3. Prepositioned Capabilities: Available in Army War Reserve (AWR).
4. Size/Weight/Cube:
 - a. Line company (x2)
 - A Co - 1,818,437 lbs, 482,571,746 cu ft.
 - B Co - 1,742,625 lbs, 463,537,560 cu ft.
 - b. HSC - 3,164,426 lbs, 1,699,461,984 cu ft.

CAPABILITIES:

1. Perform engineering tasks such as construction, maintenance, repair rehabilitation and modification of airfields, command posts, main supply routes, supply installations, bridges and other related facilities.
2. Provide repairs and limited reconstruction of utility systems.
3. Conduct area damage clearance and restoration operations.
4. Perform rear operations, to include combat missions within limitations of organic weapons and equipment.
5. Provide assistance and support in preparation of protective positions.
6. Supervise contract labor, assist in supervision of contract construction.
7. Assist in providing coordinated defense for the area or installation in which the battalion is located.
8. Perform unit maintenance on organic equipment.
9. Perform direct support maintenance on organic engineer and power generation equipment.
10. Provide construction layouts, site adaptation, BOMs, and limited capability for construction planning and design.

11. Conduct engineer ground reconnaissance and preliminary and final surveys for battalion projects.
12. Can deploy in platoon or company size elements.

POINT OF CONTACT: DCSENGR – 370-6534.

SUSTAINABILITY: Depends on COSCOM for finance, personnel administration, Engineer bridge units, and medical support.

REQUEST FOR SUPPORT: DCSENGR 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.2 HEADQUARTERS AND HEADQUARTERS CO., ENGINEER BRIGADE

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. There is currently one Corps Engineer Brigade HQ in Europe. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Command assigned and attached units and coordinate engineer activities. Plan and coordinate Engineer Unit operations for construction, maintenance, rehabilitation of facilities and Lines of Communication (LOC).

MANNING: 36 Officers, 3 Warrant Officers and 84 Enlisted for a total of 123.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Unit is 100% air transportable.
3. Prepositioned Capabilities: None.
4. Size/Weight/Cube 435,012 lbs & 838,642,933 cu ft.

CAPABILITIES: Provides staff assistance to the Brigade Company and housekeeping support to the Brigade staff.

POINT OF CONTACT: DCSENGR – 370-6534.

SUSTAINABILITY: Needs support for medical, religious, finance, and personnel/administrative services.

REQUEST FOR SUPPORT: DCSENGR 370-6534.

EQUIPMENT: Use DCSENGR Repository, <https://engrep.hqusareur.army.mil>, MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.3 HEADQUARTERS ENGINEER COMMAND

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Command, perform operational planning and supervision, and coordinate activities of assigned or attached engineer brigades, groups, and other units engaged in construction, topographic activities, production of military geographic intelligence, and other related activities.

MANNING: 87 Officers, 1 Warrant Officers, and 149 Enlisted for a total of 237.

UNIT MOVEMENT DATA:

1. Time needed to deploy: 10 days maximum.
2. Lift Requirements: Unit is 100% air transportable in USAF aircraft, 90% air transportable in commercial aircraft. Large Expando Vans are not transportable in commercial aircraft.
3. Prepositioned Capabilities: Exist for admin and utility vehicles in Army War Reserve (AWR).
4. Size/Weight/Cube: 22,870 pounds or 2,047 cubic feet.

CAPABILITIES:

1. Plan, coordinate, and supervise general troop and contractual construction support to the Army, other services, and allies within the COMMZ.
2. Plan, coordinate, and supervise general troop construction support in the rear combat zone on a task basis as required.
3. Allocate engineer troops, materials, and equipment to construction projects.
4. Provide guidance and technical assistance to units engaged in construction projects.
5. Coordinate topographic and military geographic intelligence support to the Theater army.
6. Perform comptroller services for the Command.
7. Supervise contract construction and contract labor (to include US, indigenous and third-country personnel).
8. Assist in providing ENCOM coordinated defense of area or installation.
9. Perform unit maintenance on organic equipment.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends on the TSC or COSCOM for general support, TRANSCOM for transportation support and the Theater Army for signal support.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: None for construction.

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.4 ENGINEER COMPANY, TOPOGRAPHIC THEATER ARMY

ORGANIZATION STRUCTURE: Refer to publications FM 5-105 and FM 5-116. One topographic company supports V Corps. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Provide topographic support to Theater elements.

MANNING: Consists of 4 Officers, 2 Warrant Officers and 105 Enlisted for a total of 111.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies
2. Lift Requirements: Unit is not 100% air transportable.
3. Prepositioned Capabilities: None.
4. Size/Weight/Cube: 997,463 lbs & 269,252,880 cu ft.

CAPABILITIES:

1. Produce revised maps, map supplements, overlays, overprints, photomaps, and terrain intelligence material.
2. Provide terrain intelligence and other terrain data as required.
3. Maintain terrain databases for general and special purpose graphics.
4. Plan and supervise graphic production, revision and reissue.
5. Maintain liaison with allied topographic units, and appropriate staff elements of supported corps.
6. Assist in providing coordinated defense of area or installation in which the company is located.
7. Perform unit maintenance on organic equipment.
8. Perform limited direct support maintenance on reproduction equipment.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends upon TSC and COSCOM for religious, medical, finance, personnel services, and direct support maintenance. Depends upon assignment of terrain teams to provide support to corps.

REQUEST FOR SUPPORT: DCSENGR 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.5 ENGINEER COMPANY - CONSTRUCTION SUPPORT

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. There are currently no Construction Support Companies (CSCs) in the Active Component. CSCs exist only within the Reserve and National Guard inventory. DCSSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Provide rock crushing, bituminous mixing, paving, and other construction support equipment with operators and thereby increase capabilities of an engineer group in major horizontal construction projects such as roads, storage facilities, and airfields.

MANNING: 5 Officers, 1 Warrant Officer and 166 Enlisted for a total of 172.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Lift requirements: Unit is not 100% air transportable.
3. Prepositioned Capabilities: No capabilities within Europe.
4. Size/Weight/Cube: Not available at this time.

CAPABILITIES:

1. Support one engineer group engaged in construction activities.
2. Provide up to 225 tons per hour of crushed rock and sand from rock quarries and gravel pits on a two-shift operation.
3. Provide up to 150 tons per hour of washed and sized precrushed rock on a one-shift operation.
4. Provide equipment with operators to support selected construction on a two-shift operation.
5. Supervise contract labor; assist in supervision of contract construction.
6. Provide coordinated defense of unit per Military Engineering and Topography.
7. Perform unit maintenance on organic equipment (except communications).
8. Perform direct support maintenance on organic engineer and power generation equipment.
9. Drill wells to 1,500 ft. depth.

POINT OF CONTACT: DCSSENGR - 370-6534.

SUSTAINABILITY: Depends on Engineer Construction Group TOE 5-112 for organizational maintenance and communication equipment. Depends upon others for medical, religious, finance, and personnel/administrative services.

REQUEST FOR SUPPORT: DCSSENGR 370-6534.

EQUIPMENT: Use DCSSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.6 ENGINEER COMPANY, PORT CONSTRUCTION

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. Assigned to the ENCOM. There are 3 reserve component companies and one active duty company in the Army inventory. There are no companies in Europe. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Provide specialized engineer support in developing and maintaining port facilities.

MANNING: 8 Officers, 2 Warrant Officers and 191 Enlisted for a total of 201

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies
2. Lift Requirements: Unit is 100% air transportable with the exception of landing craft and barges.
3. Prepositioned Capabilities: There is one Engineer Team pre-positioned afloat.
4. Size/Weight/Cube: 752,500 lbs and 36,100 cu ft.

CAPABILITIES:

1. Construct and maintain offshore facilities, including mooring systems, jetties, breakwaters, and other structures required to provide safe anchorage for ocean-going vessels.
2. Construct and maintain piers, wharves, ramps, and related structures required for cargo loading and off-loading.
3. Install and maintain tanker discharge facilities, including POL jetties, submarine pipelines, and limited POL storage facilities in the beach area.
4. Provide limited dredging and removal of underwater obstructions.
5. Provide coordinated defense of unit per Military Engineering and Topography.
6. Perform unit maintenance on organic equipment (except communications).
7. Perform direct support maintenance on organic engineer, marine, and power generation equipment.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends on TSC or COSCOM for medical, religious, finance, and personnel/administrative services.

REQUEST FOR SUPPORT: DCSENGR 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV

ARMY TROOP ENGINEERING ASSETS

TAB E.7 ENGINEER COMPANY DUMP TRUCK

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Operate dump trucks for movement of bulk materials in support of other engineer units.

MANNING: 3 Officers, 1 Warrant Officer and 76 Enlisted for a total of 80.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies
2. Lift Requirements: Unit is 100% air transportable by USAF aircraft.
3. Prepositioned Capabilities: None.
4. Size/Weight/Cube: The unit's TOE items are 452,710 lbs and 18,041 cu ft. The unit's non-TOE items are 19,900 lbs and 816 cu ft.

CAPABILITIES:

1. Provide haul capacity of up to 600 tons of bulk material (gravel, earth fill, and crushed stone) per trip.
2. Provide coordinated defense of unit per Military Engineering and Topography.
3. Perform unit maintenance on organic equipment (except communications).

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends on TSC or COSCOM for medical, religious, finance, personnel/administrative services, and direct support maintenance services.

REQUEST FOR SUPPORT: DCSENGR 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV

ARMY TROOP ENGINEERING ASSETS

TAB E.8 ENGINEER COMPANY, PIPELINE CONSTRUCTION SUPPORT

ORGANIZATION : Refer to publication FM 5-116. Assigned to ENCOM or ENG Construction Brigade. All Pipeline Companies exist in the Reserve Component. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Provide technical personnel and specialized equipment to assist engineer units in construction, rehabilitation, and maintenance (except organizational maintenance) of pipeline systems.

MANNING: 5 Officers, 1 Warrant Officer and 151 Enlisted for a total of 157.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Lift Requirements: Unit is 100% air transportable by USAF aircraft.
3. Prepositioned Capabilities: None.
4. Size/Weight/Cube: No data is available at this time.

CAPABILITIES:

1. Provide advisory personnel to three engineer companies engaged in pipeline construction and pipe stringing, pipe coupling, storage tank erection, and construction of pump stations and dispensing facilities.
2. Provide specialized tools, equipment, and operators for above functions on a two-shift operation.
3. Transport pipeline over unimproved roads.
4. Provide limited organic construction and rehabilitation capability for pipeline systems.
5. Provide coordinated defense of unit per Military Engineering and Topography.
6. Perform unit maintenance on organic equipment (except communications).
7. Can lift in two lifts, over unimproved roads 21,000 linear ft of 6 in. pipe or 16,200 linear ft of 8 in. pipe or 9,000 linear ft of 12 in. pipe.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends upon others for medical, religious, finance, personnel/administrative services and direct support maintenance services. Requires HHC Eng Const Group. or other HQ element (Army) for organizational maintenance of communication equipment.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV

ARMY TROOP ENGINEERING ASSETS

TAB E.9 ENGINEER TEAM (PRIME POWER)

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. Also Prime Power Team (PPT) TOE-05530LJ00, PLT TOE-05530LK00FMs, 5-100, 5-104 and TM 5-684. The 249th Prime Power Battalion is located in Ft. Belvoir, VA. The battalion is composed of one HHC (Ft. Belvoir), A Company (Ft. Lewis), and B Company (Ft. Bragg). The battalion consists of both Prime Power and Power Line teams. Prime Power units reside in both the reserve and active component. Power Line Teams reside in the reserves only. The Primer Power platoon located at Thompkins Barracks, (Schwetzigen, GE) is part of B Company. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: Deploy worldwide to generate and distribute prime electrical power in support of war fighting, stability and support operations, and disaster relief operations. Provide advice and technical assistance in all aspects of electrical power and distribution systems. Maintain Army prime power generation and distribution reserve stocks. In peacetime, train DOD personnel in the operation, maintenance, and management of prime power generator sets, power plants, and associated distribution systems equipment. The Power Line Team (PLT) conducts construction and maintenance for up to 60 miles of high-voltage electrical power lines.

MANNING: The PPT has 1 Warrant Officer and 15 NCOs for a total of 16. The PLT has 1 Warrant Officer and 15 NCOs for a total of 16.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Lift Requirements: Unit is air transportable. Unit has no organic transportation to move equipment.
3. Prepositioned Capabilities: None
4. Size/Weight/Cube: Varies based on equipment required.
 - a. 750 kW generator (Heavy Weight) (x4) is 39,000 lbs and 1906 cu ft.
 - b. 500 kW generator (x1) is 34,100 lbs and 1,126 cu ft.
 - c. Central Control Van 12,500 lbs (loaded) and 1,272 cu ft.

CAPABILITIES:

1. Install and operate power plants and distribution systems. Maintain power systems. Assess and repair commercial power production systems. Assess and repair critical facilities. Maintain Substations. Test Protective Relays. Test & Maintain Circuit Breakers. Power Factor Correction. Splice Power Cables. One Line Updates. Infrared Surveys. Test Transformers. Test Insulation. Maintain Diesel Engines.
2. Install aerial distribution systems. Install underground distribution systems. Assess and repair commercial power distribution. Assess and repair critical facilities. Splice power cables.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: PPT and PLT support requirements depend on the unit to which they are attached for supply, food service, religious, financial, legal, personnel/administrative services and unit maintenance. Material-handling equipment is also required for setup, tear down, and day to day operations. Both require transportation support to move all equipment.

REQUEST FOR SUPPORT: As a strategic asset, Prime Power does not work directly for USAREUR. Request should be made for Joint Staff to task the Department of the Army, who in turn tasks the COE, who in turn tasks the 249th EN BN to task the 4th Platoon in the vicinity of Heidelberg to support. Routing is as follows:

TO: JOINT STAFF WASHINGTON DC//J4-SMED//
INFO: HQ DA WASHINGTON DC//DAMO-SS/DAEN-ZC//
CDR USACE WASHINGTON DC//CEMP-ZF//
CDR USAEHSC FT BELVOIR VA
CINCUSAREUR HEIDELBERG GE//AEAGC/AEAGD/AEAEN//

EQUIPMENT:

1. Power Plant Team (PPT)
 - a. One semi trailer-mounted electrical-repair shop
 - b. One power-plant-maintenance service kit
 - c. One electrical-repair-shop equipment set
 - d. Four general mechanic's tool kits
 - e. One engineer squad tool kit
 - f. Three electrician's tool kits
 - g. Two lineman's tool kits
 - h. One 5/4-ton cargo truck
 - i. One 5-ton tractor
2. Power Line Team (PLT)
 - a. One power-line-maintenance service kit
 - b. Three 5/4-ton telephone maintenance trucks
 - c. One utility construction and maintenance truck
 - d. Fifteen lineman's tool kits
 - e. One railway electric-power-transmission tool set
 - f. One 2 1/2-ton cargo truck
3. Loan Program Assets (Located at Ft. Belvoir -Availability varies)
 - a. 500 kW generator (Low voltage)
 - b. 750 kW generator (Light weight)
 - c. 750 kW generator (Heavy weight)
 - d. 4.5 mW generator (EMD Plant)

APPENDIX IVARMY TROOP ENGINEERING ASSETSTAB E.10 ENGINEER BRIDGE COMPANIES

ORGANIZATION STRUCTURE: Refer to publication 5-100. There are currently two bridge companies in USAREUR: one Medium Girder Bridge (MGB) Company and one Assault Float Bridge (AFB) Company. Other Ribbon/MGB/Bailey (Panel) bridge units are in CONUS (Active/Reserve components). The Bailey Bridge Units are in the reserves. USAREUR will be fielding a Multi-Role Bridge Company (MRBC) by September 2003. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To provide personnel and equipment to transport, assemble, disassemble and maintain float bridge (ribbon), medium girder bridge (MGB) and advise on erection of panel bridge.

MANNING: The MGB Company has 4 Officers, 1 Warrant Officer, and 104 Enlisted for a total of 109. The Ribbon Bridge Company has 5 Officers, 1 Warrant Officer and 173 Enlisted for a total of 179.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies
2. Lift Requirements: Units are not air transportable.
3. Prepositioned Capabilities: Army War Reserve (AWR).
4. Size/Weight/Cube: Varies based on equipment requirement.
 - a. Ribbon Company is 3,673,408 lbs & 47,330,631,789 cu ft.
 - b. MGB Company is 3,775,409 lbs & 48,778,219,944 cu ft.

CAPABILITIES:

1. Ribbon - 215m (700ft) Class 60 or 6 each 7-bay class 60 rafts.
2. Bailey - 145 ton/lift when bridge is downloaded. Provides various spans and load classes up to one 58.5m triple truss single-story bridge with an MLC of 80 for tracked vehicles. MLC is determined by configuration, length of gap, and crossing rating -- normal, caution, or risk. Refer to FM 5-34 for MLC matrix.
3. MGB - Provide various spans and load classes. Each company can supply:
 - a. Four 30.5m (100ft) class 60 bridges.
 - b. Two 49.7m (160ft) class 60 bridges with cable reinforcements.
 - c. 150 ton haul capacity to download bridge assets.
4. MRBC- Combines capabilities of both the MGB and AFB.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Depends on attached unit for general support.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>),
MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV

ARMY TROOP ENGINEERING ASSETS

TAB E.11 ENGINEER BATTALION, HEAVY DIVISION

ORGANIZATION STRUCTURE: Refer to publication FM 5-100. Allocated three Engineer Battalions per Heavy Division. Currently there are two Engineer Battalions per heavy division in USAREUR. The third battalion for each division is located in CONUS. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To provide mobility, countermobility, survivability, and sustainment engineering in support of Division missions.

MANNING: 26 Officers, 1 Warrant Officer, 417 Enlisted for a total of 444 for each battalion.

UNIT MOVEMENT DATA:

1. Time to deploy: Varies.
2. Lift Requirements: Each unit consists of 3 line companies and 1 HHC, which are 100% air transportable by USAF aircraft.
3. Prepositioned Capabilities: Unit sets available in Army War Reserve (AWR).
4. Size/Weight/Cube data:
 - a. Line company is 1,555,000 lbs & 230,600,000 cu ft.
 - b. HHC is 1,075,000 lbs & 244,000,000 cu ft.

CAPABILITIES:

1. Perform engineer tasks to support mobility, countermobility, survivability and sustainment.
2. Conduct route recon and bridge classification.
3. Clear, maintain, and mark routes with ACE, mine detectors and deploy AVLBs for gaps up to seventeen (17) meters.
4. Emplace obstacles (minefields, concertina wire, tank ditches).
5. Provide survivability positions for the division.
6. Construct expedient base camps and refugee shelters.
7. Conduct expedient runway repair.

POINT OF CONTACT: DCSENGR – 370-6534.

SUSTAINABILITY: The Engineer Battalion is designed to provide support for a maneuver brigade within the Division. If required to deploy independently, it would need support for medical, religious, finance and 3rd shop level maintenance.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV**ARMY TROOP ENGINEERING ASSETS****TAB E.12 HHD ENGINEER BRIGADE**

ORGANIZATION STRUCTURE: Refer to publication 5-100. Each division is allocated one headquarters detachment. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To provide planning, command and control of engineer units in order to synchronize the engineer brigade's mobility, countermobility, survivability, and sustainment assets in support of Division missions.

MANNING: 14 Officers; 1 Warrant Officer; 42 Enlisted for a total of 57.

UNIT MOVEMENT DATA:

1. Time to deploy: Varies.
2. Lift Requirements: Unit is 100% air transportable and requires movement all in one lift.
3. Prepositioned Capabilities: Army War Reserve (AWR).
4. Size/Weight/Cube data - 2,451 cubic feet or 22,788 pounds.

CAPABILITIES: Provides planning, command and control to Brigade units.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: Brigade Headquarters deploys with the Division and is dependent on Division for all support.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV**ARMY TROOP ENGINEERING ASSETS****TAB E.13 MISCELLANEOUS ENGINEER TEAMS - LIGHT DIVING TEAM,
HEAVY DIVING TEAM, FIRE FIGHTING TEAM****ORGANIZATION STRUCTURE:**

1. Light diving teams are assigned to engineer brigades. Refer to FM 5-490, Engineer Diving Operations.
2. Heavy diving teams are assigned to an Army Service Component Command attached to an ENCOM. Refer to FM 5-490, Engineer Diving Operations.
3. Fire fighting teams provide fire fighting support to the theater of operation. Refer to FM 5-415, Fire Fighting Operations.

MISSION:

1. Light diving teams provide near-shore and far-shore river crossing reconnaissance.
2. Heavy diving teams provide support to the Army service component commander in the areas of ports, harbors, and coastal zones.
3. Fire Fighting Teams fight fires.

MANNING:

1. The light diving teams consist of 1 officer, 14 NCOs, and 7 soldiers. For a total of 22.
2. The heavy diving teams consist of 2 officers, 16 NCOs, and 7 soldiers. For a total of 25.
3. The fire fighting teams consist of 1 officer and 3 soldiers. For a total of 4.

UNIT MOVEMENT DATA:

1. Time to Deploy: Varies.
2. Lift Requirements: Units are 100% air transportable.
3. Prepositioned Capabilities: None.
4. Size, Weight and Cube Data:
 - a. The light diving team is 21,213 pounds or 1,927 cubic feet.
 - b. The heavy diving team is 24,776 pounds or 2,521 cubic feet.
 - c. The fire fighting team is 740 pounds or 54 cubic feet.

CAPABILITIES:

1. Light diving teams can provide near and far-shore river crossing site reconnaissance. They provide lightweight, scuba, or deep-sea surface diving to a maximum depth of 190 feet. They can emplace and reduce underwater obstacles and mines, collect underwater terrain data, and repair damaged bridges.
2. Heavy diving team can assist in constructing port facilities. They can repair damaged piers, seawalls, and breakwaters. They can repair underwater obstructions, mark navigational waterways and reduce/emplace underwater obstacles.
3. Fire fighting teams can plan and execute a fire fighting program for a theater of operations. They can plan and conduct fire prevention operations, hazardous material emergencies, and conduct initial fire-ground investigations.

POINT OF CONTACT: 412TH ENCOM(Forward) @ DSN 379-7729.

SUSTAINABILITY: Teams depend on unit to which they are attached for general support.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

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ARMY TROOP ENGINEERING ASSETS

TAB E.14 ENGINEER COMPANY COMBAT SUPPORT EQUIPMENT

ORGANIZATION STRUCTURE: Refer to publication FM 5-116. There is currently one active CSE Company that supports V Corps. DCSSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSSENGR Non-Secure Repository (<https://engrep.hqusaareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To support engineer combat operations by accomplishing general engineering tasks.

MANNING: 6 Officers, 1 Warrant Officer and 172 Enlisted for a total of 179.

UNIT MOVEMENT DATA:

1. Time needed to deploy: Varies.
2. Lift Requirements: Unit is 100% air transportable.
3. Size/Weight/Cube: 3,116,440 lbs & 1,140,361,489 cu ft.

CAPABILITIES: This is a deployable equipment intensive engineer company that possesses significant horizontal capabilities. It augments the engineer combat battalions with sufficient earth moving capabilities that these battalions do not possess. The company can dig survivability positions and dig tank ditches for defensive preparations, conduct MSR general engineering and provide twelve 20-ton dump trucks to haul construction materials.

POINT OF CONTACT: DCSSENGR - 370-6534.

SUSTAINABILITY: CSEs depend on the Engineer Construction Group (TOE 5-112) for organizational maintenance and communication equipment. The unit supporting the CSE provides medical, religious, finance, personnel and administrative services.

REQUEST FOR SUPPORT: DCSSENGR - 370-6534.

EQUIPMENT: Go to the DCSSENGR non-secure repository, (<https://engrep.hqusaareur.army.mil>) MILITARY ENGINEERING AND TOPOGRAPHY Folder.

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ARMY TROOP ENGINEERING ASSETS

TAB E.15 ENGINEER BATTALION, CORPS (MECH)

ORGANIZATION STRUCTURE: Refer to publications FM 5-100. Currently there is one Corps Mech Engineer Battalion in Europe. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To provide mobility, countermobility, survivability, and sustainment engineering in support of Division missions.

MANNING: 28 Officers, 1 Warrant Officer, 449 Enlisted for a total of 478 for each battalion.

UNIT MOVEMENT DATA:

1. Time to deploy: Varies.
2. Lift Requirements: Unit consists of 3 line companies and 1 HHC. Unit is 100% air transportable by USAF aircraft.
3. Prepositioned Capabilities: Unit sets available in the Army War Reserve (AWR).
4. Size/Weight/Cube:
 - a. Line company is:
 - A Co: 1,576,786 lbs and 234,740,576 cu ft.
 - B Co: 1,554,372 lbs and 217,812,541 cu ft.
 - C Co: 1,553,284 lbs and 238,688,928 cu ft.
 - b. HHC 1,075,990 lbs and 244,300,856 cu ft.

CAPABILITIES:

1. Perform engineer tasks to support mobility, countermobility, survivability and sustainment.
2. Conduct route recon and bridge classifications.
3. Clear, maintain, and mark routes with ACE and/or mine detectors and deploy AVLBS for gaps up to seventeen (17) meters.
4. Emplace obstacles (minefields, concertina wire, tank ditches).
5. Provide survivability positions.
6. Construct expedient base camps and refugee shelters.
7. Conduct expedient runway repair.

POINT OF CONTACT: DCSENGR - 370-6534.

SUSTAINABILITY: The Engineer Battalion is designed to provide support for a maneuver brigade within the Corps. If required to deploy independently, it would need medical, religious, finance and 3rd shop level maintenance support.

REQUEST FOR SUPPORT: DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>),
MILITARY ENGINEERING AND TOPOGRAPHY Folder.

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ARMY TROOP ENGINEERING ASSETS

TAB E.16 ENGINEER BATTALION, CORPS (WHEEL)

ORGANIZATION STRUCTURE: Refer to publications FM 5-100. Currently there is one Corps Wheel Engineer Battalion in the Army. DCSENGR maintains the Engineer Unit Reference Sheets (URS) on the DCSENGR Non-Secure Repository (<https://engrep.hqusareur.army.mil>). Go to the MILITARY ENGINEERING AND TOPOGRAPHY Folder to find the Unit Reference Sheets.

MISSION: To provide mobility, countermobility, survivability, and sustainment engineering in support of Corps missions.

MANNING: 25 Officers, 2 Warrant Officer, 490 Enlisted for a total of 517 for each battalion.

UNIT MOVEMENT DATA:

1. Time to deploy: Varies.
2. Lift requirements: Unit consists of 3 line companies and 1 HHC. Unit is 100% air transportable by USAF aircraft.
3. Prepositioned Capabilities: Sets available in Army War Reserve (AWR).
4. Size/Weight/Cube: Varies.

CAPABILITIES:

1. Perform engineer tasks to support mobility, countermobility, survivability and sustainment.
2. Conduct route recon and bridge classification.
3. Clear, maintain, and mark routes
4. Emplace obstacles (minefields, concertina wire, tank ditches).
5. Provide survivability positions.
6. Construct expedient base camps and refugee shelters.
7. Conduct expedient runway and road repair.

POINT OF CONTACT: DCSENGR – 370-6534.

SUSTAINABILITY: The Engineer Battalion is designed to provide support for a maneuver brigade within the Corps. If required to deploy independently, it would need support for medical, religious, finance and 3rd shop level maintenance.

REQUEST FOR SUPPORT: Contact DCSENGR - 370-6534.

EQUIPMENT: Use DCSENGR Repository, (<https://engrep.hqusareur.army.mil>), MILITARY ENGINEERING AND TOPOGRAPHY Folder.

APPENDIX IV

TAB F MARINE ENGINEERING ASSETS

MARINE UNIT DATA

- F.1 COMBAT ENGINEER BATTALION
- F.2 ENGINEER SUPPORT BATTALION
- F.3 MARINE WING SUPPORT SQUADRON (ROTARY WING AND FIXED WING)

APPENDIX IVMARINE ENGINEERING ASSETSTAB F.1 COMBAT ENGINEER BATTALION

ORGANIZATION STRUCTURE: Refer to publications FMFM 4, FMFM 13, FMFM 13-4, MCRP-5-12D.

MISSION: The mission of the Combat Engineer Battalion (CEB) is to enhance the mobility, counter-mobility, and survivability of the Marine division through close combat engineer support and to provide the limited general engineering support for the functioning of the Marine division. One Combat Engineer Battalion is located with I and II Marine Expeditionary Force (MEF) and the Reserves. One Combat Engineer Company is also located within the Combat Assault Battalion in the III MEF.

MANNING: USMC Officers 33 and Enlisted 815, for a total of 848.
USN Officers 2, Enlisted 26, for a total of 28.

UNIT MOVEMENT DATA:

1. Time to Deploy: CEBs can be configured into detachments to suit the required mission of the Marine Air Ground Task Force (MAGTF). Time needed to deploy varies. In time of crisis, the CEB detachment marries up with prepositioned assets and provides engineer support to the Regimental Landing Team of the Marine Expeditionary Brigade (MEB).
2. Lift Requirements: The Battalion, along with other components of the MAGTF, receives its assets from pre-positioned stocks. Not all of the battalion's assets will be sent via strategic lift. The battalion will only strategic lift assets that do not meet the pre-positioning criteria. The current deployable detachment consists of 115 Marines and Sailors.
3. Prepositioned Capabilities: CEB assets are found aboard each of the three Maritime Pre-positioning Ships (MPS) Squadrons and also in the Norway Air-Landed Marine Expeditionary Brigades (NALMEB) Pre-positioning Program.
4. Size/Weight/Cube: 70.46 short tons of equipment.

CAPABILITIES:

1. Conduct engineering reconnaissance and support intelligence collection within the division sector.
2. Plan, organize and coordinate the assault breaching of explosive and non-explosive obstacles from the high water mark inland.
3. Employ assault bridge systems. When augmented, employ other standard bridge systems.
4. Provide expedient repair and reinforcement of existing bridges.
5. Construct expedient, short span bridges from local materials in support of ground operations.
6. Provide temporary repair of existing roads and limited new construction of combat roads and trails, including the maintenance that is necessary to support combat operations of the division.
7. Plan, organize and coordinate the construction of simple and compound explosive and non-explosive obstacle systems.
8. Plan and construct obstacles that require special engineering equipment and technical skills.
9. Perform specialized demolition missions.

10. Provide utility support ranging from mobile electric power and production of potable water for consumption.

POINT OF CONTACT: US Marine Corps Force, Europe @ DSN 431-2441/2567.

SUSTAINABILITY: The Combat Engineer Battalion is designed to provide support to task-organized Marine Air-Ground Task Forces (MAGTFs). If required to operate independently, these Battalions can be task organized with augmentation from other MEF units to allow for independent operations.

REQUEST FOR SUPPORT: HQ MARFOREUR G-4 Boeblingen, GE @ DSN 431-2567/2441/2438.

EQUIPMENT: Organic to a CEB is listed by Table of Authorized Material (TAM).

TAM No.	ITEM	QTY
A0932	INTELLIGENCE/OPERATIONS WORKSTATION AN/UYQ88	3
A1260	NAVIGATION SET, SATELLITE SIGNALS (PLGR) AN/PSN11	19
A1957	RADIO SET AN/MRC145A	5
A2070	RADIO SET, MANPACK AN/PRC119A	57
A2074	RADIO SET, VEHICULAR AN/VRC88D	4
A2079	RADIO SET, MANPACK AN/PRC119F	16
A2152	RADIO SET, EPLRS AN/VSQ2C(V)2	5
A2167	RADIO SET, VEHICULAR AN/VRC88A	10
B0472	DEMOLITION EQUIPMENT,	108
B0475	DETECTING SET, MINE, METALLIC AN/PSS12	74
B0589	EXCAVATOR, COMBAT M9 ACE	16
B0591	EXCAVATOR, HYDRAULIC, MEDIUM, RT MC1085C	2
B0600	DISTRIBUTION SYSTEM, POWER, 30KW PO030	4
B0953	GENERATOR SET, 30KW, 60HZ, TACT QUIET MEP805A	42
B1082	GRADER, ROAD, MOTORIZED 130G	2
B2462	TRACTOR, FT, MEDIUM, (CATERPILLAR) D7G	5
B2482	TRACTOR, ALL-WHL-DRIVE,	14
B2561	TRK, FORKLIFT, EXTENDABLE BOO	5
D1002	TRK, AMBUL, 2-LTR, SOFT TOP, M1035A2	1
D1059	TRK, CARGO, 5T, 6X6, W/O WINC, M923A1	10
D1072	TRK, DUMP, 5T, 6X6, W/O WINCH, M929	18
D1158	TRK, UTIL, CARGO/TRP CARR, M1123	76
D1159	TRK, UTIL, ARMT CARR, W/SA, 2	4
E0892	LAUNCHER, GRENADE, 40MM M203	36
E0915	LAUNCHER, ROCKET, ASSAULT, 83MM MK153	36
E0955	LIGHT, AIMING, INFRARED, AN/PAQ4C	163

E0956	BORESIGHT SYSTEM, LASER	27
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APPENDIX IVMARINE ENGINEERING ASSETSTAB F.2 ENGINEER SUPPORT BATTALION

ORGANIZATION STRUCTURE: Refer to publications FMFM 4, FMFM 13, FMFM 13-4, MCRP 5-12D.

MISSION: The Engineer Support Battalion (ESB) provides general engineering support of an expeditionary nature to the MEF including survivability, countermobility, and mobility enhancements, EOD and general supply support incident to the handling, storage, dispersing of bulk class I and bulk class III and III (A) items.

MANNING: USMC Officers 46, Enlisted 1250, for a total of 1296.
USN Officers 3, Enlisted 20, for a total of 23.

UNIT MOVEMENT DATA:

1. Time to Deploy: ESBs can be configured into detachments to suit the required mission of the MAGTF. Time needed to deploy varies. In time of crisis, the ESB detachment would marries up with prepositioned assets and provides engineer support to the Brigade Service Support Group of the Marine Expeditionary Brigade (MEB).
2. Lift Requirements: All of the battalion's assets will not be sent via strategic lift. The battalion will only strategic lift those assets which do not meet pre-positioning criteria. The detachment to deploy consists of 142 Marines and Sailors.
3. Prepositioned Capabilities: ESB assets are found aboard each of the three Maritime Prepositioning Ships (MPS) Squadrons and also in the Norway Air-Landed Marine Expeditionary Brigades (NALMEB) Pre-positioning Program.
4. Size/Weight/Cube: The current deployable battalion detachment consists of 319.34 short tons of equipment.

CAPABILITIES:

1. Conduct engineering reconnaissance as necessary to support the battalion's mission or the engineering needs of the MEF.
2. Construct, improve, and maintain airfields including expeditionary airfields.
3. Construct, improve and maintain encampments, combat service support areas, and other MEF required support facilities by using available materials or pre-engineered structures.
4. Conduct mobility enhancement operations including constructing, improving and maintaining lines of communications and main supply routes.
5. Provide bulk class III and III(A) fuel support, including receipt, storage, and dispensing of the bulk fuel products.
6. Provide utility support including mobile electric power beyond the supported units' initial capabilities and electrical power distribution within base camps.
7. Provide water purification and bulk water storage.
8. Install and/or supervise other units in the installation of standard and nonstandard, fixed panel and floating bridging.
9. Provide bath and laundry facilities beyond supported units' capabilities.
10. Provide EOD support.

11. Conduct counter-mobility operations by installing obstacles and barriers.
12. Conduct mobility operations, including breaching, reducing and removing explosive or non-explosive obstacles.

POINT OF CONTACT: US Marine Corps Force, Europe @ DSN 431-2441/2567.

SUSTAINABILITY: The Engineer Support Battalion is designed to provide support to task organized Marine Air-Ground Task Forces (MAGTFs). If required to operate independently, these Battalions can be task organized with augmentation from other MEF units to allow independent operations.

REQUEST FOR SUPPORT: HQ MARFOREUR G4, Boeblingen, GE @ DSN 431-2567/2441/2438.

EQUIPMENT: ORGANIC TO AN ESB

TAM No.	ITEM	QTY
B0055	Bath/Shower, expeditionary unit (replaces B0060)	15
B1071	Bucket, clamshell, ¾-yd capacity	3
B0176	Bucket, concrete, horizontal discharge	2
B0395	Compressor, air, rotary, 250 ft/min	3
B0443	Crane, high speed, high mobility	4
B0446	Crane, rough terrain, hydraulic, light	4
B0525	Drawbar attachment, fixed rear mount	6
B0579	Dummy load, generator set, electric, 100 kW	2
B0589	Excavator, combat M9ACE	5
B0635	Floodlight set, skid-mtd w/toner	35
B0730	Generator set, 3 kW, 60 Hz, skid mounted, MEP-016A	35
B0891	Generator set, 10 kW, 60 Hz, skid mounted, MEP-803A	70
B0953	Generator set, 30 kW, 60Hz, skid mounted, MEP-805A	55
B1021	Generator set, 60 kW, 60Hz, skid mounted, MEP-806A	35
B1045	Generator set, 100 kW, 60 Hz, skid mounted, MEP-007B	4
B1082	Grader, road, motorized, 130G	4
B1140	Hypochlorination unit, purification	3
B1220	Kit, assault trackway	30
B1226	Laundry unit, field	10
B1326	Mixer, concrete	3
B1581	Pump, module, water	15
B1620	Pump set, 65 GPM, 50-ft head	18
B1645	Refrigeration unit, F/rigid box	3
B1710	Refrigerator, rigid box 350 cu ft	3
B1775	Ripper attachment, three shank, rear mounting	3

APPENDIX IVMARINE ENGINEERING ASSETSTAB F.3 MARINE WING SUPPORT SQUADRON (ROTARY WING AND FIXED WING) (MWSS)

ORGANIZATION STRUCTURE: FMFM 4, FMFM 13, FMFM 13-4, AND MSRP-5-12D

MISSION: The MWSS provides all essential aviation ground support requirements to designated Fixed Wing (FW)/Rotary Wing (RW) components of an Aviation Combat Element (ACE) and all supporting or attached elements of the Marine Air Control Group (MACG).

MANNING:

USMC Officers 30, Enlisted 586, for a total of 616.

USN Officers 5, Enlisted 33, for a total of 39.

UNIT MOVEMENT DATA:

1. Time to Deploy: MWSSs (RW/FW) can be configured into detachments to suit the required mission of the MAGTF. Time needed to deploy varies. In time of crisis the MWSS (RW/FW) detachment would marries up with prepositioned assets and provides engineer support to the ACE of the Marine Expeditionary Brigade (MEB).
2. Lift Requirements: The squadrons, along with other components of the MAGTF would receive their assets from pre-positioned stocks. All the squadron's assets will not be sent via strategic lift. The squadrons will only strategic lift assets that do not meet the pre-positioning criteria.
3. Prepositioned Capabilities: MWSS assets are found aboard each of the three Maritime Prepositioning Ships (MPS) Squadrons and also in the Norway Air-Landed Marine Expeditionary Brigades (NALMEB) Pre-positioning Program.
4. Size/Weight/Cube: The deployable element of the current MWSS (FW/RW) contains 2,074.62 short tons of equipment.

CAPABILITIES:

1. Provide internal airfield communications, including tactical communications in and around the airfield.
2. Provide weather services.
3. Provide expeditionary airfield services, including maintaining M-21 aircraft recovery equipment, airfield lighting and other related equipment necessary to support air operations.
4. Provide engineer reconnaissance/survey.
5. Repair, improve and maintain existing roads within the ACE area of responsibility.
6. Provide improvement and maintenance of Vertical Short Take Off Landing (VSTOL) facilities.
7. Construct and maintain mission essential base camp requirements, including tactical airfield fuel distribution and helicopter expeditionary refueling installations. Provide essential utilities support (mobile electric power, water, potable water production, bath and laundry facilities, refrigeration services and materials handling equipment support).
8. Develop, improve, and maintain drainage systems.
9. Assess bomb damage and provide minimal rapid runway repair.

POINT OF CONTACT: US Marine Corps Force, Europe @ DSN 431-2441/2567.

SUSTAINABILITY: The MWSSs are designed to provide support to task organized Marine Air-Ground Task Forces (MAGTFs) and are dependent upon the MAGTF for most of their support (fuel, ammunition, maintenance, medical, administration) beyond 30 days. The MWSS' composition varies based on the specific mission requirements. It is not recommended that it operates as an independent engineer force.

REQUEST FOR SUPPORT: HQ MARFOREUR G4, Boeblingen, GE @ DSN 431-2567/2441/2438.

EQUIPMENT: Organic assets to an MWSS (Rotary Wing (RW)/Fixed Wing (FW)) are:

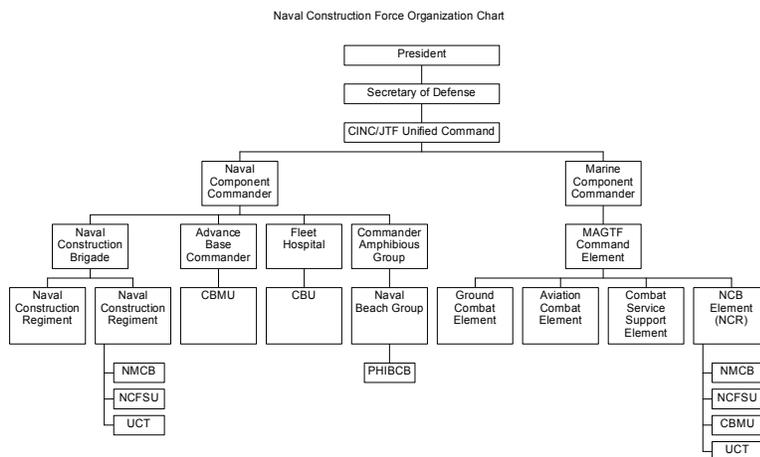
TAM NUMBER	ITEM	QTY
A0421	Communications system, crash/fire/rescue (base station mode), AN/GRC237	3
A0422	Communications system, crash/fire/rescue (vehicle mode), OG196/PRC	12
A0815	Lighting set, helicopter, portable	4
A1011	Marine CSS Command and Control System	14
A1415	Radar set (LBSR), AN/PPS15A(V)2	8
B0055	Bath shower unit, expeditionary, field	5
B0443	Crane, high speed, high mobility, with pile-driver capacity	2
B0471	Demolition equipment, engineer squad	2
B0475	Detecting set, mine, metallic, portable, AN/PSS12	2
B0590	Excavator, hydraulic, multipurpose, wheeled, MC40DR	2 fixed wing/1 rotary wing
B0591	Excavator, hydraulic, medium weight, rough terrain, MC1085C	1
B0675	Fuel dispensing system, airfield, tactical (Firestone), MM1966	6 fixed wing/4 rotary wing
B1082	Grader, road, motorized, 130G	2
B1135	Refueling system, expedient, helicopter	2 fixed wing/7 rotary wing
B1226	Laundry unit, field, MTR-3510-013	4 fixed wing/3 rotary wing
B1300	Platform, maintenance, crane, air mobile	3
B1775	Ripper attachment, three shank, MTG F/TRCTR, full-tracked D7G	2
B1785	Roller, compactor, vibratory, 420-C RAYGO	2 fixed wing/1 rotary wing
B2460	Tractor, full tracked, with angle blade, T5	2
B2462	Tractor, full tracked, medium, D7G	4
B2464	Tractor, full tracked, with multipurpose bucket,	2

	MC1150E	
B2482	Tractor, all wheel drive, with attachments, FLU 419	2
B2561	Truck, forklift, extendable boom, DT-970424	13 fixed wing/14 rotary wing
B2566	Truck, forklift, rough terrain, 4,000 lb, 8606	6
B2567	Tractor, rough terrain, articulated steer, 644E	9 fixed wing/8 rotary wing
B2604	Purification unit, water, reverse osmosis	12 fixed wing/9 rotary wing
B2628	Purification unit, water, fresh, medium, 3,000-gal limit	2 fixed wing /3 rotary wing
D0215	Semitrailer, refueler, 5,000 gal, four wheel, M970	10
D0235	Semitrailer, low bed, 40 ton, M870A1	4
D0876	Trailer, powered, 22 ½ ton, container hauler, 4x4, make 14 model 0	1 fixed wing/2 rotary wing
D0878	Trailer, powered, fifth wheel, semitrailer adapter, 4x4, make 16 model 0	4
D1061	Truck, cargo, 5 ton, long bed, M928	4
D1064	Truck, fire fighting, aircraft and structure, A/S32P19A	25 fixed wing/21 rotary wing
D1072	Truck, dump, 5 ton, 6x6, M929	6
D1082	Truck, fire fighting, 1 ¼ ton, 4x4, M1028FF	2
D1212	Truck, wrecker, 5 ton, 6x6, M936	2
E0312	Dual mount, machine gun, MK93 model 0	84
E0980	Machine gun, .50 cal, Browning, heavy barrel, flexible, M2	6
E0989	Machine gun, medium, 7.62 mm, ground version, M240G	18
E0993	Machine gun, 7.62 mm, M60E3	18
E0994	Machine gun, 40 mm, MK19 model 3	6

APPENDIX IVTAB G NAVY ENGINEERING ASSETS

NAVY UNIT DATA

- G.1 NAVAL MOBILE CONSTRUCTION BATTALION
- G.2 AIR DETACHMENT
- G.3 AMPHIBIOUS CONSTRUCTION BATTALION
- G.4 CARGO HANDLING BATTALION
- G.5 CONSTRUCTION BATTALION UNIT (CBU)
- G.6 MOBILE UTILITIES SUPPORT UNIT
- G.7 UNDERWATER CONSTRUCTION TEAM
- G.8 NAVAL CONSTRUCTION REGIMENT



APPENDIX IVNAVY ENGINEERING ASSETSTAB G.1 NAVAL MOBILE CONSTRUCTION BATTALION (NMCB)

ORGANIZATION STRUCTURE: Refer to publications NWP 22-9, OPNAV Inst 5450.46J, and NAVFAC P-315.

MISSION: NMCBs provide construction in support of Naval Forces or Marine Air Ground Task Forces in unsecured and isolated locations without the protection of support forces. They must be able to work and defend themselves at construction sites outside their base camp and convoy through unsecured areas. Battalions may deploy as an entire unit or as an Air Detachment (Air Det), air deployable in 48 hours.

MANNING: 24 Officer/745 Enlisted (Wartime) for a total of 769.
21 Officer/606 Enlisted (Peacetime) for a total of 627.

UNIT MOVEMENT DATA:

1. Time needed to deploy varies. Normally 6 days upon notification to Port of Embarkation (POE).
2. Unit is 100% air transportable. The complete Battalion can be moved by 53 -C5s or 4 LSTs or 1 Roll On/Roll Off (RO/RO) ship.
3. Prepositioned capabilities. One complete Table of Allowance (TOA) is pre-staged aboard three Maritime Pre-positioned Ships (MPS) Squadrons and in the main deployment sites (Rota, Spain; Okinawa; Japan; Guam; and Puerto Rico).
4. Size, weight and cube data for a Mobile Naval Construction Bn is 3005.1 STONS / 10903 MTON and 55,284 SF.

CAPABILITIES:

1. Construct, repair and maintain lines of communication including: bridges, roads, and rail systems.
2. Construct, repair, and maintain airfields including: fixed/rotary airfield landing sites, and airfield support structures/facilities.
3. Upgrade, repair and replace POL and bulk liquid storage.
4. Provide disaster control and recovery.
5. Battle Damage Repair.
6. Construct support facilities including: ammunition, water storage and distribution, and defense structures.
7. Perform well drilling.

POINT OF CONTACT: Second Naval Construction Brigade @ DSN 312-253-8225
Commercial (757)462-8225.

SUSTAINABILITY: Self-sufficient for up to 60 days, with the exception of ammunition, food and fuel.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359.

EQUIPMENT: 230 Pieces - Civil Engineer Support Equipment (CESE) of which 120 pieces are construction.

ASSEMBLY NUMBER	ITEM	QTY
36053	ARMAMENT CARRIER 1-1/4T HMMWV BASIC ARMOR W/O	8
371061	AUGER EARTH TRK MTD MTR	2
313502	COMPRESSOR AIR ROTARY 250 CFM AT 100 PSIG DED	5
821501	CRANE TRK MTD 2 ENGINE LATTICE BOOM 35 TON	3
252061	DISTRIBUTOR ASPHALT 2000 GAL MTR	1
252161	DISTRIBUTOR WATER 2000 GAL MTR	3
252322	DISTRIBUTOR WATER MINIMUM 7K GAL OFF-HIGHWAY WHEEL	2
431001	DITCHING MACHINE LADDER TYPE CRAWLER MOUNTED	1
431002	DITCHING MACHINE WHEEL TYPE TRENCHER CRAWLER	1
82902	DOLLY TRAILER CONVERTER 18 000 LB PAYLOAD	5
435001	EXCAVATOR CRAWLER MOUNTED DED HYDRAULICALLY	2
511022	FLOODLIGHT SET ELECTRIC SELF-CONTAINED TRAILER-	9
512115	GENERATOR SET TACTICAL QUIET (TQ) DED SKID MTD	4
512230	GENERATOR SET TACTICAL QUIET (TQ) DED SKID MTD	6
442021	GRADER ROAD MOTORIZED DED 6X4 OPEN CANOPY	6
453041	LOADER SCOOP TYPE FULL TRACKED DED 2 1/2 CU YD	4
453130	LOADER WHEEL DED 125 HP MIN MULTIPURPOSE	3
453110	LOADER WHEEL MOUNTED DED 2 CU YD MULTI-PURPOSE	3
516001	LUBRICATING AND SERVICING UNIT F/DRUMS DED AIR	1
243301	MIXER CONCRETE 11 CU FT PORTABLE WHEEL MOUNTED	3
522031	PUMP UNIT CENRIFUGAL 70 000 GPH 10 FT	1
522021	PUMP WATER/TRASH CENTRIFUGAL 33 000 GPH (400	8
521011	PUMP WATER/TRASH RECIPROCATING 100 GPM 4 INCH	1
461501	ROLLER MOTORIZED COMPACTOR SELF PROPELLED	2
463520	ROLLER MOTORIZED VIBRATORY COMPACTOR FRONT	3
590001	SAW RADIAL OVERARM WOODWORKING SHOP 16 INCH	4
475004	SCRAPER-TRACTOR EARTHMOVING DED 4X2 18 CU YD	6
82601	SEMITRAILER LOWBED 3 AXLE LEVEL DECK WALKING	6
82511	SEMITRAILER LOWBED 35 TON 3 AXLE FIXED GOOSE-	7
81611	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER	10
591011	SHOP EQUIPMENT GENERAL PURPOSE REPAIR SEMITRAILER	1
571021	SWEEPER MAGNETIC ROAD WHEEL MOUNTED TOWED	2
483010	TRACTOR CRAWLER SIZE T-5 STRAIGHT BLADE HYD	3
485011	TRACTOR FULL TRACKED LOW SPEED CRAWLER HYD	3
485021	TRACTOR FULL TRACKED LOW SPEED CRAWLER HYD SEMI	3
487503	TRACTOR WHEELED 4X2 INDUSTRIAL DED IW-60 REAR MTD	1

487510	TRACTOR WHEELED INDUSTRIAL 4 X 2 60 NET HP MIN	2
84201	TRAILER BOLSTER 26 000 LB PAYLOAD TANDEM AXLE	1
88002	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	10
36143	TRUCK AMBULANCE 4X4 DED AUTOMATIC TRANSMISSION 24V	2
36062	TRUCK CARGO 4X4 DED AUTOMATIC TRANSMISSION 24V	12
36063	TRUCK CARGO 4X4 DED AUTOMATIC TRANSMISSION 24V	8
58861	TRUCK CARGO 8T 20FT BED MTRV	14
182050	TRUCK CONTAINER HANDLER 50 000 LB PNEUMATIC	2
58761	TRUCK DUMP 6X6 5 TON MTRV	16
70961	TRUCK FIELD SERVICING	2
182012	TRUCK FORKLIFT 12 000 LB DED PNEUMATIC TIRE 4X4	7
182004	TRUCK FORKLIFT 4000 LB DED PNEUMATIC TIRE 4X4	5
74661	TRUCK FUEL/WATER TANKER MTRV	2
36361	TRUCK MAINTENANCE UTILITY 4X4 DED AUTOMATIC	4
60761	TRUCK TRACTOR 5 TON MTRV	20
73061	TRUCK WRECKER MTRV	2
517071	WELDER ARC ELECTRIC 300 AMPS AC/DC TIG DED	6

APPENDIX IVNAVY ENGINEERING ASSETSTAB G.2 AIR DETACHMENT (AIR DET)

ORGANIZATION STRUCTURE: Refer to publications NAVFAC P-315; and FMFM 13-4.

MISSION: The Air Det is a task-organized, advanced element of a Naval Mobile Construction Battalion (NMCB), or can act as an Augmentation Unit capable of supporting the engineering requirements of forward deployed MAGTFs on short notice.

MANNING: (2) Officer and (89) Enlisted for a total of 91.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 Hours upon notification to a Port of Embarkation (POE).
2. Unit is 100% air transportable. The detachment can be moved by fourteen C141s or equivalent.
3. Prepositioned capabilities not applicable, unit is deployable within 48 hours.
4. Size, weight and cube data for an Air Detachment is typically 299.1 STON /1063 MTON and 5828 SF.

CAPABILITIES:

1. Repair war damaged facilities.
2. Construct urgent projects.
3. Construct, repair, improve and maintain Lines of Communication (LOC), to include bridges, roads, etc.
4. Upgrade, repair and replace POL and bulk liquid systems.
5. Construct, repair, improve and maintain airfield and support facilities.

POINT OF CONTACT: Second Naval Construction Brigade @ DSN: 312-253-8225.
Commercial (757)462-8225.

SUSTAINABILITY: The Detachment is self-sufficient for a period of 30 days, except for ammunition, food, and fuel.

REQUEST FOR SUPPORT: : NAVEUR @ DSN 235-4359.

EQUIPMENT: Equipment: 35 pieces of Civil Engineer Support Equipment (CESE) and 10 pieces of construction equipment.

ASSEMBLY NUMBER	ITEM	QTY
36053	ARMAMENT CARRIER 1-1/4T HMMWV BASIC ARMOR W/O	1
313502	COMPRESSOR AIR ROTARY 250 CFM AT 100 PSIG DED	1
252161	DISTRIBUTOR WATER 2000 GAL MTRV	1
511022	FLOODLIGHT SET ELECTRIC SELF-CONTAINED TRAILER	2

512115	GENERATOR SET TACTICAL QUIET (TQ) DED SKID MTD	3
442021	GRADER ROAD MOTORIZED DED 6X4 OPEN CANOPY	1
453110	LOADER WHEEL MOUNTED DED 2 CU YD MULTI-PURPOSE	1
243301	MIXER CONCRETE 11 CU FT PORTABLE WHEEL MOUNTED	1
522021	PUMP WATER/TRASH CENTRIFUGAL 33 000 GPH (400	2
463520	ROLLER MOTORIZED VIBRATORY COMPACTOR FRONT	1
82601	SEMITRAILER LOWBED 3 AXLE LEVEL DECK WALKING	2
81611	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER	2
483010	TRACTOR CRAWLER SIZE T-5 STRAIGHT BLADE HYD	1
88002	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	2
36062	TRUCK CARGO 4X4 DED AUTOMATIC TRANSMISSION 24V	1
36063	TRUCK CARGO 4X4 DED AUTOMATIC TRANSMISSION 24V	1
58861	TRUCK CARGO 8T 20FT BED MTRV	2
58761	TRUCK DUMP 6X6 5 TON MTRV	2
182012	TRUCK FORKLIFT 12 000 LB DED PNEUMATIC TIRE 4X4	1
36361	TRUCK MAINTENANCE UTILITY 4X4 DED AUTOMATIC	1
60761	TRUCK TRACTOR 5 TON MTRV	4
517071	WELDER ARC ELECTRIC 300 AMPS AC/DC TIG DED	2

APPENDIX IVNAVY ENGINEERING ASSETSTAB G.3 AMPHIBIOUS CONSTRUCTION BATTALION (PHIBCB)

ORGANIZATION STRUCTURE: Refer to publications: NWP 22-3, 22-5 and OPNAVINST C3501.93B. The amphibious construction battalion is deployed wherever cargo transfer over the shore is required. It can be with or without other Beach Group mission dependent units and likely in conjunction with the U.S. Army in a JLOTS environment.

MISSION: Provide causeway lift/launch and bulk fuel support to the Assault Echelon as well as install and operate Logistics Over the Shore (LOTS) systems in the Assault Follow on Echelon and MPF environments.

MANNING: Active Duty: 15 Officers and 330 Enlisted for a total of 345.
Reserve: 35 Officers and 661 Enlisted for a total of 696.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 hours upon notification to a Port of Embarkation (POE). Can deploy within 2 days for active units and 60 days for reserve units.
2. Unit is not air transportable. The battalion can be moved by 1 RO/RO or LPD.
3. Prepositioned capabilities exist for Table of Allowance (TOA) 55 On-Board Maritime Preposition Force Shipping (MPFS). TA-55 will support the PHIBCB's full spectrum of missions based on the Required Operational Capabilities (ROCs) and the projected Operation Environment (POE).
4. Size, weight and cube data for a PHIBCB is typically 5,027.7 STON / 21,407 MTON and 104,345 SF.

CAPABILITIES:

1. Elevate of Causeways.
2. Develop offshore petroleum discharge system.
3. Construct, repair and maintain amphibious assault bulk fuel/water systems.
4. Provide pontoon barge ferry and warping tugs.
5. Provide Maritime Preposition Force (MPF) download.
6. Provide logistics support.
7. Provide crisis response.
8. Provide ground support and perimeter defense.

POINT OF CONTACT: Amphibious Construction Battalion Two, 1815 Seabee Drive, Naval Amphibious Base Little Creek, Norfolk, VA, 23521-2928. DSN 312-253-7681 / Commercial (757)462-7681.

SUSTAINABILITY: Thirty days if used in conjunction with Maritime Preposition Force Operations. Outside support required for mobility (air, ship, truck); supply support (rations, water, fuels parts), long range and secure communications, and physical security. The PHIBCB can provide self-defense in a benign environment.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359 for contact with CINCLANTFLT, COMSECONDFLT (Operations); COMNAVSURFLANT (Admin); COMPHIBGRU TWO; COMNAVBEACHGRU TWO; PHIBCB TWO.

EQUIPMENT: The PHIBCB TWO consists of 297 pieces of equipment.

ASSEMBLY NUMBER	ITEM	QTY
541012	CLEANER HIGH PRESSURE 1 000 PSI AT 7 TO 8 GPM AT	6
315511	COMPRESSOR AIR ROTARY 365 CFM AT 100 PSIG DED	9
825302	CRANE WHL MTD 4X4 DED ROUGH TERRAIN SWING	3
433001	EXCAVATOR MULTIPURPOSE TRUCK MOUNTED DED 6X6	6
511022	FLOODLIGHT SET ELECTRIC SELF-CONTAINED TRAILER-	36
512005	GENERATOR SET 5KW (TQ) DED SKID MTD	6
512230	GENERATOR SET TACTICAL QUIET (TQ) DED SKID MTD	24
453123	LOADER SCOOP WHEEL MOUNTED 125 NET HP MINIMUM	9
522021	PUMP WATER/TRASH CENTRIFUGAL 33 000 GPH (400	12
82601	SEMITRAILER LOWBED 3 AXLE LEVEL DECK WALKING	6
485023	TRACTOR CRAWLER TRACK TYPE DED T-9 200 NET HP	12
80401	TRAILER CARGO 2 WHEEL 1 1/2T M-SERIES	9
88002	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	24
36141	TRUCK AMBULANCE 4X4 DED AUTOMATIC TRANSMISSION	6
36041	TRUCK CARGO 4X4 DED AUTOMATIC TRANSMISSION 24	39
58841	TRUCK CARGO 6X6 DED AUTO TRANS 5 TON DROPSIDE W/	24
58741	TRUCK DUMP 6X6 DED AUTO TRANS 5 TON W/OWINCH	3
70961	TRUCK FIELD SERVICING	6
182012	TRUCK FORKLIFT 12 000 LB DED PNEUMATIC TIRE 4X4	6
182004	TRUCK FORKLIFT 4000 LB DED PNEUMATIC TIRE4X4	6
57001	TRUCK LIGHTER AMPHIBIOUS 4X4 LARC-5 5 TON	12
74611	TRUCK TANK FUEL SERVICING 1200 GALLON 2-1/2	6
60741	TRUCK TRACTOR 6X6 DED AUTOMATIC TRANSMISSION 5	6
73041	TRUCK WRECKER 6X6 DED AUTO TRANSMISSION 5 TON W/	3
517071	WELDER ARC ELECTRIC 300 AMPS AC/DC TIG DED	18

APPENDIX IVNAVY ENGINEERING ASSETSTAB G.4 CARGO HANDLING BATTALION (NAVCHAPGRU) (NAVCARGO HANDLING AND PORT GROUP)

ORGANIZATION STRUCTURE: Refer to publication Operation Navy Instruction (OPNAVINST) 5440.73E. There is only (1) active Cargo Handling Battalion. It is located in Williamsburg, VA.

MISSION: NAVCHAPGRU is a quick response combat service support unit specializing in open ocean cargo handling. The unit provides immediate technical and supervisory cargo handling capabilities to fleet and area commanders for Navy operations worldwide.

MANNING: 8 Officers and 150 Enlisted for a total of 158. 1 Hatch Team (HT) = 7 Enlisted personnel.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 hours upon notification to a Port of Embarkation (POE).
2. Unit is air transportable only for personnel and associated personnel gear. The detachment equipment can be moved by 1 C-5 or 1 RO/RO or 1 LO/LO.
3. Prepositioned capabilities exist on board Maritime Preposition Force Shipping (MPFS).
4. Size, weight and cube data for a NAVCHAPGRU are typically 6.7 STON / 493 MTON and 52 SF.

EMPLOYMENT: Fly-in Echelon (F/E) - A limited amount of equipment, supplies and personnel to support the maintenance and offload the Maritime Pre-position Ships (MPS) Program.

CAPABILITIES

1. Open Ocean Cargo Handling Operations: Load and discharge commercial and MSC ship in an open ocean environment.
2. Heavy Lift Crane Operations: provide crane operations for container ships, auxiliary crane ships, or other specialized environments.
3. Developed Port Cargo Operation: Load and discharge commercial and MSC cargo ships in a developed port.
4. Air Terminal Cargo Operations: Load and discharge cargo from commercial and military aircraft and operate in a limited air cargo terminal.

POINT OF CONTACT: US Navy Cargo Handling And Port Group, Williamsburg, VA.
DSN: 953-7455/7617, Commercial (757)887-7455.

SUSTAINABILITY: Provides self-sustainment of 10 days and self- supporting services to include administration, messing, berthing, limited construction, organizational level maintenance and repair of Material Handling Equipment / Civil Engineering Support Equipment (MHE/CESE) used by the unit.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359. Operational control is exercised through CINCLANFLT, COMNAVSURFLANT and COMLOGRU TWO.

EQUIPMENT: NAVCHAPGRU Table of Allowance (TOA) consists of 25 specialized pieces of equipment.

ASSEMBLY NUMBER	ITEM	QTY
182012	TRUCK FORKLIFT 12 000 LB DED PNEUMATIC TIRE 4X4	6
825302	CRANE WHL MTD 4X4 DED ROUGH TERRAIN SWING	1
182004	TRUCK FORKLIFT 4000 LB DED PNEUMATIC TIRE4X4	6
57001	TRUCK LIGHTER AMPHIBIOUS 4X4 LARC-5 5 TON	12

APPENDIX IVNAVY ENGINEERING ASSETSTAB G.5 CONSTRUCTION BATTALION UNIT (CBU)

ORGANIZATION STRUCTURE Refer to publications: NAVFAC P314 and OPNAVINST 5450.46J.

MISSION: Construct, maintain, and provide Public Works support for Fleet Hospitals and Fleet Mobile Operations Command Centers. CBUs have secondary missions to conduct disaster relief and recovery as well as H/CA operations.

MANNING: 1 Officer and 44 Enlisted for a total of 45.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 hours upon notification to a Port of Embarkation (POE).
2. Unit is air transportable only for personnel and associated personnel gear. The detachment equipment is deployed with the Fleet Hospital.
3. Prepositioned capabilities exist onboard Maritime Preposition Force Shipping (MPFS) for the Fleet Hospital.
4. Size, weight and cube data are not applicable as movement is passenger only.

CAPABILITIES

1. Provides vertical and horizontal construction similar to a Naval Mobile Construction Battalion (NMCB) but on a smaller scale.
2. Provides new construction, alterations, repair, or non-recurring maintenance projects requiring technical proficiency. Unit also employed where civilian personnel would be restricted by security requirements.

POINT OF CONTACT: Second Naval Construction Brigade @ N30: DSN: 680-8225; Commercial (804)464-7992.

SUSTAINABILITY: The unit is not self-sustaining. Supported CINC will provide OPCON and ADCON.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359.

EQUIPMENT: All equipment is provided by the hosting activity.

APPENDIX IVNAVY TROOP ENGINEERING ASSETSTAB G.6 MOBILE UTILITIES SUPPORT UNIT (MUSE)

ORGANIZATION STRUCTURE. Refer to publication NAVFACINST 11310.2E.

MISSION: Provide reliable mobile utility equipment modules for short-term support to Navy and Marine Corps Shore Facilities. Individual or multiple pieces of utility equipment are supplied and set-up. Training also supplied for operations and maintenance. A MUSE can provide power plants, steam plants, electrical substations, and water treatment plants (for boiler feedwater).

MANNING: 1 Officer and 44 Enlisted for a total of 45.

UNIT MOVEMENT DATA:

1. Time needed to deploy is 72 hours upon notification of the Construction Battalion Center Port Hueneme.
2. Unit is partially air transportable. The unit contains a 750 kW power plant and a 1500kVA substation- C-141, or C5A. Units are normally shipped via surface or rail unless required immediately. Requester must arrange air shipment if surface shipment will not be sufficient.
3. Prepositioned capabilities do not exist.
4. Size, weight and cube data vary based on specific mission requirements.

QTY	TYPE	WEIGHT(LBS)	LENGTH(FT)	WIDTH(FT)	HEIGHT(FT)
1	750kW Power Plant	37500	28	8	9
1	1500kVA Substation	30140	26	8.25	8.25
1	2000kVA Substation	42600	30	8	10.5
1	1500kW Power Plant	110000	45	10.5	11.5
1	2500kVA substation	52550	35	8	8.25

CAPABILITIES: The MUSE inventory includes power plants with capabilities ranging from 750 W to 2500 kW, substations ranging from 1500 kVA to 5000 kVA, 20,000PPH steam plants and 60 GPM water treatment plants. All power plants generate 4160vac, and substations transform 15kv/5kv/480vac. MUSE water treatment plants are for the purification of boiler feedwater and cannot be used to make potable water. Typical MUSE support missions include interim support during utility plant repair, construction projects, disaster recovery, emergency operations, military expeditions, and ships in port. Units are available for deployment 24 hours a day, 365 days a year.

POINT OF CONTACT: CBC Port Huemene, MUSE Dept, Code 13, DSN 551-5323, Commercial (805)982-5323, Fax (805)982-5388.

SUSTAINABILITY: MUSE equipment is deployed with a spare parts complement of consumable items, which can sustain the unit for two months. The MUSE Dept does not deploy

with personnel for equipment operation. It can only provide initial equipment installation and training. Technical assistance can be provided during the course of the deployment.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359. Formal requests must be routed via centrally designated CINC.

EQUIPMENT: Generators as listed above. The supported organization must supply the cranes/tractor trailers, etc. to transport the generators.

APPENDIX IV**NAVY ENGINEERING ASSETS****TAB G.7 UNDERWATER CONSTRUCTION TEAM (UCT)**

ORGANIZATION STRUCTURE: Refer to publications NAVFAC P-315 and FMFM 13.

MISSION: UCTs provide construction, inspection, and repair of ocean facilities such as wharfs, piers, underwater pipelines, mooring boat ramps, etc. Wartime missions include battle damage repair and installing of offshore petroleum discharge systems. A team may deploy as an integral unit, as an individual construction detachment or as an air detachment.

MANNING: 3 Civil Engineer Corps Diving Officers and 53 Enlisted for a total of 56.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 hours upon notification to a Port of Embarkation (POE).
2. Unit is air transportable except for specialized gear (chamber, boat, etc.). The detachment equipment can be moved by C-17s or RO/RO.
3. CESE is currently pre-positioned onboard Maritime Pre-position, Force Ships (MPFS). Specialized gear (chamber, boat, etc.) is mission tailored and deployed via airlift.
4. Size, weight and cube data for a UCT are typically: 364.4 STON / 1,544 MTON and 6,990 SF.

CAPABILITIES:

1. Provides pier repair.
2. Installs underwater cables.
3. Provides precision underwater blasting.
4. Provides scuba support limited to 130 feet.
5. Provides MK 21 and M12 surface supplied diving systems limited to 190 feet.
6. Provides a recompression chamber containerized in standard MILVAN.
7. Provides a camp security.

POINT OF CONTACT: Underwater Construction Team One, Little Creek, VA, @ DSN 680-7349.

SUSTAINABILITY: UCTs are self-sustaining in diving and construction capacity. All other support (Class I, II, III, IV, V, VI, VIII, IX and X) are provided by supported CINC.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359 to the Second Naval Construction Brigade, Little Creek, VA.

EQUIPMENT: UCTs have 51 vehicles including generators, compressors, small boats, and amphibious craft.

ASSEMBLY NUMBER	ITEM	QTY
5014	BOSUN'S LOCKER RIGGING GEAR F/UCT	1
5304	INFLATABLE BOAT 19 FT	9
5305	OUTBOARD MOTOR 50 HP	12
82511	SEMITRAILER LOWBED 35 TON 3 AXLE FIXED GOOSE-	1
82600	SEMITRAILER LOWBED TRUNNION AXLE 100 000 LB	2
88002	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	3
58861	TRUCK CARGO 8T 20FT BED MTR	4
182012	TRUCK FORKLIFT 12 000 LB DED PNEUMATIC TIRE 4X4	1
182004	TRUCK FORKLIFT 4000 LB DED PNEUMATIC TIRE4X4	1
57001	TRUCK LIGHTER AMPHIBIOUS 4X4 LARC-5 5 TON	4
60761	TRUCK TRACTOR 5 TON MTR	2
30731	TRUCK UTILITY COMMERCIAL 4X4 DED AUTOMATIC	7
517071	WELDER ARC ELECTRIC 300 AMPS AC/DC TIG DED	1
5301	WORK BOAT ASSY AND ACCESSORIES FOR UCT	3

APPENDIX IVNAVY ENGINEERING ASSETSTAB G.8 NAVAL CONSTRUCTION REGIMENT (NCR)

ORGANIZATION STRUCTURE: Refer to publications NAVFAC P-315, FMFM 13, NWP 22-9 and Naval War Plan (NWP) 22-9.

MISSION: NCRs exercise administrative and operational control of two or more Naval Mobile Construction Battalions or other Naval Construction Force Units operating in a specific geographical area or operating in support of a specific military operation. An NCR may deploy in whole or part depending on the mission, scope, and duration.

MANNING: 12 Officers and 52 Enlisted for a total of 64.

UNIT MOVEMENT DATA:

1. Time needed to deploy is normally 48 hours upon notification to a Port of Embarkation (POE).
2. Unit is 100% air transportable on seven C-141s.
3. Prepositioned capabilities do not exist.
4. Size, weight and cube data for an NCR are typically 1115.3 STON / 569 MTON and 3,295 SF.

CAPABILITIES:

1. Develops construction execution plans.
2. Assigns construction projects to Naval Construction Force Units.
3. Monitors progress and assures adherence to quality standards.
4. Directs distribution of unit's equipment and materials.
5. Reviews plans and operation reports to determine specialized training and equipment requirements. Provides Theater area command and communications as required. Trained in defensive combat operations.

POINT OF CONTACT: Second Naval Construction Brigade @ N30: DSN 680-8225, Commercial (804)464-7992.

SUSTAINABILITY: NCRs are 30 days self-sufficient.

REQUEST FOR SUPPORT: NAVEUR @ DSN 235-4359 to the Second Naval Construction Brigade, Little Creek, VA.

EQUIPMENT: NCR's are outfitted with tents, communication equipment, computers, weapons, vehicles, and administrative supplies. No construction equipment.

APPENDIX V**CONSTRUCTION MATERIAL SUPPORT**

1. **General.** Construction material management is an important issue due to the high value and scarcity of material that can be expected in a contingency operation. The timely procurement of construction materials during the early stages of a contingency is critical to the success and rapid productive employment of engineering forces. Procedures must be in place to ensure maximal engineering effort, minimal waste and full accountability.

a. Construction expenditures and the materials for construction will be accounted for separately from funds used for normal operations.

b. Expenditures for material will be recorded against approved projects, and records will be kept documenting material consumption on a project-by-project basis.

c. Both construction and barrier type materials (US Army Class IV A and IV B, respectively) will be handled similarly and are considered construction materials for purposes of this document.

d. In order to improve responsiveness, and take advantage of economies of bulk purchases, while reducing administrative burden, various procurement measures will have to be undertaken. In addition to specific procurements identified against a particular project, common materials will be stocked in bulk at both the unit and Theater Support Command (TSC) level without respect to particular projects. These materials will be available on a ready-for-issue basis to minimize delays.

2. **Responsibilities.**

a. **Theater Engineer.**

(1) Establish an initial procurement list of common stock construction materials to be purchased prior to deployment.

(2) Establish initial stocking levels of such materials to be maintained at the Theater logistics bases established at the TSCs.

(3) Identify projected requirements for delivery order type contracts.

(4) Publish a priority list of Theater projects for the AOR. This list will be called the Integrated Project Priority List (IPPL).

(5) Provide a by-name list of "Authorized Officials" authorized to sign for Class IV material requests to the JTF J-4. This list will be used by the TSCs in ensuring that only authorized customers request materials.

(6) If necessary, initiate contract for host nation support.

3. **Funding Categories.** Construction materials will generally be consumed by components on projects which will fall into one of three categories. Generally Corps level and below Engineer units will deal primarily with Category 1 projects, while Theater Engineer units will primarily deal with Category 2. Category 3 projects are expected to be minimal. The following is a breakout of the project categories.

a. Category 1. Those projects being executed by or for a component/ nation for primary use by that component/nation. These projects are the funding responsibility of the component/nation. Typically this category includes beddown, camp security improvements and similar items that directly support that component/nation.

b. Category 2. Those projects being executed by a component for the primary use of JTF forces. These projects are the funding responsibility of JTF. Typically this category includes Main Supply Route (MSR) repairs, APOD and SPOD clearing and expansion, and similar items of a Theater strategic nature.

c. Category 3. Those projects being executed in the support of Humanitarian/Civic Action (H/CA). These projects are the funding responsibility of the United Nations or other civilian organizations. Typically, this category includes infrastructure repairs not directly supporting NATO/JTF forces such as refugee support and similar items. This type of work must strictly follow project approval guidelines outlined in the Civic Action section of the OPLAN supported. Ensure that funds are available prior to execution of work. Specifically excluded from this category are those projects that are "dual-use." When a project is both a mission requirement and has a side-benefit of H/CA, the overriding factor will always be the mission requirement, and it will be funded appropriately.

d. Funding control/financial responsibility. The Authorizing Official for every unit at each level in the chain of command will be authorized a budget. No Authorizing Official will approve a project that will exceed this fiscal limit. The estimated cost of each project will be "charged" against the budget at the time that the project is approved. For Category 2 projects (i.e. Theater funded), financial responsibility is delegated to the project approval authority.

e. Upon completion of each project, the approval authority will:

(1) Adjust its "budget allotment" to reflect the Estimate At Completion (EAC) which is the actual project cost.

(2) Report completion to Theater level in accordance with approved procedures.

f. The funds manager and the Theater Financial Controller at the theater level reconcile between actual project costs and the Theater construction budget. This reconciliation is reported back to the approving authority, whose budget allotment is reimbursed for the actual costs.

4. **Project Approval.**

a. Project approval guidelines for other than Humanitarian/Civic Assistance (H/CA) projects are outlined below. Note that project costs include material, equipment rentals, contract costs, labor costs, etc., that are directly attributable to a particular project.

(1) For Engineer units at Corps level and below, the tasking authority for projects in support of mission requirements rests with the supported commander. The following exceptions apply:

(a) Tasking which exceeds the capability of the supporting engineer unit will be forwarded to the next higher level.

(b) Tasking of fund Category 2 projects is the responsibility of the JTF Commander.

(c) Tasking of fund Category 3 projects is the responsibility of the JTF Commander. The funding process for H/CA projects can take up to 10 months to fill.

(2) For Theater engineer units, general support mission taskings will be provided to the senior engineer commander responsible for the Theater.

(3) All contracted construction taskings will be coordinated through the JCES IAW approved contracting procedures.

(4) Any project executed by any Engineer Unit that exceeds 100,000 U.S. dollars or 500 man days of construction effort in estimated project scope will be coordinated through the Theater Engineer JCES for JTF commander approval prior to execution.

b. Project approval guidelines for Humanitarian and Civil Affairs engineering projects will have to be developed if they have not been addressed in the OPLAN.

5. Sources of Material.

a. General.

(1) Procurement of construction materials will generally be handled at the Theater level. This will ensure a ready supply of material and avoid competition for scarce resources inside the Theater of Operations.

(2) A ready-to-issue stock of materials and responsive procurement support should be provided to meet all construction requirements in support of the mission. This will minimize the need to bring materials into the AOR and ship additional materials from outside the AOR during the course of the operation.

b. Stock Points.

(1) Local unit stock materials may be used on any Category 1 project. However, consumption of such materials on any construction project must be recorded in accordance with the guidance outlined in Paragraph 7 below. These materials may also be used on any Category 2 or 3 project. If the project has been approved in accordance with the procedures outlined

above, this material will be reimbursed from the Theater construction budget. Procedures for reimbursement are outlined in Paragraph 9 below.

(2) Materials purchased for the Theater Logistics bases by the Theater for the express purpose of establishing a stock of ready-to-issue materials may be used on any category of project. This is provided that the project has been approved in accordance with the procedures outlined in Paragraph 2 above. See Paragraph 5 below for procedures for drawing materials from the Theater Support Command (TSC) stock points.

c. Delivery Order Type Contracts. Materials purchased under delivery order type contracts may be used on any category of project. The majority of materials considered for this arrangement are bulk items such as aggregate, concrete, asphalt, lumber, etc. The purpose of these contracts is to provide quick access to bulk materials from local sources on an as needed basis.

d. Specific Procurement Requests.

(1) Materials procured through contracting may be used on any category of project.

(2) Components or nations may also use contracting for local procurement to stock or restock their supplies of construction materials.

6. Procedures For Drawing From Theater Stock.

a. Procedures for drawing from the Theater Stocks maintained at the logistics bases will generally follow the procedures established for all other classes of supply. However, construction materials will only be issued against valid construction projects.

b. In addition to the normal information submitted when drawing materials, project material lists will include project number, project title, estimated cost, project category, approval authority (signature of authorizing official) and a line item list of materials.

c. Prior to issue of materials, the stock issue point will verify that the signature authorizing issue is contained on the list of Authorizing Officials. The issue point will also confirm that the receiver is on the list of personnel authorized to receive materials as published by the Theater Engineer.

7. Procedures For Ordering Through Theater Regional Contracting Offices.

a. Detailed procedures for contract procurement are outlined in the Contracting SOP.

b. Joint Logistics Operation. The joint logistics operation will:

(1) Maintain custody of common stock construction material at the Theater logistics bases.

(2) Issue construction materials against valid requirements.

(3) Generate order documents to maintain stocks of common item construction materials and submit them to the Regional Contracting Office (RCO) for procurement.

(4) Receive construction materials ordered by the RCO.

(5) Arrange transport of construction material to the requesting unit or construction site as required.

c. Engineer Units. Engineer units will:

(1) Develop project material requirements for assigned tasking.

(2) Prepare requisition documents.

(3) Receive and control materials prior to construction.

(4) Arrange for transport of materials from the Theater logistics bases by organic or nonorganic assets.

(5) Document and report material expenditures.

(6) Assist in determining the method of sourcing for all materials identified for a project. While purchasing materials is not the responsibility of the engineer unit, identifying, ordering and receipt. Units should generally attempt to fill material requirements in the following order:

(a) Stock points.

(b) Delivery order type contracts.

(c) Specific procurement requests.

(7) Provide a qualified person to act as an "Ordering Official" for delivery order type contracts that are within unit authority.

(8) Upon deployment, provide the Theater Engineer the following:

(a) A list of "Authorized Officials" who are authorized to sign material lists for projects within the unit's approval authority.

(b) A list of personnel authorized to receive materials.

(9) Materials procured through contracting for specific projects will only be used for the project for which they were procured.

8. Requirements For Accountability of Locally Held Stocks. Units will establish a material management system that must include, as a minimum:

- a. A tracking system for material expenditures by project.
- b. Allow for record of receipt of material from different sources.
- c. Maintain custody and control of all materials.

9. **Requirements for Documentation and reporting of Material Expenditures.**

- a. All units will track consumption of construction materials even when the expenditure is against a project approved within their authority.
- b. For projects approved within their own authority, units will, as a minimum, document and maintain the following information: project number, project title, scope of work, customer, estimated cost, project category, approval authority (signature of approving officer) and a line item list of materials consumed.
- c. This information will not be reported on a routine basis; however, the execution of the project will be reported in accordance with established procedures.

10. **Procedures For Requesting Reimbursement.**

- a. Any Category 2 or 3 project executed within a subordinate commander's authority is subject to reimbursement from the Theater level in accordance with established funding procedures.
- b. Category 2 or 3 projects accomplished under a subordinate commander's approval authority will be reconciled with the JCES after project audits are completed.
- c. Engineering units will submit project documentation for those projects considered reimbursable for review and approval by the Theater Engineer prior to funding reimbursement through the Joint Financial Controller.

APPENDIX VI JOINT CONTINGENCY ACQUISITION

TAB A – CONTRACTING SUPPORT

TAB B - CONTINGENCY FACILITIES ACQUISITION

TAB C - CONTINGENCY REAL ESTATE OPERATIONS

TAB D – OPEN-ENDED CONTINGENCY CONTRACTS

TAB E - CONTINGENCY CONSTRUCTION FUNDING

APPENDIX VI

JOINT CONTINGENCY ACQUISITION

TAB A CONTRACTING SUPPORT

1. **General.** Providing support to the JTF and its subordinates may require contracting interaction with foreign governments, commercial entities, NGOs, and PVOs. Contracting can be an effective force multiplier of combat service support for deployed forces. When properly used, contracting is another essential tool of the CJTF in support of the mission. Contracting can bridge gaps that may occur before sufficient organic support units can deploy or before scheduled Logistics Civilian Augmentation Program (LOGCAP), CONstruction CAPabilities contract (CONCAP), Air Force Contract Augmentation Program (AFCAP), Acquisition Cross Service Agreement (ACSA), or HNS resources can provide support. It also is valuable when no HNS agreements exist, or when HNS agreements do not provide for the supplies or services required. Close coordination with Civil Affairs (CA), finance and accounting activities, and legal support is also essential.

2. **Contracting Support Plan.** The CJTF may want to develop a contracting support plan to provide the following information:

a. Outline the procedures and policies for implementation of contracting support in the JOA, assuring full utilization of HNS, LOGCAP, AFCAP, ACSA, and CONCAP resources.

b. Ensure that contracting solutions receive consideration during logistics planning and become part of the CJTF OPLAN.

c. Identify JTF subordinate commands requirements that may be met by HNS, LOGCAP, CONCAP, AFCAP, ACSA, or contracting support.

d. Develop an area database containing all available data concerning local resources. The data base may include area studies, locally developed logistic support data, a complete listing of existing LOGCAP, CONCAP, and HNS agreements available in the JOA, and recommendations from State Department Foreign Service personnel. Information also may come from the United States or civilian organizations (NGOs and PVOs) familiar with the area. This part of the contracting support plan must be continually updated.

e. Address security and quality control aspects of contracting, to include inspection of goods received to ensure against sabotage, poisoning, or other terrorist-style actions and fraud.

3. **JTF Contracting Office(s).** The CJTF may establish joint contracting office(s) staffed by personnel from all the Services operating in the JOA (to include linguists and interpreters when required). A JTF contracting office would be responsible for the following:

a. Include some or all of the warranted contracting officers in the JOA. If more than one contracting office is required, contracting officers may have to be assigned to other smaller joint contracting offices to provide support on an area basis.

b. Provide coordination and cooperation among Services that maintain parallel contracting organizations within the JOA. Preclude inter-Service competition for local supplies or services, and obtain the most advantageous prices through consolidation of requirements to more effectively utilize scarce personnel resources.

c. Establish coordination and cooperation with CA, finance and accounting activities, and legal support.

d. Provide contracting representatives to the JTF J-4 organizational structure.

APPENDIX VI

JOINT CONTINGENCY ACQUISITION

TAB B CONTINGENCY FACILITIES ACQUISITION

1. **General.** The United States Army Corps of Engineers (USACE), the Naval Facilities Engineering Command (NAVFAC) and the USAF Regional Civil Engineer (RCE) are prepared to execute the duties of a Contract Construction Agent (CCA) when called upon by USEUCOM. It is anticipated that, in the event of a joint operation, USEUCOM will designate a single CCA in accordance with geographical assignments in EUCOM Directive ED 61-4. The division level commands that support the entire EUCOM AOR are:

a. USACE - Europe District (NAU) / North Atlantic Division (NAD)/Transatlantic Program Center (TAC).

b. NAVFAC - Atlantic Division (LANTDIV) - Norfolk, VA.

2. **Area of Responsibility.** The subordinate office to NAD for Europe is the Europe District (NAU), Weisbaden, GE. NAU is directly responsible for the AOR outside Europe. The subordinate office to LANTDIV for the Mediterranean area is Engineering Field Activity Mediterranean (EFA MED), Naples, Italy. LANTDIV is directly responsible for the balance of the USEUCOM AOR. USAF RCE is directly subordinate to HQ USAFE/CE. NAU, LANTDIV and EFA MED have extensive experience in Europe and Africa.

3. **Federal Acquisition Regulations.** The FAR has provisions to expedite construction. Areas range from source selection to waivers. Refer back to FAR references for specifics.

4. **Area of Responsibility.** Military construction responsibilities guidance and a base list of areas of responsibility are listed in DOD Directive 4270.5, Military Construction Responsibilities on the ULAN at www.dtic.mil/whs/directives. The Secretary of Defense will designate countries not specifically assigned as per the DOD Directive as requirements occur. Certain other countries may have assignments change as requirements change. The following are the assigned areas of responsibilities for DOD contingency Contract Construction Agents (CCA) within the USEUCOM AOR:

a. U.S. Army -- Corps of Engineers (USACE) is the DOD CCA for Austria, Belarus, Belgium, Burkina Faso, Burundi, Central Africa Republic, Chad, Czech Republic, Estonia, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, Mali, Niger, Poland, Rwanda, Slovakia, Switzerland, The Netherlands, Uganda, and Zaire.

b. U.S. Navy - Naval Facilities Engineering Command (NAVFAC) is the DOD CCA for Albania, Algeria, Angola, Armenia, Benin, Bulgaria, Cameroon, Croatia, Democratic Republic of Congo, Equatorial Guinea, FYROM, Gabon, Gambia, Georgia, Ghana, Greece, Guinea, Guinea-Bissau, Israel, Ivory Coast Italy, Lebanon, Liberia, Libya, Mauritania, Mediterranean Islands, Moldova, Morocco, Mozambique, Nigeria, Portugal, Romania, Senegal, Sierra Leone, Slovenia, Syria, Spain, Tanzania, the former Yugoslav States (Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia), Turkey, Togo, Tunisia, and Western Sahara.

c. U.S. Air Force - Regional Civil Engineer (USAFE) is the DOD CCA for Botswana, Denmark, Finland, Lesotho, Malawi, Namibia, Norway, Republic of Ireland, South Africa, Swaziland, Sweden, United Kingdom, Zambia, and Zimbabwe.

d. For Other African Countries the Guidance is -- if Port/Naval Operations/Facilities, then NAVFAC. USACE is responsible for Air/Ground Operations/Facilities.

e. In areas where both NAVFAC and USACE are the designated CCA, the above guidance applies for lead responsibility and the alternate service becomes the deputy.

f. Points-of-Contact (POCs) depend on the AOR. Contact the service component for CCA support (see ED 61-4).

APPENDIX VI

JOINT CONTINGENCY ACQUISITION

TAB C CONTINGENCY REAL ESTATE OPERATIONS

1. **Purpose.** To provide policy guidance and define responsibilities and procedures for the conduct of real estate operations in support of U.S. Forces during both peace and war in the U.S. European Command area. This guidance applies to all DOD service components and agencies operating within the U.S. European Command area of responsibility (AOR).

2. **Policy.**

a. Procedures contained in applicable military department and DOD agency directives, supplemented by these instructions, apply to real estate operations in the USEUCOM AOR.

b. Component commands will maintain liaison and plan jointly with other DOD components to ensure efficient handling of real estate requirements and effective use of real estate holdings.

c. Real estate operations are designed to encompass acquisition, administration, and disposal of facilities, land, and improvements thereon to meet mission requirements by DOD agencies. Transactions include (but are not limited to) lease, purchase, or grant of real property from the host country to accomplish both U.S. appropriated and authorized nonappropriated fund activities. HQ USEUCOM is responsible for making initial contact to obtain basic rights for DOD agencies to establish and conduct real estate operations in the country.

d. HQ USEUCOM will assign one service component overall responsibility for real estate operations in a specific geographic area for all DOD components. For countries that have no service component assigned, USEUCOM will assign responsibility on a case-by-case basis. In making the initial contact under Para 2c above, HQ USEUCOM will, insofar as the situation allows, include participation by the designated real estate component, which will have primary area responsibility. Once initial arrangements are agreed upon, the designated real estate component will be responsible, in coordination with other service components or DOD agencies, for establishing specific procedures and working arrangements with the host country to accomplish the real estate program. Coordination will include the country Office of Defense Cooperation (ODC), or similar organization, in all appropriate cases. The designated real estate component will conduct day-to-day real estate matters directly with host government agencies as the situation requires.

e. DOD agencies are responsible for timely submission of data for acquisition, use, or disposal of real estate to the designated real estate component for the particular country area. The designated real estate component is responsible for consolidation, management, and presentation of the U.S. program needs to the host nation. As an exception, in certain country areas, individual service components may, at the discretion of the designated real estate component and with the sanction of the host country, be permitted to deal directly with host nation agencies to fulfill real estate requirements. Arrangements with the host nation concerning operating procedures will remain the responsibility of the designated real estate component.

USACE provides real estate assistance through its Contingency Real Estate Support Team (CREST).

f. In countries where the U.S. Forces have established operating procedures for real estate acquisition, the service components will deal with host nation agencies or with real estate owners in such manner as the existing arrangements or procedures provide. The designated real estate component shall be kept informed on the status of all transactions.

g. Satisfaction of real property needs will take into consideration the need to minimize foreign exchange expenditures ("gold flow"). Existing land, structures and facilities will be fully utilized before initiating actions for real property augmentation. Measures to minimize the requirement for augmentation of real property on foreign soil include joint use of real estate by two or more services/DOD agencies, tenancy with a service of a friendly or allied country, and other prudent practices. Land and facilities no longer required will be relinquished in accordance with existing agreements, regulations, and statutes. Prior to release, real property foreseeably usable by another DOD component will be coordinated with other appropriate commands and made available for interservice transfer. The assigned component responsible for a specific country will function as a "clearinghouse" for these types of transfers.

h. Maximum use will be made of local governmental agencies in real estate matters. Host countries should, in principle, provide land, particularly public land, to the U.S. Forces free of charge. In the absence of an agreement with the host covering the acquisition of land and improvements required by the U.S. Forces, leasing arrangements vice purchase is the preferred acquisition method provided such arrangements:

(1) Meet operational requirements.

(2) Are compatible with applicable U.S. statutes, rules, and regulations.

i. Real estate operations must ensure minimal disruption of the local population by real estate activities. Measures to protect and enhance the local environmental quality are in accordance with USEUCOM Directive ED 61-6 for all real estate activities.

j. The acquisition, transfer, and disposal of real property will:

(1) Conform to applicable international agreements and governmental policies.

(2) Consider local laws, customs, and the control over real estate exercised by local governmental agencies, as well as other factors that may impact adversely on U.S. operational and training activities.

k. Each USEUCOM component will advise HQ USEUCOM when there is a significant increase in the volume of real estate transactions in any non-assigned country.

l. None of the responsibilities listed herein limit action by any component in arranging for the discharge of real estate responsibilities of another component/service when mutually agreed upon by both parties.

APPENDIX VI

JOINT CONTINGENCY ACQUISITION

TAB D OPEN-ENDED CONSTRUCTION CONTRACTS

1. **Key Points**. While this tab covers LOGCAP aspects, SOW development can be applied to CONCAP and AFCAP as well. For a discussion on CONCAP and AFCAP see Tab A of Appendix IV, Engineer Assets. Key points in initiating a request for LOGCAP support are the preparation of a good statement of work (SOW) and its submission through the appropriate chain of command (usually the MACOM J4) to U.S. Army Material Command (AMC), Alexandria, Virginia.
2. **LOGCAP Planning**. For LOGCAP planning, any MACOM special report support will go through HQUSACE, READINESS BRANCH, (CECW-OE-P). For operations support the SOW will go through HQUSACE, INSTALLATION SUPPORT BRANCH, (CEMP-CI).
3. **Funding**. Work cannot commence until funding is provided to NAD. There may be some funding available for planning, so if planning support for a region/specific area is needed, prepare the SOW and request planning.
4. **LOGCAP Contracts**. LOGCAP contracts apply only to non-hostile environments and are governed by the Federal Acquisition Regulations (FARs).
5. **LOGCAP Facts**.
 - a. The Logistics Civil Augmentation Program (LOGCAP) is a U.S. Army program aimed at using a civilian contractor to prepare plans and perform selected logistics and engineering services to augment U.S. forces during military contingency operations.
 - b. Under LOGCAP, a worldwide umbrella contract has been put in place during peacetime to plan for, and provide when required, logistical support to U.S. Army deployments in response to contingency operations. This rapid response contract is set up to provide basic life support (shelter, sanitation, food, and laundry) and maintenance and transportation services.
 - c. The US Army Material Command (AMC), Alexandria, VA, administers the contract in behalf of the Army Deputy Chief of Staff for Logistics.
 - d. In April 1996, the Department of Army designated the Army Material Command as its LOGCAP agent, a change that resulted from the Army's desire to have all of its logistics initiatives under the authority of one command. The Army Material Command assumed program management responsibilities on October 1, 1996, while the Corps of Engineers retained responsibility for any contract close-out activities.
 - e. The contractor can supply personnel with just about anything they need. Some examples of recent support include but are not limited to the below information:

SERVICE	QUANTITY
Water	225,000 gallons per day Transportation
Labor	500 unskilled workers
Equipment	35 buses 50 2.5 ton trucks 35 5ton cargo trucks 35 8pax 4wd vans 35 5ton wreckers 36 6ton RT forklifts 35 10ton RT forklifts
Ice	14.5 tons per day
Meals	40,500 per day
Refuse	60 ST per day Power 35 10kw generators
Laundry	6000 bundles per day

6. Statement of Work.

a. A Statement of Work (SOW) is necessary for defining requirements to the contractor. The SOW enables the contractor to develop a cost estimate for approval and to plan and accomplish the work in the most economical and efficient manner. These statements are normally prepared by either the engineer or logistics officer, and should contain as much information about the requirement (including any constraints to be imposed) as is known at the time. They should not be so detailed that they take on the form of a contract specification, which is the function of the contracting officer. The scope of work should be concise and define what is to be done, provide a duration of performance, quantify the requirement and state any special considerations.

b. For example, if the task is for LOGCAP to install and operate showers in a field location, the statement of work might read as follows: "Request the LOGCAP contractor build, place and operate lighted and screened temporary showers and shaving facilities for a three-month period beginning 15 January 1994 to support a 500-man battalion task force at Camp Shelby for Field Training Exercise Night Raider. Showers should be capable of being moved by the contractor and set up at two different sites. CPT Vern Smith can provide exact locations at 555-1234. Contractor is to provide water storage and a 10 PSI pressurized system to the shower and shaving facilities. Shower and basin ratio will be 10 soldiers per showerhead and basin. Grey water collection must be 100 feet from showers."

7. Drawing and Specifications.

a. All drawings and proposed specifications will be submitted to the TF Engineer for approval prior to commencement of work.

b. The advantages of developing a comprehensive SOW in the early stages of contingency planning are numerous. Early involvement by the LOGCAP contractor in the planning process is recommended. It allows the contractor to develop more accurate cost estimates, avoids costs associated with contractor mobilization for unnecessary work and gives the contractor more time to bring only the most reliable subcontractors onboard. Support can be provided on a "task order" basis, but without a comprehensive, up-front statement of work, additional costs are likely to be incurred because of the unknowns involved. Proactive planning and performance will result in better initial statements of work.

APPENDIX VI

JOINT CONTINGENCY ACQUISITION

TABLE CONTINGENCY CONSTRUCTION FUNDING

1. **General.** Recent experience has shown that lack of knowledge in applicable contingency construction funding authorities, interpretations and references, can be a "show-stopper" to providing timely construction and support. Knowledge of all necessary authorities / references and their applicability is the first critical step in the construction effort and it is imperative that personnel dealing with contingency/wartime construction know and can apply the proper funding authorities.
2. **Responsibilities.** The JTF Engineer must understand the limitations and capabilities administrative procedures for the use of the various authorities for contingency construction. No action can begin until funding is made available. The Department of Defense is not authorized to undertake construction or to expend funds without statutory authorization and appropriation of funds. These funds are appropriated by annual appropriation acts. Authority to undertake contingency construction may be provided in the annual authorization acts, but the most commonly used authorities are "codified" permanently in Title 10 of the United States Code (USC). Certain sections pertinent to contingency construction are briefly described in the following paragraphs.
3. **Definitions:** (For definitions see 10 USC and 2801).
4. **Contingency Construction Funding Authorities.**
 - a. 10 USC and 2802. Military Construction Projects -- The authority for the MILCON projects that are authorized on an individual basis by annual MILCON Authorization Acts and for which funds are appropriated by annual MILCON Appropriation Acts. These projects are programmed and budgeted for by the Military Departments and Defense Agencies, and are typically executed by the DOD Contract Construction Agents.
 - b. 10 USC and 2803. Emergency Construction -- Authorizes Service Secretary or SecDef to carry out projects not previously authorized, after notification to the appropriate committees of Congress. Each Secretary can authorize up to \$30 million per year, but must fund these projects out of funds already appropriated for MILCON. No declaration of war or national emergency is required.
 - c. 10 USC and 2804. Contingency Construction -- Authorizes Service Secretary or SecDef to carry out projects not previously authorized, after notification to the appropriate committees of Congress. The total amount appropriated for MILCON and not already obligated may be used to fund these projects. No declaration of war or national emergency is required.
 - d. 10 USC and 2805. Unspecified Minor Construction (UMC) -- The authority for the construction of projects below a specified dollar value (currently \$1.5 million) which are not authorized on an individual basis, but which the Military Departments and Defense Agencies have the authority to approve and execute after notification to the appropriate committees of Congress. Any project of \$500 K or more requires appropriate Secretary approval in advance. The Annual

MILCON Appropriation Act provides MILCON funds for UMC projects, and this section authorizes the use of Operations and Maintenance (O&M) funds for projects below a specified dollar value (currently \$500K).

e. [10 USC and 2805\(a\)\(2\)](#). Exercise Related Construction (ERC) -- A subsection of the UMC authority, which provides authority to undertake exercise-related UMC projects coordinated or directed by JCS outside the U.S. Subject to a limit of \$5 million per fiscal year. The use of O & M funds for ERC is prohibited.

f. [10 USC and 2807](#). Architectural and Engineering Services and Construction Design -- Authorizes the use of MILCON funds for preparation of drawings and specifications for MILCON projects that have not yet been authorized by Congress, and for certain related engineering services. Funds for this purpose are included in the annual MILCON Appropriation Acts as separate line items called "Planning and Design" or "P and D." A limited amount of P and D funds is available for design of ERC projects and may be used for site visits for project planning.

g. [10 USC and 2808](#). Construction Authority in the Event of War or National Emergency -- In the event of declaration of war or declaration by the President of a national emergency, SecDef is authorized to undertake MILCON projects not otherwise authorized by law, but only within the total amount of funds appropriated for MILCON that have not been obligated. Requires notification to the appropriate committees of Congress. (Joint Staff has proposed an amendment to this section to give commanders of unified and specified commands authority to carry out construction in the Theater of operations outside the U.S.).

h. [10 USC and 401](#). Humanitarian/Civic Action (H/CA) -- Authorizes certain specified assistance that is not in support of military activity but which promotes specific operational readiness skills of military personnel participating in the exercise. H/CA must be funded out of funds "specifically appropriated for such a purpose" such as:

- (1) "Medical, dental, and veterinary care provided in rural areas of a country."
- (2) "Construction of rudimentary surface transportation systems."
- (3) "Well drilling and construction of basic sanitation facilities."
- (4) "Rudimentary construction and repair of public facilities."

i. [22 USC and 2292](#). Foreign Assistance -- Authorizes the drawdown of commodities and services of a U.S. Government Agency (including DOD) for international relief, subject to a statutory limit.

j. [22 USC and 2318](#). Foreign Assistance -- Authorizes drawdown of DOD stocks and services to support relief effort, subject to a statutory limit and requires a Presidential determination and report to Congress.

k. [22 USC and 2870](#). United Nations Participation -- Authorizes the use of any unobligated appropriated funds to furnish facilities, services or other assistance for U.N. activities directed to peaceful resolution of disputes, notwithstanding any other provision of law.

1. National Defense Authorization Act for Fiscal Year 1991, and 908. CINC Initiative Fund -- A fund managed by CJCS from which funds can be provided to unified and specified commands for specified training, operational and humanitarian activities.

5. **Construction Authorities**.

a. JCES members should pay particular attention to those authorities closely associated with construction in emergencies (and 2803), contingency (and 2804), exercises (and 2805(a)(2)), war and national emergency (and 2808), humanitarian civic action (and 401), foreign assistance (22 USC and 2292 and 2318) and U.N. participation (22 USC and 2870). These authorities are not used frequently in routine peacetime business and are therefore not well known to those who manage the peacetime service construction programs. The importance of understanding the funding process cannot be overemphasized as the funding authority may dictate materials, methods, and approval procedures.

b. All CCA organizations within the USEUCOM AOR have in-house capabilities to accept, manage, and disburse funds from all U.S. sources as well as third country and NATO infrastructure funds. Supervision, inspection, and overhead charges will be in accordance with current rates at the time. CCA costs are reimbursable initially by O and M and then followed by MILCON (if appropriate).

APPENDIX VII REPORTS

- TAB A Engineer Situation Report Outline
- TAB B LOGENG
- TAB C Turnover File Outline
- TAB D Information Management

APPENDIX VII REPORTS**TAB A ENGINEER SITUATION REPORT OUTLINE**

1. Engineer Situation Report. Combines the report, Tab B of Appendix 5, to USCINCEUR Standard Plan 4000-98(U) Suggested Engineer Situation Report (SITREP) (U) and the information on the US EUCOM LOGENG report.

a. Purpose. The engineer situation report is intended to provide the JCES with up-to-date information on the general engineer situation and to provide immediate information on significant engineer issues, problems, or initiatives.

b. Responsibility. Required reporting organizations are components on the ground or the Senior Engineer Commander. Reports are submitted directly to the JCES.

c. Frequency. SITREPS shall be updated daily (routine report) or within 4 hours of a Significant Reportable Event (SRE) (immediate report). New information shall be indicated with italicized fonts so that the reader can scan the SITREP and easily notice revised information. Example SREs are listed below.

d. Identification Line. This will contain Classification/report title/reporting element/report number/period covered/date-time-element.

2. Significant Reportable Events (SREs).

a. Intentional creation of any type of engineer obstacle by any adversary, civilian populace, or friendly forces.

b. Closure of a Ground Line of Communication (GLOC), Aerial Port of Debarkation (APOD), Sea Port of Debarkation (SPOD), or Rail Port of Debarkation (RPOD).

c. Intent to conduct friendly mining operations.

d. Minestrikes.

e. 25% or greater reduction in capability or stocks in any organic, attached, OPCON, TACON, or Direct Support Engineer unit or asset.

f. Any hazardous material spill or loss.

g. Destruction or damage to environmentally sensitive areas or archaeological/historical sites.

h. Any event deemed significant by the reporting organization.

i. Use of demolitions (in excess of 50 lbs.) for obstacle breaching or other purposes.

j. Others as specifically directed as the situation evolves.

3. Transportation and Movement (Engineer Infrastructure Status as appropriate).
 - a. Ground Main Supply Routes/Movements (Conditions/Status).
 - (1) Rail: Red/Amber/Green.
 - (2) Highway/Road/Bridge: Red/Amber/Green.
 - (3) Inland Waterway (Barge Accessible): Red /Amber/Green.
 - b. Airfield: Conditions/Status Red/Amber/Green.
 - c. Seaport: Conditions/Status Red/Amber/Green.
 - d. Closure of a Ground Line of Communication (GLOC), Aerial Port of Debarkation (APOD), Sea Port of Debarkation (SPOD), or Rail Port of Debarkation (RPOD).
4. Engineer Assessment: Red/Amber/Green.
 - a. General Remarks/Issues:
 - b. Force Beddown:
 - (1) Force Protection: Remarks (Significant Problems / Concerns).
 - (2) Real Estate / Facilities: Remarks (Significant Problems / Concerns).
 - (3) Utilities (Power Generation/Distribution, Water, Sewage): Remarks (Significant Problems / Concerns).
 - (4) Fire Protection: Remarks (Significant Problems / Concerns).
 - c. Personnel: (Show number present by unit and location).
 - (1) Military (Officer, NCO, Enlisted).
 - (2) Civilian.
 - (3) Contractor.
 - d. Equipment: (List Status of Major End Items to include Bridge Park Assets).
 - e. Construction Operations (List Progress by Location).
 - (1) Troop: Project Name, Cost, % Complete, Est Start, Est End, Remarks (Significant Problems/Concerns).

(2) Contract: Project Name, Cost, % Complete, Est Start, Est End, Remarks (Significant Problems/Concerns).

f. Environmental / Hazardous material: Remarks (Significant Problems/Concerns).

g. Topographical: Remarks (Significant Problems/Concerns).

5. JCES Actions Requested: (Fill in action requested).

6. Format and Transmission. Transmission of the report is by best available means [e-mail, FAX or Message Text Format (MTF)]. Preferred method for classified reports is MTF. Line numbers can be repeated as necessary for multiple items. Format is as follows:

- 1 (U) Date Time Group (DTG) of report submission.
- 2 (U) Beginning and end DTG of the reporting period covered in the report.
- 3 (U) Headquarters submitting report.
- 4 (U) SRE(s) if any (repeat for each SRE).
- 4A (U) Type of incident.
- 4B (U) DTG of the incident.
- 4C (U) Narrative description of the incident.
- 4D (U) Remedial steps taken to date.
- 4E (U) Future plans and recommendations concerning the incident.
- 5 (U) Line 5 Transportation and Movement (Engineer Infrastructure Status as appropriate).
- 5A (U) Ground Main Supply Routes/Movements (Conditions/Status).
- 5A(1) (U) Rail: Red/Amber/Green.
- 5A(2) (U) Highway/Road/Bridge: Red/Amber/Green.
- 5A(3) (U) Inland Waterway (Barge Accessible): Red /Amber/Green.
- 5B (U) Airfield: Conditions/Status Red/Amber/Green.
- 5C (U) Seaport: Conditions/Status Red/Amber/Green.
- 5D (U) Closure of a Ground Line of Communication (GLOC), Aerial Port of Debarkation (APOD), Sea Port of Debarkation (SPOD), or Rail Port of Debarkation (RPOD).
- 6 (U) Engineer Assessment: Red/Amber/Green.
- 6A (U) General Remarks/Issues:
- 6B (U) Force Beddown:
- 6B(1) (U) Force Protection: Remarks (Significant Problems / Concerns).
- 6B(2) (U) Real Estate / Facilities: Remarks (Significant Problems / Concerns).
- 6B(3) (U) Utilities (Power Generation/Distribution, Water, Sewage): Remarks (Significant Problems / Concerns).
- 6B(4) (U) Fire Protection: Remarks (Significant Problems / Concerns).
- 6C (U) Personnel: (Show number present by unit and location).
- 6C(1) (U) Military (Officer, NCO, Enlisted).
- 6C(2) (U) Civilian.
- 6C(3) (U) Contractor.
- 6D (U) Equipment: (List Status of Major End Items to include Bridge Park Assets).
- 6E (U) Construction Operations (List Progress by Location).
- 6E(1) (U) Troop: Project Name, Cost, % Complete, Est Start, Est End, Remarks (Significant Problems/Concerns).

- 6E(2) (U) Contract: Project Name, Cost, % Complete, Est Start, Est End, Remarks (Significant Problems/Concerns).
- 6F (U) Environmental / Hazardous material: Remarks (Significant Problems/Concerns).
- 6G (U) Topographical: Remarks (Significant Problems/Concerns).
- 7 (U) JCES Actions Requested:

APPENDIX VII**REPORTS****TAB B LOGENG****1. Logistics Engineer Report (LOGENG) Overview.**

a. The Logistics Engineer (LOGENG) report provides USEUCOM a detailed JTF status report on all classes of supply, services, transportation, movement, and engineer assessment in the JTF joint area of operation.

b. The LOGENG is submitted by the JTF/J4 to HQ USEUCOM/ECJ4 NLT 0500Z daily.

c. Information included in the LOGENG will be valid as of 0001Z.

d. LOGENG reports will be transmitted via the message system using IMMEDIATE precedence.

e. LOGENG will use the following format:

(1) Discussion of the general logistics situation to include major logistical or engineering activities in the last 24 hours and the next 72 hours.

(2) JTF/J4 comments to include major logistics issues and concerns.

(3) JTF assessment of all classes of supply at all operating locations including FOB and ISB. Class V requires a detailed Munitions Report (MUREP).

(4) Transportation and movement assessment including ground supply routes (rail, highway/road, inland waterway (barge); airfield conditions at the ISB and FOB specifying working maximum on ground (MOG) and a list of aircraft on ground by mission design series (MDS); seaport conditions; closure of major ground lines of communication (GLOC); status of International Organization for Standardization (ISO) Containers.

(5) Engineer assessment of force beddown to include force protection, real estate/facilities, and utilities; personnel; equipment (listing major end items and status); and on-going construction operations (troop and/or contract); environment/hazardous material.

f. Specific Reporting Instructions:

(1) GREEN-No limiting factors.

(2) AMBER-Limitations but mission capable.

(3) RED – Limitations significantly degrading or precluding mission capability.

2. **LOGENG Report Format.**

(CLASSIFICATION TOP & BOTTOM OF EACH PAGE)

JTF SAPPER INPUT TO LOGENG REPORT

2423500LOCT04

COLOR CODES ARE DEFINED AS:

GREEN - NO LIMITING FACTORS;**AMBER** LIMITATIONS BUT MISSION CAPABLE;**RED** - LIMITATIONS PRECLUDING MISSION CAPABILITY:

//

1. (U) GENERAL LOGISTIC SITUATION/ACTIVITIES:
 - 1A. (U) DISCUSS MAJOR LOGISTICAL/ENGINEER ACTIVITIES (LAST 24 HRS):
 - 1B. (U) DISCUSS MAJOR LOGISTICAL/ENGINEER ACTIVITIES (NEXT 72 HRS):
2. (U) MAJOR ISSUES/CONCERNS:
3. (U) SUPPLY: **GREEN**
 - 3A. (U) CLASS I: **GREEN**
 - 3A1. (U) HEAD COUNT PLANNING FACTOR:

3A1A (U) ISB:	2580		
3A1B (U) FOB:	1500		
3A1C (U) OTHER:			
 - 3A2. (U) MRE: QTY O/H DOS **GREEN**

3A2A (U) ISB:	2000	7	GREEN
3A2B (U) FOB:	500	7	GREEN
3A2C (U) OTHER:			GREEN
 - 3A3. (U) T-RAT: **GREEN**

3A3A (U) ISB:	5000	7	GREEN
3A3B (U) FOB:	2500	7	GREEN
3A3C (U) OTHER:			GREEN
 - 3A4. (U) WATER BULK: **GREEN**

	(GAL)O/H	DOS	
3A4A (U) ISB:	5039484	7	GREEN
3A4B (U) FOB:	39373	7	GREEN
3A4C (U) OTHER:			GREEN
 - 3A5. (U) WATER BOTTLED: **GREEN**

	(CS)O/H	DOS	
3A5A (U) ISB:	2572	7	GREEN
3A5B (U) FOB:	1500	7	GREEN
3A5C (U) OTHER:			GREEN
 - 3A6 (U) REMARKS/ISSUES: (CONTRACTS, FEEDING CYCLE, ETC)
 - 3B. (U) CLASS II: **GREEN**
 - 3B1. (U) REMARKS/ISSUES:
 - 3C. (U) CLASS III: (BULK GALLONS: US OWNED) **GREEN**

NOTE: SEE REPOL REPORT 242200LOCT04

 - 3C1. (U) STORAGE CAPACITY: (GAL) **GREEN**

	JET A-1	DIESEL	MOGAS
3C1A. (U) ISB	10000	20000	10000

- 3C1B. (U)FOB
- 3C2. (U) **ON HAND INVENTORY:** (GAL) : GREEN
 JET A-1 DIESEL MOGAS
- 3C2A. (U)ISB 5000 15000 7500
- 3C2B. (U)FOB
- 3C3. (U)REMARKS/ISSUES/CONTRACTOR SUPPORT:
- 3D. (U) **CLASS IV:** GREEN
- 3D1. (U)REMARKS/ISSUES:
- 3E. (U) **CLASS V:** SUBMIT MUREP AS REQUIRED GREEN
- 3E1. (U)REMARKS/ISSUES:
- 3F. (U) **CLASS VI:** GREEN
- 3F1. (U) **HEALTH & COMFORT PACKS:** GREEN
 TYPE I TYPE II
- 3F1A. (U)ISB: 3580 1800
- 3F1B. (U)FOB: 1500 1000
- 3F1C. (U)REMARKS/ISSUES:
- 3F2. (U) **AAFES SUPPORT FACILITIES:** GREEN
- 3F3. (U)REMARKS/ISSUES:
- 3G. (U) **CLASS VII:** GREEN
- 3G1. (U)REMARKS/ISSUES:
- 3H. (U) **CLASS VIII:** GREEN
- 3H1. (U)REMARKS/ISSUES:
- 3I. (U) **CLASS IX:** GREEN
- 3I1. (U)REMARKS/ISSUES:
- 3J. (U) **PLANNING FACTORS:** PROVIDE INFO IN TERMS OF PERSONNEL OR OPTEMPO
 FOR CLASSES OF SUPPLY, e.g., HEADCOUNT OF 2500
- 4 (U) **SERVICES:** GREEN
- 4A. (U) **MORTUARY AFFAIRS:** GREEN
- 4A1 (U)ISB GREEN
- 4A2 (U)FOB GREEN
- 4A3. (U)REMARKS/ISSUES:
- 4B. (U) **LAUNDRY & BATH OPERATIONS:** GREEN
- 4B1 (U)ISB GREEN
- 4B2. (U)FOB GREEN
- 4B3. (U)REMARKS/ISSUES:
- 4C . (U) **BASE OPERATION SUPPORT AND INFRASTRUCTURE.** INDICATE
 STATUS GREEN, AMBER, RED AND THE METHOD OF SUPPORT (e.g., CONTRACT, UNIT
 ASSETS, TYPE) GREEN
- 4C1. (U) **BILLETING:** (TYPE AND NUMBER)
- 4C1A. (U)ISB GREEN
- 4C1B. (U)FOB GREEN
- 4C1C. (U)REMARKS/ISSUES:
- 4C2. (U) **MESSING:** (TYPE OR CONTRACT) GREEN
- 4C2A. (U)ISB GREEN
- 4C2B. (U)FOB GREEN
- 4C2C. (U)REMARKS/ISSUES:
- 4C3. (U) **SERVICES:** GREEN
 (PX, BARBER, MWR, MAIL, GARBAGE)

- 4C3A. (U) ISB GREEN
- 4C3B. (U) FOB GREEN
- 4C3C. (U) REMARKS/ISSUES:
- 4D. (U) MAINTENANCE: GREEN
- 4D1. (U) MAJOR EQUIPMENT BY:
(TYPE, O/H, FMC, NMCS, NMCM, CHG (YES/NO), REASON)
- 4D2 (U) REMARKS/ISSUES - LIST UNDER GROUND OR AIR SYSTEMS:
- 4D2A (U) GROUND SYSTEMS:
- 4D2B (U) AIR SYSTEMS:
- 4E. (U) CONTRACTING: GREEN
- 4E1A (U) ISB GREEN
- 4E1B (U) FOB GREEN
- 4E1C (U) OTHER GREEN
- 4E2 (U) REMARKS/ISSUES: (STATUS ON MANNING, LOCATION OF CCO'S, CONTRACTING ACTIONS ACCOMPLISHED, LIMITATIONS)
- 4F. (U) MULTINATIONAL SUPPORT: GREEN
- 4F1 (U) ACSA TRANSACTIONS: (REPORT EACH REQUEST TO EXECUTE ACSA TRANSACTIONS)
- 4F2. (U) REMARKS/ISSUES:
5. (U) TRANSPORTATION & MOVEMENT: GREEN
(LIST ENGINEER INFRASTRUCTURE INFO UNDER REMARKS/ISSUES)
- 5A (U) GROUND MAIN SUPPLY ROUTES: GREEN
- 5A1 (U) RAIL: GREEN
- 5A2 (U) HIGHWAY/ROAD/BRIDGE: GREEN
- 5A3 (U) INLAND WATERWAY (BARGE): GREEN
- 5A4 (U) REMARKS/ISSUES:
- 5B (U) AIRFIELD: GREEN
- | | | |
|--|---------------------|---------------------|
| | WORKING AIRCRAFT | RAMP BY MISSION |
| | MAX ON GROUND (MOG) | DESIGN SERIES (MDS) |
- 5B1 (U) ISB:
- 5B2 (U) FOB:
- 5B3 (U) OTHER:
- 5B4 (U) REMARKS/ISSUES:
- 5C (U) SEAPORT: GREEN
(TOTAL BERTHS/AVAIL BERTHS/DRAFT)
- 5C1 (U) SPOD:
- 5C2 (U) OTHER:
- 5C4 (U) REMARKS/ISSUES:
- 5D (U) CLOSURE OF A GROUND LINE OF COMMUNICATION (GLOC), AERIAL PORT OF DEBARKATION (APOD), SEA PORT OF DEBARKATION (SPOD), OR RAIL PORT OF DEBARKATION (RPOD).
- 5E. (U) ISO CONTAINERS: GREEN
- 5E1. (U) REMARKS/ISSUES:
- 6 (U) ENGINEER ASSESSMENT: GREEN
- 6A (U) FORCE BEDDOWN: GREEN
- 6A1 (U) FORCE PROTECTION: GREEN
- 6A1A (U) REMARKS/ISSUES:
- 6A2 (U) REAL ESTATE / FACILITIES: GREEN

- 6A2A (U)REMARKS/ISSUES:
- 6A3 (U) **UTILITIES:** GREEN
(POWER GENERATION/DISTRIBUTION, WATER, SEWAGE)
- 6A3A (U)REMARKS/ISSUES:
- 6A4 (U) **FIRE PROTECTION:** GREEN
- 6A4A (U)REMARKS/ISSUES:
- 6B (U) **PERSONNEL:** GREEN
(SHOW NUMBER PRESENT BY UNIT AND LOCATION)
(OFFICER NCO ENLISTED)
- 6B1 (U)MILITARY:
- 6B2 (U)CIVILIAN:
- 6B3 (U)CONTRACTOR:
- 6B4 (U)REMARKS/ISSUES:
- 6C (U) **EQUIPMENT:** GREEN
(LIST STATUS OF MAJOR END ITEMS TO INCLUDE BRIDGE PARK ASSETS BY TYPE, O/H, FMC, NMCS, NMCM, REASON)
- 6C1 (U)REMARKS/ISSUES:
- 6D (U) **CONSTRUCTION OPERATIONS:** GREEN
(LIST PROGRESS BY LOCATION)
- 6D1 (U) **TROOP:** GREEN
(PROJECT NAME, COST, % COMPLETE, EST START, EST END, REMARKS)
- 6D1A (U)SIGNIFICANT PROBLEMS/CONCERNS:
- 6D2 (U) **CONTRACT:** GREEN
(PROJECT NAME, COST, % COMPLETE, EST START, EST END, REMARKS)
- 6D2A (U)SIGNIFICANT PROBLEMS/CONCERNS:
- 6E (U)ENVIRONMENTAL / HAZ MATERIAL: GREEN
- 6E1 (U)REMARKS/ISSUES:
- 6F (U) **TOPOGRAPHICAL:** GREEN
- 6F1 (U)REMARKS/ISSUES:
- 7 (U) EUCOM ENGR ACTIONS REQUESTED:
- 8 (U)COMPONENT POC(S): (NAMES, RANKS AND PHONE NUMBERS)

APPENDIX VII**REPORTS****TAB C TURNOVER FILE OUTLINE**

1. Name/Rank/Position Title.
2. Position Description:
 - a. Location: Room/Building/Telephone #'s.
 - b. Responsibilities: An overview of the general responsibilities, which the individual performs.
3. Tasks, Projects, and Events: Specific projects directly related to functions performed or on going tasks/projects, which require continuation, follow up, or completion.
 - a. Projects/Tasks:
 - (1) Project Description: Short narrative of project history, objectives, milestones, and high points/low points.
 - (2) Meetings: Schedule of recurring/upcoming meetings, required follow up actions from last meeting, topics for next meeting, projected expectations for next meeting.
 - (3) Reports: Suspense dates, where to get information, who receives reports and a copy of last completed report.
 - (4) POCs: List all points of contact for information, project assistance, meetings, etc. to include telephone numbers/office symbols.
 - b. Recurring Events:
 - (1) Event description.
 - (2) Frequency of event (daily, weekly, etc.).
 - (3) Suspense times/dates.
 - (4) Documentation requirement (logged, recorded, reported, etc.).
 - (5) Points of contact (to include names and telephone numbers).

APPENDIX VII**REPORTS****TAB D INFORMATION MANAGEMENT**

1. Telephone Conversation Records. Telephone calls will be documented on Telephone or Verbal Conversation Record, DA Form 751. In most cases, this form will be used to record information pertaining to ongoing projects, issues, and actions. DA Form 751 will be placed in the read binder for information purposes prior to being filed in the appropriate subject file.

2. Distribution Plan. Distribution of correspondence and messages is critical to the communications flow internal and external to the JCES. General procedures for managing distribution will include, but are not limited to, the following:

a. JCE or an officer designated by the Engineer will review incoming communications and determine the action required.

b. Action and Information addresses will be annotated in the upper right hand corner of the document.

c. Copies will be made, distributed and placed in the appropriate file.

d. Distribution of correspondence, messages and telephone conversation records will be as follows:

(1) Incoming Action Original to Suspense File Cy: Action Officer/JCE/Read File.

(2) Incoming Info Original to Read File Cy: Subject File.

(3) Outgoing Pending Original to Suspense (until released) (Draft).

(4) Outgoing Final Original to Read File Cy: Subject File.

3. Files. The JCES will establish and maintain, as a minimum, the following files:

a. Read File. The Read File consists of all incoming correspondence, messages, phone conversations, SITREPs and other miscellaneous communications received during the previous 48 hours. Engineer staff members will review and initial the read file each day. Items from the previous 24 hours will be separated from the remainder of the file by a divider each day at 0600. Items received more than 48 hours previously will be removed from this file and placed in a chronology file.

b. Personal File. Each member of the staff will maintain a file, which will serve as an in-basket, and action file.

c. Subject Files. The JCES is responsible for planning and oversight of JTF engineering efforts. A flexible filing system covering operational projects and action items will be maintained. Files will be numerically indexed as follows:

<u>File Number</u>	<u>Subject</u>	<u>Description</u>
1.	File Index	Lists all files kept on record during the operation. As new issues or projects are identified, the subject will be entered into the file index.
2.	WINGRAMS	Contains sequenced messages received and transmitted through the JTF with action required by the JCES.
3.	Read Binder	Messages, incoming correspondence, phone conversations, etc.
4.	Suspense File	Contains original copy of all incoming communications requiring action by the Staff.
5.	ENG SITREP	Contains all transmitted Eng SITREPs and Agent Execution updates from the execution agents.
6.	Subject/Issue	Contains all information pertaining to a specific project. A file will be established for each project and identified in the Index File.
7.	Status	The Status/Briefing Book will provide all current information pertaining to the ongoing operation. Briefing Book: As a minimum, this book will contain an index, key telephone numbers, daily agenda, key activities lists, the current SITREP and briefing slides. Other information which may be included is funding authorization documents, operational policies, plans and schedules, current engineer unit status, Integrated Priority Lists and current status and Significant Open Command Interest Items.

APPENDIX VIII GLOSSARY

GENERAL For definitions and acronyms please refer to the following Internet sites:

- a. JP 1-02 The DOD Dictionary of Military and Associated Terms at http://www.nmcc.smil.mil/dj9j7ead/doctrine/jel/new_pubs/jp1_02.pdf.
- b. The General Dennis J. Reimer Training & Doctrine Digital Library at <http://www.adtdl.army.mil/atdls.htm>.
- c. The AF Acronym Finder at <http://www.acronymfinder.com>.

TAB A Definitions

TAB B Acronyms

APPENDIX VIII GLOSSARY**TAB A DEFINITIONS**

Aerodrome/airfield An area prepared for the accommodation (including any buildings, installations and equipment), landing and take-off of aircraft.

Airfield damage repair (ADR) The range of activities required to restore the operational capability of an airfield after non-nuclear attack, including:

- a. Reconnaissance to assess the damage and essential recuperative work.
- b. Explosive ordnance disposal.
- c. Restoration of minimum operating surfaces, including aircraft maneuvering areas and surfaces, including aircraft maneuvering areas and access tracks.
- d. Restoration of services and facilities essential for the conduct of air operations. Also known as "ADR."

Authorized commander In barrier operations, the commander of a formation or unit who is empowered to order the execution of an obstacle.

Barrier ammunition storage building An isolated secure building which is built specifically for pre-positioning barrier munitions. Also called "5-ton Bunker."

Barrier ammunition storage site A forward storage site designed to preposition barrier ammunition that is authorized by the unit's table of allowance.

Civil engineering support plan (CESP) An appendix to the Logistics annex or separate annex of an operation plan that identifies the minimum essential engineering services and construction requirements required to support the commitment of military forces.

Countermine operation Operation to reduce the delaying, destructive and channelizing effects of mines and minefields by detection, clearance and neutralization, in order to maintain freedom of maneuver and to continue operations of friendly forces.

Crossing site The location of a single bridge or rafting site, or in an initial assault, a site for the crossing of assault boats or for the swimming or fording of vehicles on a broad front.

Crossing site commander An officer in command of a crossing site, who is responsible for both the technical aspects of maintaining the crossing and the movement of troops and vehicles across it.

Dry gap bridge A bridge, fixed or portable, which is used to span a gap that does not normally contain water, e.g., antitank ditches, road craters, etc.

Engineer resources and terrain documentation Information on the terrain, engineer resources, installations and facilities that cannot be recognized on a standard map.

Harvest Eagle Provides facilities for base living and working or for supporting additional personnel at an existing installation. It does not provide many flight line support assets. Harvest

Eagle assets are intended for use in Europe or the Pacific, but may be deployed to any Theater if required. Assets may be deployed individually, or in one of three packages UTCs. 550-person Housekeeping Set (XFBR3), 550-person Utilities Package (XFFLU), and 550-person Cold Weather Set (XFBCW).

Harvest Falcon (XFBKA) A stand-alone bare base personnel support package. Contains tents, hardwall shelters, area lighting systems, basic water and electrical systems, latrines and showers, a kitchen facility, environmental control units, and other basic equipment. Additional packages are Industrial Operations Set (XFBRB), Initial Flight line Set (XFBS), and Follow-on Flight line Set (XFBS2).

Standard day of supply The total amount of supplies required for an average day based on Standing Group NATO rates and/or on national rates as appropriate.

Survivability Provides concealment and protective shelter from the effects of enemy weapons.

APPENDIX VIII GLOSSARYTAB B ACRONYMS

32E3X	Air Force Specialty Code for Civil Engineer Officers
ACC	Air Combat Command
ACE	Aviation Combat Element
ACE	Assistant Corps Engineer
ACE	Armored Combat Earthmover
ACEM	Area Construction Engineering Management
ADR	Airfield Damage Repair
AE	Army Europe
AEFL-CE	Air Expeditionary Force Logistics-Civil Engineering
AFB	Air Force Base
AFCESA	Air Force Civil Engineering Service Agency
AFEUR	Air Forces Europe
AFFOR	Air Force Forward
AFIT	Air Force Institute of Technology
AFRES	Air Force Reserve
AFS	Air Force Station
AFSC	Air Force Specialty Code
AGS	Aviation Ground Support
AMC	Army Material Command or Air Mobility Command
ANG	Air National Guard
AO	Area of Operations
AOR	Area of Responsibility
AOS	Air Operations Squadron
APOD	Aerial Port of Debarkation
ARC	Air Reserve Component
AREUR	Army Europe
ARFF	Aircraft Rescue Fire Fighting
ARFOR	Army Forward
ASCC	Army Service Component Commander
ASCII	American Standard Code for Information Interchange
ATL	Available to Load
AVLB	Armored Vehicle Launched Bridge
AWR-2	Army War Reserve- Site 2
BDT	Base Development Team
BOM	Bill of Material
BOS	Battlefield Operating Systems
BRAAT	Base Recovery After Attack
BRV	Base Recovery Vehicle
CADD	Computer Aided Drafting and Design
CATF	Commander Amphibious Task Force
CBU	Construction Battalion Unit
CCA	Contract Construction Agent
CECOS	Civil Engineer Corps Officers School
CEMIRT	Civil Engineering Maintenance, Inspection and Repair Team

CES	Civil Engineering Squadron
CESE	Civil Engineering Support Equipment
CESP	Civil Engineering Support Plan
CEXO	Office symbol, Civil Engineer Readiness Operations--
CH	Combat Heavy
CINC	Commander in Chief
CJCS	Chairman, Joint Chiefs of Staff
COBS	Co-located Operating Bases
COMMZ	Communications Zone
CONPLAN	Concept Plan
CONUS	Continental United States
COSCOM	Corps Support Command
CREST	Contingency Real Estate Response Team
CRU	Contingency Response Unit
DBP	Draw Bar Pull
DC	Dislocated Civilian
DCC	Disaster Control Center
DD	Diving Detachment
DMS	Defense Message System
DP	Disaster Preparedness
DSN	Defense Switched Network
EAC	Estimate at Completion
EBCH	Engineering Battalion Combat Heavy
EFA MED	Engineer Field Activity Mediterranean
ELST	Engineer Logistics Support Team
ENCOM	Engineer Command
ENG	Engineer
EOD	Explosive Ordnance Demolition
ERC	Exercise related construction
EUC	European Center, Corps of Engineers
F/E	Fly in Echelon
FAR	Federal Acquisition Regulation
FEST	Field Engineering Support Team
FEST-A	Forward Engineer Support Team-Augmentation
FEST-M	Forward Engineer Support Team-Main
FFE	Field Force Engineering
FFT	Fire Fighting Team
FMFM	Fleet Marine Force Manual
FMS	Force Module Subsystem
FOBs	Forward Operating Bases
FW	Fixed Wing
FY	Fiscal Year
GAU 5	Shortened version of M-16 rifle
GCCS	Global Command and Control System
GEOTECH	Geotechnical Engineering
GSU	Geographically Separated Units
H/CA	Humanitarian/Civic Action
HMMWV	High Mobility Multipurpose Wheeled Vehicle

HN	Host Nation
HT	Hatch Team
IAT	Infrastructure Assessment Team
IPL	Integrated Priority List
IPPL	Integrated Project Priority List
JCES	Joint Task Force Contingency Engineer Staff
JCS	Joint Chiefs of Staff
JEPES	Joint Engineer Planning and Execution System
JFAST	Joint Flow and Analysis System for Transportation
JFC	Joint Forces Commander
JLOTS	Joint Logistics Over The Shore
JOPEs	Joint Operations Planning and Execution System
JPOC	Joint Planning Orientation Course
JTF	Joint Task Force
KB	Kilobyte
LANTDIV	Atlantic Division, Naval Facilities Engineering Command
LDT	Lightweight Diving Team
LNO	Liaison Officer
LOC	Lines of Communication
LOGCAP	Logistics Civil Augmentation Program
LOTS	Logistics Over the Shore
LPD	Amphibious Transport Deck
LRC	Limited Regional Conflict
LST	Landing Ship Tank
M/CM/S	Mobility/Counter Mobility/Survivability
MACOM	Major Command
MAGTF	Marine Air Ground Task Force
MB	Megabyte
MCV	Munitions Clearance Vehicle
MEF	Marine Expeditionary Force
METT-T	Mission, Enemy, Terrain, Troops and Time Available
METT-TC	Mission, Enemy, Terrain, Time, Troops and Civilians
MGB	Medium Girder Bridge
MHE	Material Handling Equipment
MICLIC	Mine Clearing Line Charge
MILCON	Military Construction
MILGROUP	Military Group
MIPL	Master Integrated Priority List
MKT	Mobile Kitchen Trailer
MOB	Mobilization
MOBS	Main Operating Bases
MOPP	Mission Oriented Protective Posture
MPF	Maritime Preposition Force
MPFS	Maritime Preposition Force Shipping
MPS	Maritime Pre-positioned Ships
MRC	Major Regional Conflict
MSC	Mobile Subscriber Equipment
MSR	Main Supply Route

MT	Metric Ton
MTW	Major Theater War
MUSE	Mobile Utilities Support Unit
MWR	Morale, Welfare and Recreation
MWSG	Marine Wing Support Group
MWSS	Marine Wing Support Squadron
NAD	North Atlantic Division
NALMEB	Norway Air-Landed Marine Expeditionary Brigade
NAU	USACE Europe District
NAVEUR	Naval Forces Europe
NAVFAC	Naval Facilities Engineering Command
NAVFOR	Naval Forces
NBCC	Nuclear, Biological, Chemical and Conventional
NCR	Naval Construction Regiment
NMCB	Naval Mobile Construction Battalion
NWP	Naval War Plan
O and M	Operations and Maintenance
OCONUS	Outside of Continental United States
ODC	Office of Defense Cooperation
OJT	On the Job Training
OOTW	Operations Other than War
OPLAN	Operations Plan
OPNAVINST	Operation Navy Instruction
OPORD	Operation Order
PB	Prime Beef
PD	Planning and Design
PHIBCB	Amphibious Construction Battalion
PLT	Power Line Team
PMO	Project Management Office
POC	Point of Contact
POD	Port of Debarkation
POE	Projected Operating Environment
POE	Port of Embarkation
POL	Petroleum, Oils and Lubricants
POMCUS	Pre-positioning of Material Configured to Unit Sets
PPT	Power Plant Team
PREPRO	Preposition
PRIME BEEF	Prime Base Engineer Emergency Force
PWS	Potable Water System
R.E.	Real Estate
RCE	Regional Civil Engineer
RCEM	Regional Construction Engineering Management
RCO	Regional Contracting Office
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer
RH	Red Horse
RHF	Red Horse Flight
RHS	Red Horse Squadron

RO/RO	Roll on/Roll off
ROCs	Required Operational Capabilities
RORO	Roll On Roll Off
ROWPU	Reverse Osmosis Water Purification Unit
RRR	Rapid Runway Repair
RRT	Rapid Response Team
RSOI	Reception Staging Onward movement and Integration
RTL	Ready To Load
RW	Rotary Wing
SEC DEF	Secretary of Defense
SEE	Small Emplacement Excavator
SITREP	Situation Report
SOCEUR	Special Operations Command Europe
SOFA	Status of Forces Agreement
SOP	Standard Operating Procedures
SOW	Statement of Work
SPOD	Sea Port of Debarkation
ST	Short Ton
STANAG	Standard NATO Agreement
STD	Standard
STU	Secure Voice Telephone
TAC	Transatlantic Program Center
TAD	Temporary Additional Duty
TAM	Table Authorized Material
TCA	Troop Construction Asset
TCCMC	Theater Contingency Construction Management Cell
TCEM	Theater Construction Engineering Management
TCMS	Theater Construction Management System
TDY	Temporary duty
TE	Tele Engineering
TLC	Traffic Load Control
TLC	Theater Logistics Coordination
TLCC	Theater Logistics Coordination Center
TOA	Table of Allowance
TOPO	Topographical
TPFDD	Time Phased Force Deployment Data
TPFDL	Time Phased Force Deployment List
TSC	Theater Support Command
TSC	Theater Support Command
TUCHA	Type Unit Characteristics
TWCMC	Theater Wartime Construction Management Cell
UCT	Underwater Construction Team
UMC	Unspecified Minor Construction
USACE	United States of America Corps of Engineers
USACOM	United States Atlantic Command
USAFE	United States Air Forces in Europe
USAREUR	United States Army Europe
USC	United States Code

USCENTCOM	United States Central Command
USEUCOM	United States European Command
USMARFOREUR	United States Marine Forces Europe
USNAVEUR	United States Naval Forces Europe
USPACOM	United States Pacific Command
USSOUTHCOM	United States Southern Command
USTRANSCOM	United States Transportation Command
UTC	Unit Type Code
UXO	Unexploded ordinance
VSTOL	Vertical Short Take Off Landing
WDRT	Water Detection Response Team
WMP	War and Mobilization Plan