



Research Product 98-11

**Direct and Lead Units During Preparation
for the Battle (Battlefield Function 19)
as Accomplished by an Engineer
Battalion Supporting a Heavy Brigade
Volume 1: Function Analysis**

Robert A. Clagg and Martin S. Anderson
PRC, Inc.

Kathleen A. Quinkert
U.S. Army Research Institute

19980430 029

January 1998

Armored Forces Research Unit

U.S. Army Research Institute for the Behavioral and Social Sciences

Approved for public release; distribution is unlimited.

[DTIC QUALITY INSPECTED 3]

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Directorate of the U.S. Total Army Personnel Command

EDGAR M. JOHNSON
Director

Research accomplished under contract
for the Department of the Army

BDM Federal, Inc.

Technical review by

Dorothy L. Finley, ARI AFRU
May Throne, University of Louisville

NOTICES

FINAL DISPOSITION: This Research Product may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: This Research Product is not to be construed as an official Department of the Army position unless so designated by other documents.

DTIC QUALITY INSPECTED 3

REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy) 1998, January		2. REPORT TYPE Final		3. DATES COVERED (from... to) July 1995 - July 1997	
4. TITLE AND SUBTITLE Direct and Lead Units During Preparation for the Battle (Battlefield Function 19) as Accomplished by an Engineer Battalion Supporting a Heavy Brigade Volume 1: Function Analysis				5a. CONTRACT OR GRANT NUMBER MDA 903-92-D-0075	
				5b. PROGRAM ELEMENT NUMBER 0602785A	
6. AUTHOR(S) Robert A. Clagg (PRC), Martin S. Anderson (PRC), and Kathleen A. Quinkert (ARI)				5c. PROJECT NUMBER A791	
				5d. TASK NUMBER 2228	
				5e. WORK UNIT NUMBER R03	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) BDM Federal, Inc. PRC, Inc. US Army Research Institute for the 1801 Randolph Road, S.E. 1500 PRC Drive Behavioral and Social Sciences Albuquerque, NM 87106 McLean, VA 22102 ATTN: TAPC-ARI-IK 2423 Morande Street Fort Knox, KY 40121				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences ATTN: TAPC-ARI-IK 5001 Eisenhower Avenue Alexandria, VA 22333-5600				10. MONITOR ACRONYM ARI	
				11. MONITOR REPORT NUMBER Research Product 98-11	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES Kathleen A. Quinkert, Contracting Officer's Representative					
14. ABSTRACT (Maximum 200 words): The purpose of the overall research program was to document the synchronization required by command and control tasks performed within the armored brigade, to include combat support and combat service support units. The immediate application of the documentation was to support developers of staff training in two related projects: Battle Staff Training System and Staff Group Trainer. The documentation was also intended to assist with the planning and execution of collective training. The documentation approach was to apply function analysis (FA) techniques for battlefield functions (BFs) in the Command and Control battlefield operating system. Thirteen FAs were developed for the brigade headquarters and four supporting units: direct support field artillery battalion, engineer battalion, forward support battalion, and air defense artillery battery. The FAs were revised through a formative evaluation process that included internal review and successive external reviews by combat training centers, proponent agencies, and a review council representing potential users of the FAs. The final products include the FAs, a user's guide, and assessment packages for the BFs. This report provides the FA and user's guide for BF 19 as performed by the engineer battalion supporting a heavy brigade.					
15. SUBJECT TERMS Structured Training Staff Training Multiechelon Training Training Strategy Functions Analysis of Functions Command and Control					
16. REPORT Unclassified			17. ABSTRACT Unclassified		18. THIS PAGE Unclassified
19. LIMITATION OF ABSTRACT Unlimited			20. NUMBER OF PAGES 346		21. RESPONSIBLE PERSON (Name and Telephone Number) Kathleen A. Quinkert (502) 624-6928/3450

Research Product 98-11

**Direct and Lead Units During Preparation
for the Battle (Battlefield Function 19)
as Accomplished by an Engineer
Battalion Supporting a Heavy Brigade
Volume 1: Function Analysis**

Robert A. Clagg and Martin S. Anderson
PRC, Inc.

Kathleen A. Quinkert
U.S. Army Research Institute

Armored Forces Research Unit
Barbara A. Black, Chief

U.S. Army Research Institute for the Behavioral and Social Sciences
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

January 1998

Army Project Number
2Q26785A791

Education and Training Technology

Approved for public release; distribution is unlimited.

FOREWORD

One of the goals for the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is to facilitate the development of training strategies that will serve the needs of the combined arms team today and into the 21st century. The indispensable foundations, the cornerstones, for meeting this goal are solid information and data bases. One such base is a set of comprehensive descriptions of how soldiers accomplish their missions. Many task descriptions have been developed where the focus is on activities within a particular Battlefield Operating System (BOS); these are often further narrowed to one BOS element within one echelon. What have been lacking are function analyses along with task descriptions that have a broader BOS perspective; one which focuses not only on intra-BOS relationships, but also the relationships of that BOS with other BOSs in accomplishing the overall mission. It is this latter perspective which is needed, for example, to define training requirements and strategies for combined arms operations.

The function analysis described in this report is a product of one of three efforts conducted under the ARI project, "Innovative Tools and Techniques for Brigade and Below Staff Training (ITTBBST)." The work in this part of ITTBBST is the fifth in a series of ARI projects directed at analyzing the vertical and horizontal synchronization required by combined arms operations. All of the projects have analyzed functions, previously labeled "critical combat functions (CCFs)" and now labeled "battlefield functions (BFs)." The previous projects analyzed: all BFs performed by a heavy battalion task force; a sample of seven BFs performed by an armored brigade; and the integration of fire support BFs as performed by an armored brigade and at echelons higher than brigade. The research in this project analyzed BFs in the Command and Control BOS. Separate coordinated analyses of these BFs were performed for the armored brigade headquarters and four types of supporting units, one of which is the Engineer Battalion.

The analyses developed in the project have been used in the development of staff training in related projects within the ITTBBST program. In addition, U.S. Army Training and Doctrine Command (TRADOC) representatives have identified a variety of applications by TRADOC training and other developers as well as potentials for collective training management.

ZITA M. SIMUTIS
Technical Director

ACKNOWLEDGMENTS

This analysis has benefited from considerable dedicated effort on the part of many persons. The efforts of a few of these many persons are specifically and gratefully acknowledged here. An especially key person was MG (Ret) Lon E. Maggart, Commanding General of the U.S. Army Armor Center (USAARMC). Prior to and during the conduct of this effort, he contributed greatly to definition of training needs and concepts in support of Force XXI. He saw that battlefield functional analyses could provide a valuable foundation for Force XXI training development efforts; hence, MG (Ret) Maggart strongly backed these efforts.

COL G. Patrick Ritter and LTC Marvin K. Decker, acting in accordance and agreement with MG (Ret) Maggart's vision, vigorously pursued battlefield function analysis efforts and persevered in ensuring their application to Force XXI training developments. COL Ritter, Director of Directorate of Training Development and Doctrine (DTDD) at USAARMC, and LTC Decker, Chief of DTDD's Force XXI Training Program office, ensured implementation of necessary actions, and the participation of military subject matter experts and potential users of function analysis products as needed to assure quality outcomes.

Among many participants in performing the analyses themselves, and validating their integrity and validity, were members of the Directorate of Training at U.S. Army Engineer School (USAES), DTDD at USAARMC, and Operations Group at the National Training Center (NTC). Final recommendations and approval of these analyses were provided by proponents and users constituting the Force XXI Review Council. Members of the Review Council included: COL G. Patrick Ritter and LTC Marvin K. Decker, USAARMC; LTC James R. Harrison, U.S. Army Armor School (USAARMS); COL Philip Federle, USAES; LTC David M. Annen, U. S. Army Field Artillery School; LTC Larry Newman, U.S. Army Air Defense Artillery School; LTC Roger F. Murtie, National Training Center; LTC Gilbert Pearsall, Joint Readiness Training Center; COL Roger W. Jones, TRADOC Program Integration Office-Army Battle Command System; and COL Robert J. Fulcher, 29th Infantry Regiment.

The research for and preparation of this report benefited immeasurably from the assistance provided by members of the U.S. Army Research Institute. Specifically, the authors would like to acknowledge Ms. Dorothy Finley for serving as a peer reviewer for the product. She offered constructive comments that have improved both the content and style of the report. Also, special recognition is given to Ms. May Throne, a Consortium Research Fellow from the University of Louisville assigned to Fort Knox, and Ms. Lori Cracknell. Their never ending efforts to assist in the formal production of this report will not soon be forgotten.

Finally, a large debt of gratitude is owed to BG (Ret) Bill Mullen for guidance and support on this product. He provided the program management that ensured this product is well "synched" with past products as well as the Army of the future. His continual attention to details have provided the Army with a truly unique document.

CONTENTS (Continued)

Page

LIST OF FIGURES

Figure 1. Depiction of a task contributing to the accomplishment of another task.....	2-1
2. Depiction of the relationship between tasks and subtasks	2-2
3. Depiction of placement of the box reflecting information input and output	2-2
D-1. Assessment worksheet for heavy brigade performance of BF 18.....	D-7
D-2. Overview of tasks by outcomes for BF 18 FA.....	D-9
D-3. Example of supporting tasks extracted from the Task List of BF 18 FA.....	D-10
D-4. Excerpt from References component of BF 18 FA	D-10
D-5. Excerpt from Lessons Learned Integrated into the Task List component of BF 18 FA	D-11
D-6. Excerpt from Key Participants by Task component of BF 18	D-11
D-7. Excerpt from Key Inputs and Outputs component of BF 18 FA	D-13
D-8. Excerpt from Gate Tasks component of BF 18 FA.....	D-14
D-9. Extract from CATS for battalion task force	D-15

OVERVIEW

The results of the Army Research Institute's (ARI) examination of battlefield functions (BFs) relevant to a heavy (armored or mechanized infantry) brigade combat team's combined arms operations are in two volumes. Volume 1, Function Analysis, identifies and describes various components necessary to accomplish the function. The components were selected based on their relevance to a unit trainer's interests. Volume 2, Assessment Package, is an assessment aid. It describes performance measures based on the purpose, outcomes, and tasks supporting the outcomes identified in the Function Analysis (Volume 1).

This overview provides the user with necessary and relevant information concerning the development of BF 19, Direct and Lead Units in the Preparation for Battle, as performed by an engineer battalion of the engineer brigade in a heavy division. Participants and organizational structure identified in this analysis are based on table of organization and equipment (TO&E) 05336L000, dated 10 March, 1996. Additionally, special staff officer functions required to be performed in accordance with FM 5-71-3, dated 3 October, 1995, are included.

This function analysis (FA), Direct and Lead Units During Preparation for the Battle (BF 19), is a product of the process of developing a training strategy for the engineer battalion of the engineer brigade in a heavy division. It is the second of three BFs which compose the command and control (C2) battlefield operating system (BOS). This analysis reflects all the tasks, participants, products and processes required by the battalion to achieve the outcomes necessary for the engineer battalion commander to direct and lead his battalion during the preparation phase for battle.

A battlefield function is defined as processes or activities occurring over time that must be performed to accomplish a mission(s) or supporting critical tasks. It provides task integration, combined arms interaction, and inter- BOSs linkages.¹

Synchronization of BFs provides commanders at tactical echelons with a definable outcome that materially affects the battle. Without this synchronization it is doubtful that a commander's concept and intent will be achieved.

The analysis identifies the critical tasks and subtasks undertaken by the engineer battalion commander, his staff, and the engineer battalion subordinate/supporting commanders. It reflects the continuation of the activities undertaken in performing BF 18. For the purpose of the analysis, the function is depicted as beginning with the completion of the issuance of the battalion operations order (OPORD) and ending at the beginning of actual execution of the mission by the battalion. This analysis assumes the engineer battalion retains control of some of its engineer companies and, depending on mission requirements, a mix of division and corps engineer assets and other units.

¹ The term "Battlefield Function (BF)" was designated by the U.S. Army Training and Doctrine Command (TRADOC) in September 1996 to replace "Critical Combat Function (CCF)". At the same time, the term was redefined. TRADOC also renamed "task analysis" (TA) to "function analysis" (FA).

The function of directing and leading the battalion during the preparation phase of the mission is a responsibility of the battalion commander, his staff, and his subordinate commanders. This analysis outlines these tasks and subtasks. The focus is on the engineer battalion commander.

The military decision-making process (MDMP) reflected in this BF describes the actions the engineer battalion commander performs based on his knowledge of his unit's state of preparation, its ability to complete all preparation requirements in accordance with established timelines, and changes to the plan resulting from changes to the maneuver brigade's concept of the operation, new guidance and directions from the maneuver brigade commander, and the engineer battalion commander's identification of new or future requirements. He processes and appraises the information received through his command, control, and communications system, and/or by directly viewing the engineer battalion as it prepares for the mission.

The engineer battalion commander's visualization of the state of the battalion's preparation is largely a process of synthesizing what he sees and what others see and report to him about the battalion and what is reported about the enemy, the terrain, the weather, and so forth. He will never have all the facts. His understanding of what is happening and the implications thereof comes from what he knows and does not know. His judgment on the preparedness of the battalion and actions he must take to change or sustain preparation tasks is based on the significance he attributes to information he receives and the conclusions he draws from it. The engineer battalion commander receives guidance and recommendations from the supported brigade commander and his staff. He also receives guidance and information from the parent engineer brigade commander and his staff.

The engineer battalion commander leads the battalion through his personal presence. The commander "monitors, plans, directs" (MPD) to ensure the battalion can achieve the desired endstate and intent. The process of MPD is continuous and occurs in seconds or hours depending on time available, tempo of preparation, the decisions made, and the impact on subordinate units. The engineer battalion commander, staff, and subordinate leaders set the conditions for the commander's concept and implementing details to be prepared and rehearsed prior to execution. The plan is continually analyzed based on changes to mission, enemy, terrain, troops, and time available (METT-T) and information and guidance from higher headquarters to determine if the plan is still correct. The commander provides information to and reviews information from higher, adjacent, and subordinate units; assesses information changes; and appraises his plans and operations in light of changes to the situation.

The planning phase described in engineer battalion BF 18, Plan for Combat Operations, resulted in an OPORD that articulated the engineer battalion commander's concept and implementing details. The preparation phase is used to set the conditions for the concept to be executed. The commander and his staff continually monitor the utility of the concept through the use of "running" estimates and satisfaction of the commander's critical information requirements (CCIR). Information collected by the staff can be divided into two categories: information which directly contributes to the CCIR and information which is required by staff officers or subordinate commanders so that they can accomplish their responsibilities. The engineer battalion

commander's concept and the engineer battalion OPORD may require refinement based on changes to METT-T, new guidance from the supported maneuver brigade commander, and failure to establish conditions or endstates required for the plan to work.

The engineer battalion commander assesses information and updates his "running estimate" to determine the impact of new information on the concept and plan. Upon completion of his analysis, the commander comes to a decision that leaves the plan as it is, refines it, or makes radical changes to it. Decisions to leave the plan as it is require no additional measures. Decisions to refine the plan and concept must be implemented through the issuance of fragmentary orders (FRAGOs). In the event that the plan and concept must be drastically altered in order to achieve the desired endstate and intent, the commander uses the MDMP to develop new plans. Depending on how much time is available to the engineer battalion, the commander may have to modify the process. At the time of this writing, the Army's doctrine and techniques for planning and decision-making were under review. The analysis reflects current and emerging Army doctrine about the decision-making process. The decision-making processes outlined in the 1995 publication of field manual (FM) 5-71-3, the 1994 publication of student text (ST) 101-5, and the 1993 publication of FM 101-5 (Draft), Command and Control for Commanders and Staff, are the bases of the processes described in the function analyses of Engineer Battalion BF 18, 19, and 20. At the time of writing this analysis (August - December 1996), the Command and General Staff College, proponent for FM 101-5, Command and Control for Commanders and Staff, is in the process of rewriting the draft manual. This function analysis recognizes the decision by the Commanding General, Combined Arms Center, that there is only one MDMP and that commanders in the field will have to modify the single process based on situation constraints. The authors coordinated continuously with the Command and General Staff College to ensure that the doctrine reflected in this analysis is accurate and current. However, information reflected in the recently published FM 101-5 (31 May 1997) will most likely require minor modification of this analysis. The currency of this analysis will also be affected by changes to unit capabilities such as the additional technology (e.g., information systems), now in different stages of fielding.

This analysis also reflects current and emerging Army doctrine based on FM 71-3, The Armored and Mechanized Infantry Brigade, January 1996, and its portrayal of the decision-making process.

Whatever his decision, the engineer battalion commander must ensure that it is implemented. He achieves this through the efforts of his subordinate commanders and his staff, as well as through his own supervision. He directs the battalion through rehearsals, guidance, and refinements to plans and orders, using his experience, knowledge, judgment, and intuition to verify that his intent is understood and that all preparations support achieving his intent.

The engineer battalion staff supports the battalion commander in collecting information, assessing and evaluating the impact of new information, and providing recommendations to the commander. The commander uses his staff to coordinate and supervises execution of his decisions. The engineer battalion executive officer, as the director of the battalion staff, initiates meetings as

required in order to ensure that information is shared throughout the staff and to identify gaps in information and coordination which require additional staff work.

An effort was made to identify specific task titles taken directly from the appropriate Army Training and Evaluation Program - Mission Training Plan (ARTEP-MTP). The wording of each task in this analysis is sometimes a direct quote from the MTP. Generally, the wording of the tasks is an integration of tasks and requirements derived from ARTEP-MTPs, applicable FMs, and other related documents. Those tasks not taken from the ARTEP-MTPs are: a) derived titles that may apply only to a part of an ARTEP-MTP sub-task or some other element of the ARTEP-MTP; b) multiple sub-tasks from several different, but related tasks; c) tasks that are not directly stated in the ARTEP-MTP, but are implied by other tasks or requirements in an applicable FM or other related document; d) tasks derived from Center for Army Lessons Learned publications; e) tasks developed during coordination visits with TRADOC proponent schools, U.S. Army Forces Command (FORSCOM) units, and the Combat Training Centers; or f) performance requirements considered necessary based on experience of the analyst. There was close coordination between the author and the Engineer School about the FA, especially the Task List. It is anticipated that when ARTEP-5-335-MTP, now in draft (May 97) is published, minor refinements to the FA will be required.

PURPOSE AND OUTCOMES

This component identifies what the battlefield function (BF) is supposed to accomplish overall, which we term as the purpose. This component also identifies the endstates or bottom line results necessary to achieve the purpose, which we term outcomes. As a consequence, this component of the analysis defines the endstates that performance of the tasks will accomplish.

PURPOSE

To provide command, leadership, and control of the engineer battalion during the preparation phase to set the conditions to accomplish the engineer mission within the engineer and the maneuver brigade commander's intent.

OUTCOMES

1. Engineer (Engr) battalion (Bn) command posts (CPs) maintain continuous communications with higher, adjacent, and subordinate headquarters.
2. The Bn commander (Cdr), staff, and other key individuals within the Engr Bn receive, evaluate, and process timely and accurate information on the adherence to timelines and quality of battle preparation.
3. Tactically sound recommendations are developed and critical information is communicated by the Bn staff and subordinate leaders.
4. Sound (feasible, suitable, acceptable) decisions are made by the Engr Bn Cdr and others within the Engr Bn.
5. Affected units and personnel receive relevant direction, changes, and refinements to plans in time to perform troop leading procedures and required preparation.
6. Subordinate leaders demonstrate an understanding of the critical elements of their own mission and mission essential tasks, the Engr Bn mission, and the Bn Cdr's intent.

Purpose and Outcomes for Engr Bn BF 19

7. Soldiers and units are disciplined and are motivated to accomplish the mission.

FLOW CHARTS

This component provides a graphical/pictorial description of BF tasks as they are sequenced within the framework of tactical battle phases (e.g., planning, preparation, execution). The purposes of this component are: to describe the flow of tasks during each battle phase; to describe vertical task linkages (to higher and lower echelon units) and horizontal task linkages (to other BF tasks for the echelon being analyzed); and to depict information input and output which affect each task. Although the sequencing of tasks throughout each battle phase is intended to reflect the flow of tasks, tasks may be performed concurrently or may overlap with preceding or subsequent tasks.

Each echelon is described by the echelon on the left of the flow chart; a horizontal line depicts the flow of tasks by sequence, reading left to right. The horizontal line for the echelon being analyzed is thicker than all other echelon horizontal lines.

Tasks from the BF task list are applied to the echelon line in the sequence in which they occur. The tasks are depicted in a task box. Inside and to the upper left of each task box is placed the task number of the appropriate task as listed in the task list.

The linkages of tasks, both vertically and horizontally, are depicted with lines. Arrowheads are placed on lines to depict linkages or interaction with other tasks. The linkage or interaction between these tasks is detailed in the task list.

Figure 1 illustrates the battalion (Bn) or battalion task force (Bn TF) task contributing to or otherwise supporting the brigade (Bde) task.

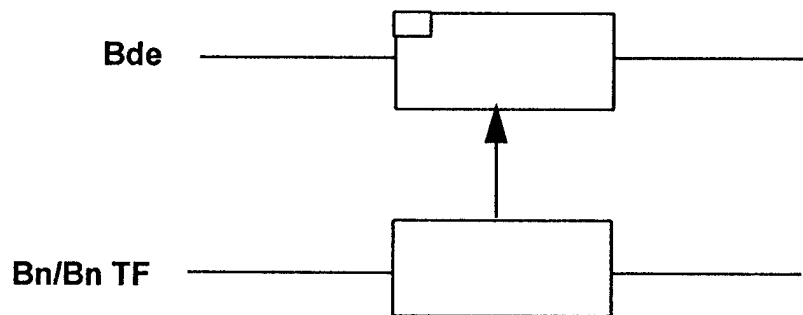


Figure 1. Depiction of a task contributing to the accomplishment of another task.

Lines with no arrowheads reflect a task and its subordinate (sub)tasks. Figure 2 illustrates this association.

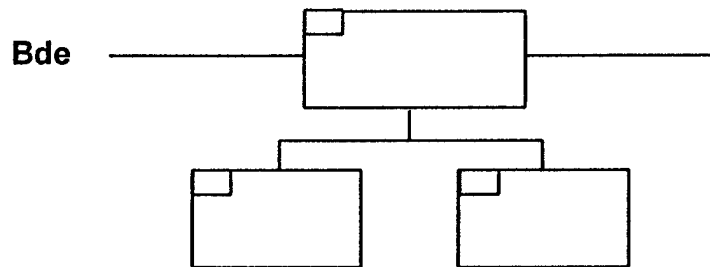


Figure 2. Depiction of the relationship between tasks and subtasks.

Inputs and/or outputs, as contained in the “Key Inputs and Outputs” component (section 5) of this BF function analysis (FA), are also reflected on the flow charts. The relevant input and/or output letter listed in the “Key Inputs and Outputs” component is listed in a box on the outside upper right of the task. Relevant information input for each task is depicted to demonstrate information which is required to perform the task; output information is that which is produced as a result of performing the task. Figure 3 illustrates how information input and output are depicted.

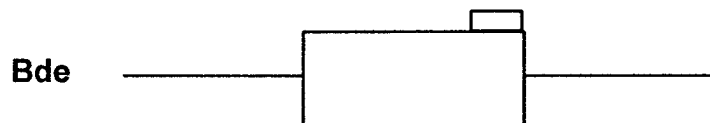
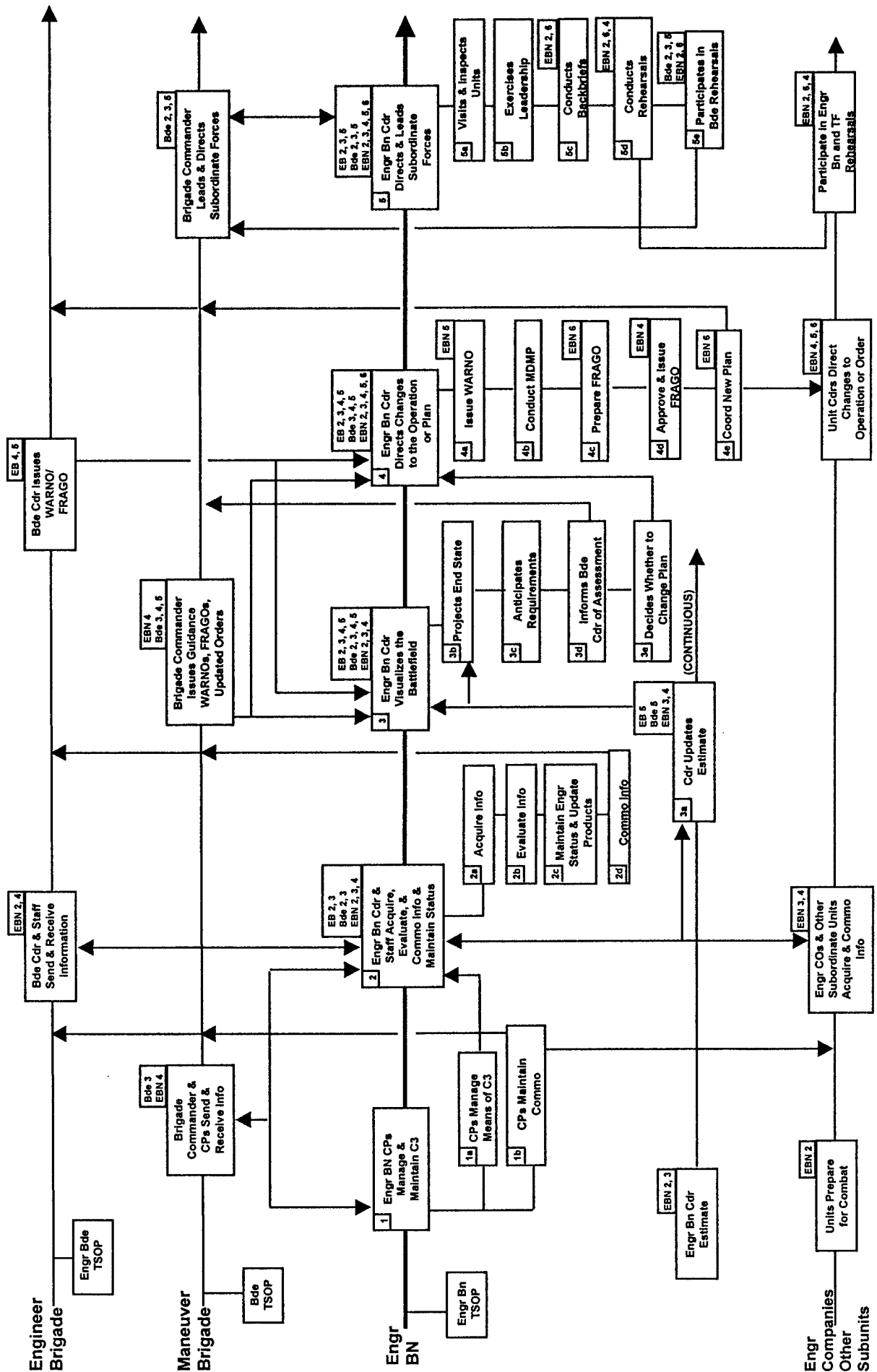


Figure 3. Depiction of placement of the box reflecting information input and output.

Task Flow Prepare



TASK LINKAGES TO OTHER BF's/UNITS

This component links the tasks performed as a part of this function with the tasks performed in other BF's or by other units. The purpose of this component is to allow the trainer or training developer to incorporate related tasks and participants into a training exercise for this BF. Tasks which link to this analysis have been extrapolated for BF's/type units for which function analyses (FAs) have not been accomplished. For tasks extracted from published BF FAs, the task numbers are provided.

TASKS

LINKS TO OTHER BF's/UNITS

1. Engineer battalion command posts manage and maintain command, control, and communications.	Brigade (Bde) BF 19. - The Bde CPs position to maintain command, control, and communications (C3).
2. The engineer battalion commander and staff acquire, evaluate, and communicate information and maintain status.	Bde BF 4. - The Bde S2 disseminates information and intelligence. Bde BF 21. - The Bde conducts reconnaissance. - The Bde staff disseminates information and coordinates actions for overcoming obstacles.
3. The engineer battalion commander visualizes the battlefield.	Engr Bde BF 19. - The engineer Bde issues warning orders (WARNOs). Bde BF 19. - The Bde staff issues WARNOs.
4. The engineer battalion commander directs changes to the operation or plan.	Engr Bde BF 19. - The engineer Bde issues fragmentary orders (FRAGOs). Bde BF 19. - The Bde staff issues FRAGOs. - The Bde conducts FRAGO briefing.
5. The engineer battalion commander directs and leads subordinate forces.	Bde BF 19. - The Bde Cdr directs and leads subordinate forces.

Task Linkages for Engr Bn BF 19

Bde BF 21.

- The Bde conducts combined arms rehearsals to overcome obstacles as part of its maneuver rehearsal.

Bn Task Force (TF) BF 19, Task 5.

- The Bn TF conducts rehearsals.

KEY PARTICIPANTS BY TASK

This component identifies the training audience for training events for the related tasks. It is based on the appropriate echelon/type unit table of organization and equipment (TO&E) and includes special staff (as per appropriate doctrinal reference) critical for the task accomplishment. The purpose of this component is to help commanders and trainers to identify the training audience required for a training event.

TASKS

PARTICIPANTS

1. Engineer battalion command posts manage and maintain command, control, and communications.	Engr Bn Cdr, Engr Bn executive officer (XO), Engr Bn command sergeant major (CSM), Engr Bn intelligence officer (S2), assistant brigade engineer (ABE), Engr Bn S3, Engr Bn operations and training officer (S3) section, Engr Bn signal officer (SO), Engr Bn communications (commo) section, Engr Bn adjutant/personnel officer (S1), Engr Bn S1 section, Engr Bn supply/logistics officer (S4), Engr Bn S4 section, Engr Bn maintenance technician (BMT), Engr Bn headquarters and headquarters company (HHC) Cdr, Engr company (Co) Cdrs, subordinate unit Cdrs, liaison officers (LNOs).
2. The engineer battalion commander and staff acquire, evaluate, and communicate information and maintain status.	Engr Bn Cdr, Engr Bn XO, Engr Bn CSM, Engr Bn S2, ABE, Engr Bn S3, Engr Bn S3 section, Engr Bn SO, Engr Bn commo section, Engr Bn S1, Engr Bn S1 section, Engr Bn S4, Engr Bn S4 section, Engr BMT, Engr Bn medical section leader, Engr Bn HHC Cdr, Engr Co Cdrs, subordinate unit Cdrs.
3. The engineer battalion commander visualizes the battlefield.	Engr Bn Cdr, Engr Bn XO, Engr Bn CSM, Engr Bn S2, ABE, Engr Bn S3, Engr Bn chemical officer (CMLO), Engr Bn SO, Engr Bn S1, Engr Bn S4, Engr Bn BMO.
4. The engineer battalion commander directs changes to the operation or plan.	Engr Bn Cdr, Engr Bn XO, Engr Bn CSM, Engr Bn S2, ABE, Engr Bn S3, Engr Bn S3 section, Engr Bn SO, Engr Bn commo section, Engr Bn S1, Engr Bn S1 section, Engr Bn S4, Engr Bn S4 section, Engr Bn

BMT, Engr Bn medical section leader, Engr Bn HHC Cdr, Engr Co Cdrs, subordinate unit Cdrs.

5. **The engineer battalion commander directs and leads subordinate forces.**

Engr Bn Cdr, Engr Bn XO, Engr Bn CSM, Engr Bn S2, Engr Bn S3, Engr Bn S3 section, Engr Bn SO, Engr Bn commo section, Engr Bn S1, Engr Bn S1 section, Engr Bn S4, Engr Bn S4 section, Engr Bn BMT, Engr Bn medical section leader, Engr Bn HHC Cdr, Engr Co Cdrs, subordinate unit Cdrs, Bde ABE section.

KEY INPUTS AND OUTPUTS

This component identifies critical input information required by participants to successfully accomplish the BF. Where information results from the performance of the BF tasks, BF information output will be identified. One BF's information output normally is provided as another BF's input. Critical input and output information is organized by the specific part of the doctrinal product or the means used to communicate the information. The orders' content reflected below is based on information obtained during the revision of the 1993 draft of FM 101-5. The orders outlines have been expanded to facilitate development of material to support unit training. The source of critical information identified is specific only to the BF echelon and function being analyzed, and is not intended to reflect all the information the product may contain. The purpose of this component is to identify information required to drive a training exercise for this BF as performed by this echelon.

KEY INPUTS

EB - 1 ENGINEER BRIGADE TSOP

- a. Command and control (C2) procedures.
 - 1) Command group and CP composition.
 - 2) Integration of engineer units from echelons above division.
 - 3) Orders development.
 - 4) Engineer estimate development.
 - 5) Engineer battlefield assessment (EBA) development.
- b. Intelligence procedures.
 - 1) Engineer intelligence.
 - 2) Enemy prisoners of war (EPWs) and captured material.
 - 3) Reconnaissance and surveillance (R&S) requests and missions.
 - 4) Targeting development.
 - 5) Tracking of enemy units.
- c. Operations procedures.

- 1) Mobility operations.
 - 2) Fire support.
 - 3) Army aviation.
 - 4) Obstacle operations.
 - 5) Mine warfare.
 - 6) Reserve targets.
 - 7) Obstacle numbering system.
 - 8) Breaching operations.
 - 9) River crossings.
 - 10) Nuclear, biological, chemical (NBC) operations.
 - 11) Decontamination operations.
 - 12) Standard engineer planning factors.
 - 13) Standard engineer packages.
 - 14) Smoke operations.
 - 15) Attachments and detachments.
 - 16) Standard briefings.
- d. Signal procedures.
- 1) Communications security.
 - 2) Engineer CP communications.
 - 3) Radio operations.
 - 4) Standard call signs.
- e. Logistics procedures.

- 1) Supply.
 - 2) Services.
 - 3) Transportation.
 - 4) Area damage control (ADC) operations.
 - 5) Maintenance.
 - 6) Personnel and administration.
 - 7) Reorganization.
- f. Reports.
- g. Safety and risk assessment procedures.

**EB - 2 GUIDANCE AND INFORMATION FROM THE ENGINEER BRIGADE
COMMANDER AND STAFF**

- a. Commander's situation reports (SITREP).
- b. Intelligence reports.
- c. Operations reports.
- d. Logistics reports.
- e. Personnel reports.

EB - 3 ENGINEER BRIGADE OPORD

- a. HEADING
 - 1) References. (Maps, charts, DATUM, and other related documents needed to understand the order.)
 - 2) Task organization:
 - a) All engineer unit headquarters under division control.
 - b) All organic engineer unit headquarters (if initial OPORD).

b. SITUATION

1) Enemy forces.

- a) Terrain and weather.
- b) Description of the enemy facing the division.
- c) Enemy most probable course of action (COA).
- d) Enemy engineer activities, capabilities, and COA that affect division-level engineer operations.

2) Friendly forces.

- a) Corps mission.
- b) Corps commander's intent.
- c) Corps concept of operation.
- d) Division mission.
- e) Division commander's intent.
- f) Division concept of operation.
- g) Missions of adjacent divisions and engineer units that impact on division missions.

3) Attachments and detachments.

c. MISSION

d. EXECUTION

Intent of the engineer brigade commander.

1) Scheme of engineer operations.

- a) Mission essential engineer missions in rear operations.
- b) Mission essential division level missions in close operations.

- c) Division engineer main effort by phase of operation.
 - (1) Obstacles.
 - (2) Survivability construction.
 - (3) Mobility operations.
- 2) Tasks to subordinate units.
- 3) Coordinating instructions.
 - a) Time or condition when the engineer brigade OPORD becomes effective.
 - b) Commander's critical information requirements (CCIR).
 - (1) Priority intelligence requirements (PIR) (if not addressed in Annex B [Intelligence]).
 - (2) Essential elements of friendly information (EEFI) (if not addressed in Annex B [Intelligence]).
 - (3) Friendly forces information requirements (FFIR) (if not addressed in Annex B [Intelligence]).
 - c) Risk reduction control measures.
 - (1) Antiterrorist actions.
 - (2) Mission-oriented protective posture (MOPP).
 - (3) Operational exposure guidance (OEG).
 - (4) Vehicle recognition signals.
 - (5) Fratricide prevention measures.
 - d) Rules of Engagement (ROE).
 - e) Environmental considerations.
 - f) Any other coordinating instructions or additional instructions.

e. SERVICE SUPPORT

- 1) Support concept.
- 2) Material and services.
 - a) Supply.
 - (1) Allocation and controlled supply rates (CSRs) for each unit.
 - (2) Basic loads.
 - (3) Mission logistics arrangements.
 - b) Transportation.
 - (1) Main supply routes (MSRs).
 - (2) Allocations of division and corps transportation assets.
- 3) Medical evacuation (MEDEVAC) and hospitalization.
- 4) Personnel.
- 5) Civil-military cooperation. Host Nation support (HNS).
- 6) Miscellaneous.

f. COMMAND AND SIGNAL

- 1) Command.
 - a) Map coordinates for engineer brigade CP locations.
 - b) Chain of command if different from engineer brigade standing operating procedures (SOP).
- 2) Signal.
 - a) Signal instructions.

- b) Identify current signal operating instructions (SOI).
 - c) Required engineer brigade reports, formats, and times due.
- g. ACKNOWLEDGE
- h. ANNEXES:
 - 1) A-Engineer Execution Matrix.
 - 2) B-Intelligence Annex.
 - 3) C-Combat Service Support (CSS) Annex.
 - 4) D-Movement Annex.
- i. OVERLAYS:
 - 1) Situation template (SIT TEMP).
 - 2) Engineer operations overlay.
 - 3) Division CSS overlay.
 - 4) Division obstacle overlay.
 - 5) Other operations (e.g., large scale breach, river crossing).
- j. DISTRIBUTION

EB - 4 ENGINEER BRIGADE WARNO

- a. HEADING
 - 1) References. (Maps, charts, and other relevant documents.)
 - 2) Time zone used throughout the order.
 - 3) Task organization.
- b. SITUATION
 - 1) Enemy forces. (Include significant changes of information.)

- 2) Friendly forces.
 - a) Division mission.
 - b) Division commander's intent.
 - c) Division concept of operation.
 - d) Missions of units to the immediate left and right of the division.
 - e) Missions of other units with a significant bearing on the engineer brigade.
 - 3) Attachments and detachments.
- c. MISSION of the engineer brigade
- d. EXECUTION
- Intent of the engineer brigade commander (if available).
- 1) Concept of engineer operation (when available).
 - 2) Tasks to subordinate units (when available).
 - a) Tasks to units for execution.
 - b) Movement to be initiated (time).
 - c) Reconnaissance to be initiated (time).
 - d) Security to be in place (time).
 - 3) Coordinating instructions.
 - a) CCIR.
 - b) Risk guidance.
 - c) Timeline.
 - d) Guidance on orders and rehearsals as applicable.

- e) Orders group meeting (attendees, location, and time) (when applicable).
 - f) Earliest time of movement and amount of notice.
 - g) Attachments and detachments.
- e. SERVICE SUPPORT
- 1) Special equipment. (Identification of requirements and coordinating instruction for transfer to using units.)
 - 2) Transportation. (Identification of requirements and coordinating instructions for pre-positioning of assets.)
 - 3) Arrangements for Class IV/V push packages.
- f. COMMAND AND SIGNAL
- 1) Command. (Chain of command if different from engineer brigade SOP.)
 - 2) Signal. (Identification of current SOI and prepositioning of assets to support the operation.)
- g. ACKNOWLEDGE (Statement directing acknowledgment of receipt and understanding.)

EB - 5 ENGINEER BRIGADE FRAGO

- a. HEADING
- b. SITUATION
 - 1) Enemy forces.
 - a) Description of the enemy forces facing the division.
 - b) Enemy engineer activities and capabilities.
 - c) Enemy most probable COA.
 - d) Enemy activities, capabilities, and COA that affect division level engineer operations.

- 2) Friendly forces.
 - a) Corps mission.
 - b) Corps commander's intent.
 - c) Corps concept of operation.
 - d) Division mission.
 - e) Division commander's intent.
 - f) Division concept of operation.
 - g) Missions of divisions to the immediate left and right of the division.
 - h) Corps level engineer plans and operations as they affect division level engineer operations.
- 3) Attachments and detachments.

c. MISSION

d. EXECUTION

Intent of the engineer brigade commander.

- 1) Scheme of engineer operations.
 - a) Mission essential engineer tasks (rear and close operations).
 - b) Main engineer effort by phase of operation.
 - (1) Obstacles.
 - (2) Survivability construction.
 - (3) Mobility operations.
- 2) Tasks to subordinate units.
- 3) Coordinating instructions.

- a) Time or condition when the engineer brigade fragmentary order (FRAGO) becomes effective.
 - b) CCIR - Changes from existing engineer brigade order.
 - (1) Priority intelligence requirements (PIR) (if not addressed in changes to Annex B [Intelligence]).
 - (2) EEFI (if not addressed in changes to Annex B [Intelligence]).
 - (3) FFIR (if not addressed in changes to Annex B [Intelligence]).
 - c) Risk reduction control measures that have changed.
 - d) ROE changes.
 - e) Changes to environmental considerations.
 - f) Any other coordinating instructions that changed from the existing engineer brigade order or additional instructions.
- e. SERVICE SUPPORT
- 1) Support concept.
 - a) Logistic concept for units under engineer brigade control.
 - b) Subordinate unit supply support.
 - (1) How. (Area support, unit support, supply point distribution, unit distribution.)
 - (2) Where. (Corps storage areas, division support areas [DSAs], brigade support areas [BSAs].)
 - (3) What. (Manning, arming, fueling, fixing, and moving.)
 - c) Locations of key CSS nodes referencing division CSS graphics.

- 2) Material and services.
 - a) Allocations and CSRs for each class of supply for each unit.
 - b) Basic loads.
 - c) Mission logistic arrangements.
 - d) Allocation of corps and division transportation assets.
 - e) Main supply routes (MSRs).
- 3) MEDEVAC and hospitalization.
- 4) Personnel.
- 5) Civil-military cooperation.
- 6) Miscellaneous.
- f. COMMAND AND SIGNAL
 - 1) Command.
 - a) Map coordinates for engineer brigade CP locations.
 - b) Chain of command if different from engineer brigade SOP.
 - 2) Signal.
 - a) Signal instructions.
 - b) Identify current SOI.
 - c) Required engineer brigade reports, formats, and times due.
- g. ACKNOWLEDGE
- h. ANNEXES
- i. DISTRIBUTION

Bde - 1 BRIGADE TACTICAL STANDING OPERATING PROCEDURES (TSOP)

- a. Battle command procedures.
 - 1) Succession of command.
 - 2) Alternate CPs.
 - 3) Displacement of CPs.
 - 4) CP security.
 - 5) Orders and plans.
 - 6) CP organization/layout/shifts.
 - 7) CP communications.
 - 8) Reports.
- b. Control procedures.
 - 1) LNO procedures.
 - 2) Brevity codes.
 - 3) Terrain index reference system.
 - 4) Recognition techniques.
 - 5) Signals.
 - 6) Alarms and warnings.
 - 7) Readiness conditions.
 - 8) Fixed call signs.
- c. Tactical movement procedures.
- d. Assembly area occupation procedures.
- e. Other tactical operations procedures.
 - 1) Link-up operations.

- 2) Relief-in-place.
- 3) Passage of lines.
- 4) River crossing.
- f. Air defense procedures.
 - 1) Air defense warnings (ADWs).
 - 2) Local air defense warnings (LADWs).
 - 3) Weapons control status (WCS) and guidance.
 - 4) Hostile aircraft criteria.
 - 5) ROE.
- g. Army airspace command and control (A2C2) procedures.
- h. Signal procedures.
- i. Intelligence and security procedures.
 - 1) General guidance.
 - 2) Named area of interest (NAI) and targeted area of interest (TAI) designation procedures.
 - 3) Document security.
 - 4) Personnel security.
 - 5) EPW procedures.
 - 6) Captured document and equipment procedures.
- j. NBC procedures.
 - 1) MOPP guidance.
 - 2) Required NBC teams.

- 3) Alarms and warnings.
- 4) Reporting and marking procedures.
- k. Engineer procedures.
 - 1) Priorities for support.
 - 2) Countermobility procedures.
 - 3) Scatterable mines (SCATMINES).
 - 4) Mobility operations.
 - 5) Standard obstacles.
- l. Fire support procedures.
 - 1) Target numbering.
 - 2) Laser code assignments.
- m. Army aviation procedures.
 - 1) Priorities.
 - 2) Supported unit responsibilities.
 - 3) Landing zone selection/preparation.
- n. Procedures for attachments/detachments.
- o. Logistics procedures.
 - 1) Reports.
 - 2) Reorganization/reconstitution.
 - 3) Supply.
 - 4) Services.
 - 5) Transportation.

- 6) Refueling on the move (ROM).
- p. Personnel procedures.
 - 1) Reports.
 - 2) Replacement operations.
 - 3) Casualty reporting.
 - 4) Postal.
 - 5) Finance.
 - 6) Health service support (HSS).
 - 7) MEDEVAC.
 - 8) Legal.
 - 9) Public affairs.
 - 10) Religious.
- q. Military police (MP) procedures.
- r. Civil-military operations (CMO) procedures.

Bde - 2 BRIGADE OPERATIONS ORDER (OPORD)

- a. HEADING
 - 1) References. (Maps, charts, DATUM, and other related documents needed to understand the order.)
 - 2) Task organization.
- b. SITUATION
 - 1) Enemy forces.
 - a) Description of the enemy to battalion level.
 - b) Enemy most probable COA.

- c) Enemy most dangerous (to the brigade) COA.
- d) Assessment of terrorist activities directed against the brigade.
- 2) Friendly forces.
 - a) Corps mission.
 - b) Corps commander's intent.
 - c) Corps concept of operation.
 - d) Division mission.
 - e) Division commander's intent.
 - f) Division concept of operation.
 - g) Missions of units to the immediate left and right of the brigade.
 - h) Missions of other units with a significant bearing on the brigade.
- 3) Attachments and detachments.

c. MISSION

d. EXECUTION

Intent of the brigade commander.

- 1) Concept of operation (by phase if required).
 - a) Maneuver.
 - b) Fire support.
 - (1) Main effort.
 - (2) Priority of fires.
 - c) Mobility and survivability.

- (1) Priority of support.
 - (2) Concept of engineer operations to support the maneuver plan.
 - (3) Main engineer effort by mission and unit for each phase of the operation.
 - (4) Brigade level engineer missions that impact on maneuver battalions.
 - (5) Designation of authority to emplace obstacles.
 - d) Air defense (AD).
 - (1) Priority of AD.
 - (2) AD weapons status.
 - (3) AD warning status.
 - e) Command and control warfare (C2W).
- 2) Tasks to maneuver units.
- a) Infantry.
 - b) Armor.
 - c) Cavalry.
 - d) Aviation.
 - e) Mission essential tasks to be accomplished by engineers task organized to maneuver battalions.
- 3) Tasks to combat support units.
- a) Fires.
 - (1) Air support.
 - (a) Close air support (CAS) sorties allocation.
 - (b) Tactical air reconnaissance sorties allocation.

- (2) Chemical support. (Priorities of reconnaissance, decontamination, and smoke.)
 - (3) Field artillery support.
 - (a) General. (Priorities for counterfire or interdiction.)
 - (b) Organization for combat.
 - (4) Naval surface fires (NSF).
 - (5) Fire support coordinating instructions.
- b) Mobility and survivability.
 - (1) Engineer (and engineer overlay).
 - (a) Brigade level tasks assigned to supporting engineer units.
 - (b) Division level tasks assigned to division controlled engineer units.
 - (2) NBC operations.
- c) Air defense.
 - (1) Organization for combat.
 - (2) Missions.
 - (3) Priorities for protection.
- d) C2W.
 - (1) Functional and support roles of attached military intelligence (MI) units.
 - (2) Deception.
 - (3) Electronic warfare (EW).

- (4) Psychological warfare.
 - (5) Unmanned aerial vehicle (UAV).
 - 4) Coordinating instructions.
 - a) Time or condition when the brigade OPORD becomes effective.
 - b) CCIR.
 - (1) PIR (if not addressed in Annex B [Intelligence]).
 - (2) EEFI (if not addressed in Annex B [Intelligence]).
 - (3) FFIR (if not addressed in Annex B [Intelligence]).
 - c) Risk reduction control measures.
 - (1) Antiterrorist actions.
 - (2) MOPP.
 - (3) OEG.
 - (4) Vehicle recognition signals.
 - (5) Fratricide prevention measures.
 - d) ROE.
 - e) Environmental considerations.
 - f) Any other coordinating instructions or additional instructions.
- e. SERVICE SUPPORT
 - 1) Support concept.
 - a) Synopsis of the forward support battalion (FSB) mission.
 - b) FSB headquarters and/or brigade support area locations.

- c) The division support command (DISCOM) support priorities and where the brigade fits into those priorities.
 - d) The brigade commander's priorities of support.
 - e) DISCOM units supporting the brigade.
 - f) Significant and/or unusual CSS issues that might impact the overall brigade operation.
 - g) Any significant CSS risks.
 - h) Support requirements in the functional areas of manning, arming, fueling, fixing, and moving.
 - i) Concept for push of Class (CL) IV (construction and barrier material)/V (ammunition) (obstacle) supplies.
 - j) Concept for CSS support of organic and supporting corps engineers task organized to maneuver battalions.
- 2) Material and services.
- a) Brigade allocations of Class IV/V (obstacle) supplies.
 - b) Tentative locations for transfer of Class IV/V (obstacle) supplies to maneuver brigades.
- 3) MEDEVAC and hospitalization.
- 4) Personnel.
- 5) Civil-military cooperation.
- 6) Miscellaneous.
- f. COMMAND AND SIGNAL
- 1) Command.
 - a) Map coordinates for brigade CP locations.
 - b) Chain of command if different from brigade SOP.

- 2) Signal.
 - a) Signal instructions.
 - b) Identification of current SOI.
 - c) Required brigade reports, formats, and times due (if different from TSOP).
- g. ACKNOWLEDGE
- h. ANNEXES:
 - 1) A-Task organization.
 - 2) B-Intelligence.
 - a) SITUATION
 - (1) Enemy.
 - (a) Terrain.
 - (b) Weather.
 - (c) Enemy capabilities and/or activities.
 - 1 Known and templated locations and activities of enemy units to battalion level.
 - 2 Significant enemy maneuver and other functional area capabilities that impact accomplishment of brigade functions.
 - 3 Expected employment of enemy assets based on most probable enemy COA.
 - (2) Friendly situation.
 - (3) Attachments and detachments.

b) MISSION

c) EXECUTION

- (1) Concept of intelligence support to support the overall brigade operation.
- (2) Tasks to subordinate units. (Detailed intelligence acquisition tasks, by unit.)
- (3) Multidisciplined counterintelligence (CI). (Special operational instructions having CI aspects.)
- (4) Coordinating instructions.
 - (a) Intelligence requirements and their priority.
 - (b) Intelligence acquisition.
 - 1 Requests to division and corps, adjacent, and cooperating units (for intelligence acquisition).
 - 2 Requests for information from other units not organic or attached.
 - (c) Measures for handling personnel, documents, and material.
 - 1 Enemy prisoners of war (EPW), deserters, repatriates, civilian inhabitants, and other persons.
 - a Special handling and segregation instructions.
 - b Locations of EPW collection points.
 - 2 Captured documents. (Special instructions for handling and processing from time of capture to receipt by specified brigade

intelligence personnel. [If different from TSOP.])

- 3 Captured material. (Specially designated items or categories of enemy material required for examination; and specific instructions for their processing and disposition. [If different from TSOP.])

(d) Documents or equipment required. (Description of the conditions under which subordinate units can obtain or request documents or equipment, such as air photographs and maps. [If different from TSOP.])

(e) Distribution of intelligence products.

- 1 Periods that routine reports and distribution cover.

- 2 Distribution of special intelligence products.

d) SERVICE SUPPORT

e) COMMAND AND SIGNAL

f) APPENDICES:

- (1) Appendix 1 - Intelligence Estimate.

Tab 1 Situation Overlay.

- (2) Appendix 2 - Reconnaissance and Surveillance.

- (3) Appendix 3 - Signals Intelligence.

- (4) Appendix 4 - Multidisciplined Counterintelligence Estimate.

- 3) C-Operation Overlay.

4) D-Fire Support.

a) SITUATION

(1) Enemy.

(a) Description of enemy fire support and AD assets up to division and down to battery/company.

(b) Enemy capabilities and/or activities.

1 Enemy rocket, cannon, and missile artillery.

2 Numbers of possible enemy CAS and attack helicopter sorties by day.

3 Number, type, yield, and delivery means of enemy NBC weapons available to the committed force.

(2) Friendly situation.

(a) Division's concept of fires.

(b) Adjacent units' concepts of fires.

(c) Supporting air and naval forces.

(3) Attachments and detachments.

b) MISSION

c) EXECUTION

(1) Concept of fires to support the brigade commander's concept and priority of fire support.

(2) Air support.

(a) Brigade commander's intent for use of air power.

- (b) Air interdiction (AI) operations.
 - (c) CAS operations.
 - (d) Electronic combat (EC) operations.
 - (e) R&S operations.
 - (f) Miscellaneous.
 - 1 Air tasking order (ATO) effective time period.
 - 2 Deadlines for submission of AI, CAS, R&S, and EC requests.
 - 3 Mission request numbering system as it relates to the target numbering system.
- (3) Field artillery support.
- (a) Concept for use of cannon, rocket, and missile artillery in support of close, deep, and rear operations.
 - (b) Artillery organization for combat.
 - (c) Allocation of ammunition.
 - (d) Miscellaneous.
 - 1 Changes to the targeting numbering system.
 - 2 Use of pulse repetition frequency (PRF) codes.
 - 3 Positioning restrictions.
- (4) NSF.
- (5) Chemical support.

- (6) Offensive EW support. (Concept for use of EW [jamming] in close and deep operations.)
- (7) Target acquisition.
 - (a) Employment and allocation of FA target-acquisition systems and intelligence and electronic warfare (IEW) assets.
 - (b) Specific target-acquisition tasks, the observation matrix, fire support execution matrix (FSEM), and radar deployment order (RDO).
- (8) Coordinating instructions.
 - (a) Deep operations boundary.
 - (b) Targeting products.
 - 1 Target selection standards (TSS) matrix.
 - 2 High-payoff target list (HPTL).
 - 3 Attack guidance matrix (AGM).
 - (c) Fire support coordination measures (FSCMs).
 - (d) Time of execution of program of fires relative to H-Hour.
 - (e) ROE.
- d) SERVICE SUPPORT
 - (1) Location of ammunition transfer points (ATPs) and ammunition supply points (ASPs).
 - (2) CSR.
- e) COMMAND AND SIGNAL
- f) APPENDICES:

- (1) Appendix 1 - Air Support.
 - (2) Appendix 2 - Field Artillery.
 - (3) Appendix 3 - Naval Surface Fires.
- 5) E-Mobility and Survivability.
 - a) SITUATION
 - (1) Enemy.
 - (a) Terrain.
 - (b) Weather.
 - (c) Enemy engineer capabilities and/or activities.
 - 1 Known and templated locations and activities of enemy engineer units to company level.
 - 2 Significant enemy maneuver and engineer capabilities that impact brigade engineer operations.
 - 3 Expected employment of enemy engineer assets based on most probable enemy COA.
 - (2) Friendly situation.
 - (3) Attachments and detachments.
 - b) MISSION
 - c) EXECUTION
 - (1) Scheme of mobility and survivability operations to support the overall brigade operation, by phase and in priority.
 - (2) Tasks to subordinate units.

- (3) Coordinating instructions.
 - (a) ROE for engineer units.
 - (b) Reference to supporting appendices.
- d) SERVICE SUPPORT
 - (1) Command regulated classes of supply.
 - (2) Supply distribution plan.
 - (3) Transportation.
 - (4) Combat health support (CHS).
 - (5) Host nation (HN).
 - (a) Type, location, facilities, assets, and support available.
 - (b) Procedures for requesting and acquiring HN support.
 - (c) Limitations and restrictions on HN support.
- e) COMMAND AND SIGNAL
- f) APPENDICES:
 - (1) Appendix 1 - Engineer.
 - (a) Scheme of engineer operations to support the overall brigade operation. The engineer main effort by mission and unit for each phase of the operation. Division level missions that impact the brigade.
 - 1 Obstacles. (The details of the countermobility effort. Identification of obstacle belts to support brigade deep, close, and rear operations. Identification, prioritization, and

assignment of responsibilities for division and brigade directed and reserve targets. Execution criteria for reserve targets.)

- 2 Situational obstacles. (Concept for employing situational obstacles to support the brigade plan. Brigade planned and executed obstacles. Brigade planned and battalion/TF executed obstacles. Brigade resourced and battalion/TF planned and executed obstacles. Criteria for each type of obstacle with designation of headquarters maintaining authority to use SCATMINES; restrictions on duration [by belt].)
- 3 Survivability construction. (Description of the tactical construction plan along a timeline that delineates which units get how many positions by type.)
- 4 Mobility operations. (Concept for brigade deliberate breaching operations, hasty gap crossings, combat road/trail construction/upgrade in brigade area of operations [AO].)

(b) Tasks to subordinate units.

(c) Coordinating instructions.

- 1 Times or events at which obstacle belts become effective.
- 2 Brigade PIR to be considered by subordinate engineer staff or PIR that must be reported.
- 3 Mission reports required.

- 4 Explanation of engineer work lines.
- (d) SERVICE SUPPORT
- (e) COMMAND AND SIGNAL
- (2) Appendix 2 - Environmental Considerations.
 - (a) Operational effect on environment versus military advantage.
 - (b) Coordinating instructions.
 - 1 Certification of local water sources.
 - 2 Solid waste and liquid waste management.
 - 3 Medical waste.
 - 4 Hazardous waste management.
 - 5 Flora and fauna protection.
 - 6 Archeological and historical preservation.
 - (d) SERVICE SUPPORT
 - (e) COMMAND AND SIGNAL (Responsibility for initial environmental considerations guidance, point of contact [POC] who will process requested waivers to environmental governing standards, and who is responsible for coordinating and issuing instructions for disposal of hazardous material and waste.)
- (3) Appendix 3 - Nuclear, Biological, and Chemical (NBC) Operations.
 - (a) Scheme of NBC defense operations to support the overall brigade operation.
 - (b) Tasks to subordinate units.

- (c) Coordinating instructions.
 - 1 MOPP level guidance.
 - 2 Automatic masking criteria.
 - 3 Troop safety criteria.
 - 4 Decontamination site locations.
 - 5 Medical facilities and locations for treating chemical casualties.
 - 6 Turn-in points for chemical/ biological samples.
 - 7 List of civilian and military facilities whose destruction could create militarily significant NBC hazards.
 - 8 OEG guidance (if applicable).
 - 9 Procedures for limiting electromagnetic pulse (EMP) effects.
 - (d) SERVICE SUPPORT
(Procedures for handling contaminated casualties. Information on availability and locations of field expedient decontamination supplies, materials, and decontaminants.)
 - (e) COMMAND AND SIGNAL
(NBC warning and reporting system.)
 - (f) Tabs:
 - 1 Tab 1- NBC Defense.
 - 2 Tab 2 - Smoke operations.
- 6) F-Air Defense.
- a) SITUATION

- (1) Enemy.
 - (a) Terrain. Most likely routes of enemy ingress and egress.
 - (b) Weather.
 - (c) Enemy air capabilities and/or activities.
 - 1 Air threat data. (Air-capable enemy organizations including platforms by number and type. Enemy aircraft all weather capabilities; limitations.)
 - 2 Additional air threat information. (Air threat information not covered in the intelligence annex. Specific air threat considerations: sortie rate, subordination of air elements to ground units, ordnance peculiarities, target preferences, tactics, and recent significant activities.)
 - 3 Patterns of use of air avenues of approach.
- (2) Friendly situation. (Description of how the AD plan integrates with division plans.)
- (3) Attachments and detachments.

b) MISSION

c) EXECUTION

- (1) Scheme of air defense artillery (ADA) support to the overall brigade operation. (Includes the brigade commander's intent, objectives, and priorities.)
- (2) Tasks to subordinate units. (Command and support relationships and priority of protection.)
- (3) Coordinating instructions.

- (a) ADW and ADW authority.
 - (b) Specific orders and requests (SOR) plan.
 - (c) WCS and WCS authority.
 - (d) Hostile criteria.
 - (e) ROE.
 - (f) Passive air defense.
 - (g) Combined arms for air defense.
 - (h) Early warning.
- d) SERVICE SUPPORT
- e) COMMAND AND SIGNAL
(IFF code edition and book number.)
- 7) G-Command and Control Warfare (C2W).
 - a) SITUATION
 - b) MISSION
 - c) EXECUTION
 - (1) Scheme of support for C2W to the overall brigade operation.
 - (a) Military deception.
 - (b) EW.
 - (c) Operations security (OPSEC).
 - (d) Psychological operations (PSYOP).
 - (e) Physical destruction.

- (2) C2W tasks. (Exercise of coordinating authority for C2W operations. Division commander's C2W objectives and guidelines for accomplishment. Joint restricted fires list to support operations.)
- d) SERVICE SUPPORT
- e) COMMAND AND SIGNAL
- f) APPENDICES:
 - (1) Appendix 1- Electronic Warfare.
 - (2) Appendix 2 - Operations Security.
 - (3) Appendix 3 - Deception.
 - (4) Appendix 4 - PSYOP.
- 8) H-Signal Operations (SO).
 - a) SITUATION
 - (1) Enemy.
 - (a) Terrain. (All critical terrain aspects that will impact on employment of C2 communications systems.)
 - (b) Enemy capabilities and/or activities. (Significant enemy EW capabilities that impact C2 systems.)
 - (2) Friendly situation. (Primary communications gateways providing connectivity to division, battalion/TFs, and adjacent units. Critical communications measures required to counter expected enemy EW capabilities and protect C2 systems. External communication assets that will augment the brigade's signal support.)
 - b) MISSION
 - c) EXECUTION

- (1) Concept of signal support to support the overall brigade operation. (Primary and back-up systems supporting critical C2 networks. Plan for extending C2 systems through each phase of the brigade operation. Critical links between tactical and strategic communications systems [if applicable]. Signal support priorities.)
 - (2) Tasks to subordinate units. (Tasks to specific maneuver and signal support units not contained in the five paragraph brigade OPORD. Detailed Army Battle Command System [ABCS] control procedures.)
 - (3) Coordinating instructions. (Key times or events critical to information system and network control procedures.)
 - d) SERVICE SUPPORT
 - e) COMMAND AND SIGNAL
(C2 systems control [SYSCON] hierarchy for common user network. Local area network [LAN] control procedures for network administration and/or management.)
- 9) I-Provost Marshal (PM).
- a) SITUATION
 - b) MISSION
 - c) EXECUTION
 - (1) Scheme of PM operations to support the overall brigade operation.
 - (a) Maneuver and mobility support. (Battlefield circulation control [BCC] plan. Route reconnaissance and surveillance. MSR traffic control. Straggler control. Refugee control. Intelligence collecting and reporting.)

- (b) Area security. (Rear area protection plan, to include base defense. Security of critical assets. Base response force [Levels I, II, III]. Counterincursion. Air ground defense. Terrorism counteraction. ADC. NBC detection and reporting.)
 - (c) Internment and resettlement operations.
 - (d) EPW holding areas. EPW operations.
 - (e) Law and order operations. Maintenance of law and order in rear area forward to maneuver units' rear boundaries.
- (2) Tasks to subordinate units.
- (3) Coordinating instructions. (Refer to Annex K [Rear Operations]. Coordination/cooperation among adjacent and other units. Civilian HN agencies which are required to complete the mission. Actions pertaining to rear area force protection that expand or differ from the brigade TSOP.)
- d) SERVICE SUPPORT
- e) COMMAND AND SIGNAL
- 10) J-Civil-Military Operations (CMO).
 - a) Scheme of operation for civil-military support to the overall brigade operation.
 - b) Tasks to subordinate units.
 - c) Coordinating instructions.
 - d) Signal. (Reporting functions for units and CMO activities. Special operations forces [SOF] [if appropriate] specific communications procedures to support CMO.)
- 11) K-Rear Operations.
 - a) SITUATION

b) MISSION

c) EXECUTION

(1) Scheme of rear area operations to support the overall brigade operation. Support for the brigade deep and close operations by executing rear operations.

(a) Terrain management.

(b) Security. (Tactical combat force [TCF], response force, and reaction force. Counterreconnaissance plan. CI tasks to assist in threat reduction, location, and identification. Plan for integrating HN, multinational, or joint forces support.)

(c) Sustainment. (Monitoring of sustainment operations within the brigade. Positioning of support assets and critical CSS facilities and movements that require priority protection. Plan for establishment of forward supply points.)

(d) Movements. (Monitoring of administrative and tactical movement in the rear area. Identification of critical choke points that require sustained engineer support. Plan for routing of sustainment on MSRs to ensure no interference with movement of tactical units. Plan for tracking of all units moving through the rear area.)

(2) Tasks to subordinate units.

(a) TCF.

(b) MP. Response force. (Establishment of traffic control points [TCPs].)

(c) Base/base clusters. (Reaction force. Establishment of listening posts [LPs] and observation posts [OPs]. Patrols.)

- (3) Coordinating instructions. (Establishment of operations centers. Reaction forces. Liaison with the rear CP. Terrain management coordination. Base defense plans.)
 - d) SERVICE SUPPORT
 - e) COMMAND AND SIGNAL
(Location of rear operations commander. Chain of command for the rear CP. Base and base cluster commanders and chain of command. Deconfliction of chain of command with chain of support. Alternate rear CP location.)
- 12) L-Service Support.
- a) SITUATION (see base OPORD)
 - b) MISSION (see base OPORD)
 - c) EXECUTION
 - (1) Scheme of service support operations to support the overall brigade operation.
 - (2) Tasks to subordinate units.
 - (3) Coordinating instructions.
 - d) SERVICE SUPPORT
 - (1) Material and services.
 - (a) Supply. (Information by class of supply. Supply cycle [as appropriate] plan and procedures by class of supply.)
 - (b) Transportation. (Land, sea, and air [as applicable]. Facility locations, traffic control, regulation measures, MSRs and alternate supply routes (ASRs), transportation critical shortages, and essential data not provided elsewhere.)

- 1 Road movement table.
- 2 Traffic circulation.
- (c) Services. (Construction. Clothing exchange and bath (CEB) and laundry. Mortuary affairs. Identification of services available, designation and location of units providing services.)
- (d) Labor.
- (e) Maintenance. (Aircraft, ground vehicles and other equipment, and watercraft maintenance. Priority of maintenance, location of facilities and collecting points, repair time limits at each level of maintenance, and evacuation procedures.)
- (2) MEDEVAC and hospitalization. (Evacuation. Hospitalization. Plan for collection, medical treatment, MEDEVAC policy, and hospitalization of sick, injured, or wounded US and joint forces soldiers, EPW, and civilians [as appropriate]. Requirements for CHS logistics, combat stress management, preventive medicine, dental services, and veterinary services.)
- (3) Personnel. (Unit strength maintenance. Morale. Plans for unit strength maintenance, personnel management, morale development and maintenance, discipline, law and order, headquarters management, and religious support.)
- (4) Civil-military cooperation. (if not addressed in Annex J, [Civil-Military Operations]).
- e) COMMAND AND SIGNAL
- f) APPENDICES:
 - (1) Appendix 1- Service Support Matrix.
 - (2) Appendix 2 - Service Support Overlay.

- (3) Appendix 3 - Traffic Circulation and Control.

Tab 1 Traffic Circulation (Overlay).

Tab 2 Road Movement Table.

- (4) Appendix 4 - Personnel.

- (5) Appendix 5 - Legal.

Tab 1 ROE

- (6) Appendix 6 - Religious Support.

13) M-Army Airspace Command and Control (A2C2).

a) SITUATION

- (1) Enemy capability and activity. (Known and templated enemy ADA locations and enemy air corridors. Significant enemy maneuver capabilities that affect A2C2 operations.)
- (2) Friendly situation. (Additional airspace users including Air Force, Navy, Marine, allies, coalition forces, ADA, FA, and UAV that affect the scheme of maneuver.)

b) MISSION

c) EXECUTION

- (1) Concept of A2C2 support to the overall brigade operation.
- (2) Tasks to subordinate units.
- (3) Coordinating instructions.
 - (a) All ADA warnings, WCS, and ROE.
 - (b) Rules for in-flight procedures if different from the aviation procedures guide.

- (c) Description of liaison procedures.
- (d) Hostile and friendly aircraft in the brigade area of interest.
- (e) Routes and corridors. (minimum risk routes, low level transit routes [LLTRs], standard use routes, UAV operating areas, restricted operations zones [ROZs], air forces routes, coordination requirements.)
- (f) FSCMs that affect airspace users.

d) SERVICE SUPPORT

e) COMMAND AND SIGNAL

i. DISTRIBUTION

Bde - 3 GUIDANCE AND INFORMATION FROM THE BRIGADE COMMANDER AND STAFF

- a. Oral orders and guidance from the brigade commander.
- b. Direction given during rehearsals, backbriefs, visits.
- c. Commander's SITREPs.
- d. Intelligence reports.
- e. Operations reports.
- f. Logistics reports.
- g. Personnel reports.
- h. NBC reports.

Bde - 4 BRIGADE WARNO

a. HEADING

- 1) References. (Maps, charts, and other relevant documents.)

- 2) Time zone used throughout the order.
- 3) Task organization.
- b. SITUATION
 - 1) Enemy forces. (Include significant changes of information.)
 - 2) Friendly forces.
 - a) Division mission.
 - b) Division commander's intent.
 - c) Division concept of operation.
 - d) Missions of units to the immediate left and right.
 - e) Missions of other units with a significant bearing on the brigade.
 - 3) Attachments and detachments.
- c. MISSION of the brigade
- d. EXECUTION

Intent of the brigade commander (if available).

 - 1) Concept of operation (when available).
 - 2) Tasks to maneuver units (when available).
 - a) Tasks to units for execution.
 - b) Movement to be initiated (time).
 - c) Reconnaissance to be initiated (time).
 - d) Security to be in place (time).
 - 3) Tasks to combat support units (when available).

- 4) Coordinating instructions.
 - a) CCIR.
 - b) Risk guidance.
 - c) Deception guidance.
 - d) Timeline.
 - e) Guidance on orders and rehearsals.
 - f) Orders group meeting (attendees, location, and time) (when applicable).
 - g) Earliest time of movement and degree of notice.
- e. SERVICE SUPPORT
 - 1) Special equipment. (Identification of requirements and coordinating instructions for transfer to using units.)
 - 2) Transportation. (Identification of requirements and coordinating instructions for pre-positioning of assets.)
- f. COMMAND AND SIGNAL
 - 1) Command. (Chain of command if different from brigade TSOP.)
 - 2) Signal. (Identification of current SOI and prepositioning of assets to support the operation.)
- g. ACKNOWLEDGE (Statement directing acknowledgment of receipt and understanding.)

Bde - 5 BRIGADE FRAGO

- a. HEADING
- b. SITUATION
 - 1) Enemy forces.
 - a) Description of the enemy to battalion level.

- b) Enemy most probable COA.
- c) Enemy most dangerous (to the brigade) COA.
- 2) Friendly forces.
 - a) Corps mission.
 - b) Corps commander's intent.
 - c) Corps concept of operation.
 - d) Division mission.
 - e) Division commander's intent.
 - f) Division concept of operation.
 - g) Missions of units to the immediate left and right of the brigade.
 - h) Missions of other units with a significant bearing on the brigade.
- 3) Attachments and detachments.
- c. MISSION
- d. EXECUTION

Intent of the brigade commander.

- 1) Concept of operation.
 - a) Maneuver.
 - b) Fire support.
 - (1) Main effort.
 - (2) Priority of fires.
 - c) Mobility and survivability.

- (1) Priority of support.
 - (2) Main engineer effort by mission and unit for each phase of the operation.
 - (3) Brigade level engineer missions.
 - (4) Designation of authority to emplace obstacles.
 - d) Air defense.
 - (1) Priority of AD.
 - (2) AD weapons status.
 - (3) AD warning status.
 - e) C2W.
- 2) Tasks to maneuver units.
 - a) Infantry.
 - b) Armor.
 - c) Cavalry.
 - d) Aviation.
 - e) Mission essential tasks to be accomplished by engineer units task organized to maneuver units.
- 3) Tasks to combat support units.
 - a) Fires.
 - (1) Air support.
 - (a) CAS sorties allocation.
 - (b) Tactical air reconnaissance sorties allocation.

- (2) Chemical support. (Priorities of reconnaissance, decontamination, and smoke.)
 - (3) Field artillery support.
 - (a) General. (Priorities for counterfire or interdiction.)
 - (b) Organization for combat.
 - (4) NSF.
 - (5) Fire support coordinating instructions.
- b) Mobility and survivability.
 - (1) Engineer (and engineer overlay).
 - (2) NBC operations.
- c) Air defense.
 - (1) Organization for combat.
 - (2) Missions.
 - (3) Priorities for protection.
- d) C2W.
 - (1) Function and support roles of attached MI units.
 - (2) Deception.
 - (3) EW.
 - (4) Psychological warfare.
 - (5) UAV.
- 4) Coordinating instructions.
 - a) Time or condition when the brigade FRAGO becomes effective.

- b) CCIR - Changes from existing brigade order.
 - (1) PIR (if not addressed in changes to Annex B [Intelligence]).
 - (2) EEFI (if not addressed in changes to Annex B [Intelligence]).
 - (3) FFIR (if not addressed in changes to Annex B [Intelligence]).
 - c) Risk reduction control measures that have changed.
 - d) ROE changes.
 - e) Environmental considerations changes.
 - f) Any other coordinating instructions that changed from the existing brigade order or additional instructions.
- e. SERVICE SUPPORT
- 1) Support concept.
 - a) Synopsis of the FSB mission.
 - b) FSB headquarters and/or BSA locations.
 - c) The DISCOM support priorities and where the brigade fits into those priorities.
 - d) The brigade commander's priorities of support.
 - e) Units in the DISCOM supporting the brigade.
 - f) Significant and/or unusual CSS issues that might impact the overall brigade operation.
 - g) Any significant CSS risks.
 - h) Support requirements in the functional areas of manning, arming, fueling, fixing, and moving.

- 2) Material and services.
- 3) MEDEVAC and hospitalization.
- 4) Personnel.
- 5) Civil-military cooperation.
- 6) Miscellaneous.
- f. COMMAND AND SIGNAL
 - 1) Command.
 - a) Map coordinates for brigade CP locations.
 - b) Chain of command if different from brigade SOP.
 - 2) Signal.
 - a) Signal instructions.
 - b) Identify current SOI.
 - c) Required brigade reports, formats, and times due.
- g. ACKNOWLEDGE
- h. ANNEXES
- i. DISTRIBUTION

EBN - 1 ENGINEER BATTALION TACTICAL STANDING OPERATING PROCEDURES (TSOP)

- a. Passage of lines.
- b. Immediate action drills.
- c. Formations.
- d. Movement techniques.

- e. OPSEC requirements/procedures.
- f. Attachments and detachments.
- g. Load plans.
- h. Pre-combat checklists.
- i. Passive and active air defense measures.
- j. Obstacle gap closure.
- k. Obstacle preparation and engineer asset management.
- l. Obstacle site security.
- m. Siting of obstacles.
- n. Obstacle reports.
- o. Movement and distribution of obstacle material and supplies.
- p. Responsibility for completed obstacles.
- q. Succession of command.
- r. Briefings and rehearsal procedures/techniques.
- s. Situation update format.
- t. CP operations.
 - 1) Communications.
 - 2) CP organization/layout.
 - 3) Staff duties and responsibilities.
 - 4) Plan development.
 - 5) Coordination procedures.
 - 6) Exchange of LNOs.
 - 7) Shift schedules.

- 8) Log/journal requirements.
- 9) Displacement/movement of CPs.
- 10) Split CP operations.
- 11) Battle tracking charts and boards.
- 12) Order production.
- 13) Graphics displays.
- 14) Security.
- 15) Dissemination of information.

EBN - 2 ENGINEER BATTALION OPORD

a. HEADING

- 1) References. (Maps, charts, DATUM, and other related documents needed to understand the order.)
- 2) Task organization.

b. SITUATION

- 1) Enemy forces.
 - a) Terrain and weather.
 - b) Enemy situation.
 - (1) Current disposition of enemy forces facing the brigade.
 - (2) Enemy engineer activities and capabilities.
 - (3) Most probable enemy COA.
 - (4) Enemy activities, capabilities, COA that effect brigade level engineer operations.
- 2) Friendly forces.

- a) Division mission.
 - b) Division commander's intent.
 - c) Division concept of operation.
 - d) Brigade commander's intent.
 - e) Brigade mission.
 - f) Brigade concept of operation.
 - g) Missions of adjacent divisions and engineer units that impact brigade missions.
- 3) Attachments and detachments.
- a) Organic and supporting engineers to the brigade.
 - b) Changes that occur during the operation including time/event that triggers the change.
- c. MISSION
- d. EXECUTION

Intent of the engineer battalion commander.

- 1) Scheme of engineer operations (by phase if required).
- a) Mission essential engineer tasks in brigade rear.
 - b) Division level mission essential engineer tasks in close operations.
 - c) Brigade's main engineer effort.
 - (1) Obstacles' emplacement.
 - (2) Survivability construction.
 - (3) Mobility operations.

- d) Other mission essential tasks (e.g., engineer battalion task force).
- 2) Tasks to subordinate units.
- 3) Coordinating instructions.
 - a) Time or condition when the engineer battalion OPORD becomes effective.
 - b) CCIR.
 - (1) PIR (if not addressed in Annex B [Intelligence]).
 - (2) EEFI (if not addressed in Annex B [Intelligence]).
 - (3) FFIR (if not addressed in Annex B [Intelligence]).
 - c) Risk reduction control measures.
 - d) Any other coordinating instructions or additional instructions.
- e. SERVICE SUPPORT
 - 1) Support concept.
 - a) Logistic concept for units under engineer battalion control.
 - b) Logistic support for battalion elements given operational control (OPCON) to maneuver units.
 - c) Subordinate unit supply support.
 - (1) How. (Area support, unit support, supply point distribution, unit distribution.)
 - (2) Where. (BSA, trains.)
 - (3) What. (Manning, arming, fueling, fixing, and moving.)
 - d) Locations of key CSS nodes referencing brigade CSS graphics.

- e) The engineer battalion commander's priorities of support.
- 2) Material and services.
 - a) Allocations and CSR for each class of supply for each unit.
 - b) Basic loads.
 - c) Mission logistic arrangements.
 - d) Allocation of corps and division transportation assets.
 - e) MSRs.
- 3) MEDEVAC and hospitalization.
 - a) Primary and backup means of MEDEVAC.
 - b) ATPs.
 - c) Aid station locations.
- 4) Personnel.
 - a) EPW handling and collection points.
 - b) Mail.
 - c) Graves registration (GRREG).
 - d) Religious services.
- 5) Civil-military cooperation.
 - a) Engineer supplies and services provided by HN.
 - b) Engineer equipment provided by HN.
- 6) Miscellaneous.
- f. COMMAND AND SIGNAL
 - 1) Command.

- a) Map coordinates for engineer battalion CP locations.
 - b) Chain of command (if different from engineer battalion TSOP.)
- 2) Signal.
 - a) Signal instructions.
 - b) Identify current SOI.
 - c) Required engineer battalion reports, formats, and times due.
- g. ACKNOWLEDGE
- h. ANNEXES:
 - 1) A- Engineer Execution Matrix.
 - 2) B- Intelligence (As required).
 - 3) C- CSS Annex (As required).
 - 4) D- Movement Annex (As required).
- i. OVERLAYS:
 - 1) SIT TEMP.
 - 2) Engineer operations overlay including brigade maneuver graphics.
 - 3) Brigade CSS overlay.
 - 4) Brigade obstacle plan.
 - 5) Other operations (e.g., brigade deliberate breach, river crossing, NBC).
- j. DISTRIBUTION

EBN-3

**REPORTS AND INFORMATION FROM ENGINEER BATTALION
SUBORDINATE UNITS**

- a. Intelligence reports.
- b. Spot reports (SPOTREPs).
- c. Obstacle intelligence (OBSTINTEL) reports.
- d. Logistic reports.

KEY OUTPUTS

EBN - 4 GUIDANCE AND INFORMATION FROM THE ENGINEER BATTALION COMMANDER AND STAFF

- a. Direction given during rehearsals, backbriefs, visits.
- b. Commander's situation reports (SITREPs).
- c. Intelligence reports.
- d. Operations reports.
- e. Logistics reports.
- f. Personnel reports.
- g. As required reports.
 - 1) Minefield report.
 - 2) Route reconnaissance report.
- h. NBC reports.

EBN - 5 ENGINEER BATTALION WARNO

- a. HEADING
 - 1) References. (Maps, charts, and other relevant documents.)
 - 2) Time zone used throughout the order.
 - 3) Task organization.
- b. SITUATION

- 1) Enemy forces. Include significant changes of information.
 - 2) Friendly forces.
 - a) Maneuver brigade mission.
 - b) Maneuver brigade commander's intent.
 - c) Maneuver brigade concept of operation.
 - d) Missions of units to the immediate left and right.
 - e) Missions of other units with a significant bearing on the engineer battalion.
 - 3) Attachments and detachments.
- c. MISSION of the engineer battalion
- d. EXECUTION
- Intent of the engineer battalion commander (if available).
- 1) Scheme of engineer operation (when available).
 - 2) Tasks to subordinate units (when available).
 - a) Tasks to units for execution.
 - b) Movement to initiate.
 - c) Reconnaissance to initiate.
 - 3) Coordinating instructions.
 - a) CCIR.
 - b) Risk guidance.
 - c) Link-ups with other units.
 - d) Timeline.

- e) Guidance on orders and rehearsals as applicable.
 - f) Orders group meeting (attendees, location, and time) (when applicable).
 - g) Earliest time of movement and amount of notice.
- e. SERVICE SUPPORT
- 1) Special equipment. (Identification of requirements and coordinating instructions for transfer to using units.)
 - 2) Transportation. (Identification of requirements and coordinating instructions for pre-positioning of assets.)
 - 3) Class IV/V supply points.
- f. COMMAND AND SIGNAL
- 1) Command. (Chain of command if different from brigade TSOP.)
 - 2) Signal. (Identification of current SOI and prepositioning of assets to support the operation.)
- g. ACKNOWLEDGE (Statement directing acknowledgment of receipt and understanding.)

EBN - 6 ENGINEER BATTALION FRAGO

- a. HEADING
- b. SITUATION
 - 1) Enemy forces.
 - a) Description of the enemy major units.
 - b) Enemy engineer activities and capabilities.
 - c) Enemy most probable COA.
 - d) Enemy activities, capabilities, and COA that affect brigade level engineer operations.

- 2) Friendly forces.
 - a) Division mission.
 - b) Division commander's intent.
 - c) Maneuver brigade concept of operation.
 - d) Maneuver brigade mission.
 - e) Maneuver brigade commander's intent.
 - f) Maneuver brigade concept of operation as it applies to engineer operations.
 - g) Missions of maneuver and engineer units to the immediate left and right of the brigade.
 - h) Division level engineer plans and priorities as they apply to engineer operations.
- 3) Attachments and detachments.

c. MISSION

d. EXECUTION

Intent of the engineer battalion commander.

- 1) Scheme of engineer operations.
 - a) Mission essential engineer tasks.
 - b) Main engineer effort by phase of operation.
 - (1) Obstacles' emplacement.
 - (2) Survivability position construction.
 - (3) Mobility operations.
- 2) Tasks to subordinate units.
- 3) Coordinating instructions.

- a) Time or condition when the engineer battalion FRAGO becomes effective.
 - b) CCIR - Changes from existing engineer battalion order.
 - (1) PIR (if not addressed in changes to Annex B [Intelligence]).
 - (2) EEFI (if not addressed in changes to Annex B [Intelligence]).
 - (3) FFIR (if not addressed in changes to Annex B [Intelligence]).
 - c) Risk reduction control measures that have changed.
 - d) ROE changes.
 - e) Environmental considerations changes.
 - f) Any other coordinating instructions that changed from the existing engineer battalion order or additional instructions (e.g., turnover tasks between units, authorization for direct coordination).
- e. SERVICE SUPPORT
- 1) Support concept.
 - a) Logistic concept for units under engineer battalion control.
 - b) Logistic support for battalion elements given OPCON to maneuver units.
 - c) Subordinate unit supply support.
 - (1) How. (Area support, unit support, supply point distribution, unit distribution.)
 - (2) Where. (BSA, trains.)
 - (3) What. (Manning, arming, fueling, fixing, and moving.)

- d) Locations of key CSS nodes referencing brigade CSS graphics.
 - e) The engineer battalion commander's priorities of support.
 - 2) Material and services.
 - a) Allocations and CSR for each class of supply for each unit.
 - b) Basic loads.
 - c) Mission logistic arrangements.
 - d) Allocation of corps and division haul assets.
 - e) MSRs.
 - 3) MEDEVAC and hospitalization.
 - 4) Personnel.
 - 5) Civil-military cooperation.
 - 6) Miscellaneous.
- f. COMMAND AND SIGNAL
 - 1) Command.
 - a) Map coordinates for engineer battalion CP locations.
 - b) Chain of command if different from engineer battalion SOP.
 - 2) Signal.
 - a) Signal instructions.
 - b) Identify current SOI.
 - c) Required engineer battalion reports, formats, and times due.
- g. ACKNOWLEDGE

- h. ANNEXES
- i. OVERLAYS
- j. DISTRIBUTION

TASK LIST SUMMARY

This component provides a summary of the first level of tasks on the task list.

1. **Engineer battalion command posts manage and maintain command, control, and communications.**
2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.**
3. **The engineer battalion commander visualizes the battlefield.**
4. **The engineer battalion commander directs changes to the operation or plan.**
5. **The engineer battalion commander directs and leads subordinate forces.**

TASK LIST

The purpose of this component is to identify, organize, and list in logical sequence all of the tasks and subtasks necessary to perform this function. Normally, the primary participants responsible for performing the task are identified. The tasks were extracted from the appropriate doctrinal publications and sources. The specific sources of reference for each task and subtask are shown in brackets [] following the task.

In many instances, the wording of the task has been changed from the text found in the Army Training and Evaluation Program - Mission Training Plan (ARTEP-MTP) or Field Manual (FM) to add clarity, context, or meaning. The references allow the user to refer to the original source material for further detail and context, if desired.

For tasks selected from an ARTEP-MTP, the task number has been expanded with a slash (/) to identify the subtask and standard reflected in the ARTEP-MTP task. To illustrate: a task referenced as [ARTEP 71-3-MTP, 71-3-4001/4c] was derived from ARTEP 71-3-MTP, the Mission Training Plan for the Heavy Brigade Command Group and Staff, and identifies brigade S4 section task "71-3-4001, Conduct Logistical Planning," subtask "4," "Prepares plans and orders," standard or sub-element "c."

For tasks derived from a FM, the FM number and page number have been provided as a reference. For example, the reference for a task, "The brigade commander demonstrates understanding of mission and higher commander's intent during confirmation briefing to the division commander," would be [FM 101-5, p. 1-9].

Some tasks and subtasks needed to define the function are not contained in ARTEP-MTPs nor can they be derived from FMs. Tasks and subtasks were identified to fill such gaps and were developed during coordination visits with various TRADOC schools, Forces Command (FORSCOM) units, and Combat Training Center (CTCs). These tasks are listed as field notes [FN] and are annotated with their source. For example, tasks identified by CSS Observer-Controllers (OCs) at the National Training Center (NTC) would be referenced as [FN-NTC CSS OCs]. Still other tasks and subtasks were identified based on review of newsletters and other documents published by the Center for Army Lessons Learned (CALL) which capture lessons learned from Army units relevant to doctrine, tactics, techniques, and procedures (DTTP). Tasks derived from CALL publications are referenced as Lessons Learned [LL] with the appropriate document and page number provided. For example, a task extracted from CALL Newsletter 95-6, "National Training Center's 'Fighting with Fires'" is referenced as [LL-CALL Newsletter 95-6, p. 16].

In some cases, the analysis of the BF resulted in the identification of tasks for which no doctrinal references could be determined. Such tasks were selected based on author experience and a careful study of relevant doctrine. These tasks are referenced as author notes [AN].

Full references for all the source material are listed in the reference section.

1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. Engineer battalion CPs manage means of C3.
 - 1) The engineer battalion commander modifies/updates CCIR based on the current situation: [ARTEP 5-145-MTP, Task 5-1-0002]
 - a) Planned progress of preparatory tasks (e.g., changes in engineer equipment, survivability position construction, obstacle construction).
 - b) Changes to mission, enemy, terrain, troops, and time available (METT-T) (e.g., new guidance or missions from the supported maneuver brigade) which cause the engineer battalion commander to modify his CCIR.
 - c) Engineer battalion commander's visualization of current preparations progress and desired endstate.
 - 2) The engineer battalion XO: [FM 5-71-3, p. 2-1, and ARTEP 5-145-MTP, Task 5-1-0026/1, 5-1-0026/2, 5-1-0026/3; CALL, News from the Front]
 - a) Facilitates the flow of information and communication from engineer battalion staff members and subordinate units.
 - b) Outlines and monitors the performance and responsibilities of the staff in processing mission information, preparation status, and the commander's information requirements.
 - c) The engineer battalion XO, as the engineer battalion second in command, directs the engineer battalion main CP operations and controls engineer actions the commander cannot. [FM 5-71-3, p. 2-5]
 - (1) Engineer battalion XO and main CP staff manage communications networks in support of R&S operations in order to maintain reporting linkages for critical sources of information.
 - (2) Engineer battalion XO and main CP staff operate and monitor communications nets.

- (a) Engineer battalion command net.
 - (b) Maneuver brigade command net.
 - (c) Engineer battalion administrative/logistics (A/L) net.
 - (d) Maneuver brigade operations and intelligence (O&I).
- 3) The engineer battalion commander or XO selects a "battle captain" (in accordance with the TSOP) who manages the main CP and the operations section when the XO or S3 is not available. [LL-CTC Bulletin 95-4, Chap 1; CTC Bulletin 94-1, p. 5]
 - a) Coordinates and integrates engineer battalion staff activities.
 - b) Initiates staff action as directed by the engineer battalion commander, XO, or S3.
 - c) Provides recommendations to engineer battalion commander, XO, or S3 on current situations and status of unit preparations.
- 4) LNOs provide information to the engineer battalion commander and staff, or the maneuver brigade headquarters, or the headquarters they represent, or units they are coordinating with for the engineer battalion. [FM 5-71-3, pp. 2-5, 2-6]
 - a) Responses to specific questions asked of LNOs.
 - b) Unit locations, activities, capabilities, status, and intentions.
 - c) Receipt of mission change or new guidance by the supported headquarters.
 - d) Coordination problems.
 - (1) Inability to reach/meet with specific people or staff positions.
 - (2) Receipt of information which invalidates or changes estimates and plans.
- 5) Engineer battalion CPs maintain communications (e.g., radio and multi-channel, wire, messenger) with subordinate units, adjacent units, supporting and higher headquarters. [FM 5-71-3, pp. 2-4 - 2-6]

- a) The engineer Bn SO ensures that communications systems and links (e.g., retransmission) are operational and support the commander, staff, and subordinate leaders.
 - b) The engineer battalion XO manages communications, including positioning of command and control elements.
 - c) The engineer Bn SO controls signal operating instructions (SOI) issue and use.
 - d) The engineer Bn SO coordinates retransmission capabilities for the engineer battalion.
 - e) The engineer Bn SO directs the engineer battalion communications section's efforts on inspecting and testing communications equipment and systems.
- 6) Engineer battalion CPs eavesdrop on higher and adjacent unit command and O&I nets for information as specified in the engineer battalion TSOP. [FM 5-71-3, p. 2-26.]
- 7) Engineer battalion S3 at the tactical (TAC) CP manages communications: [FM 5-71-3, pp. 2-5, 2-25]
- a) Facilitates control and coordination for the engineer battalion commander through communication with adjacent and supporting elements.
 - b) Passes processed information and keeps the engineer battalion commander updated on new information through concise, consolidated updates by eavesdropping on:
 - (1) Maneuver brigade command and O&I nets.
 - (2) Engineer battalion A/L net.
 - (3) Adjacent unit command and O&I nets.
 - (4) Subordinate unit command nets.
 - (5) Division engineer command and O&I nets.
 - c) Operates and monitors communications nets.

- (1) Engineer battalion command net.
 - (2) Maneuver brigade O&I net.
- 8) The engineer battalion HHC commander directs rear CP operations. [FM 5-71-3, p. 2-6]
 - a) Manages the engineer battalion A/L net; maintains communications with subordinate and supporting units, and battalion headquarters.
 - b) Monitors the tactical situation and maintains communications to ensure that it is prepared to assume duties of the engineer battalion main CP.
 - c) Operates on and monitors communications nets.
 - (1) Engineer battalion command.
 - (2) Engineer battalion A/L.
 - (3) Maneuver brigade A/L.
 - (4) Is prepared to cover the same nets as the engineer battalion main CP in the event the main CP is incapacitated.
- 9) The engineer battalion HHC commander directs field trains operations. [FM 5-71-3, pp. 6-2 , 6-4]
 - a) Maintains communications through physical liaison with the maneuver brigade rear CP and the FSB.
 - b) Operates on and monitors communications nets.
 - (1) Engineer battalion command.
 - (2) Engineer battalion A/L.
- b. The engineer battalion CPs maintain communications.
 - 1) The engineer Bn SO ensures that engineer battalion communications and links are operational and support the commander, staff, and subordinate leaders. [FM 5-71-3, p. 2-3].

- a) Monitors and reports the engineer battalion's communications equipment status.
 - b) Ensures that communications are maintained with subordinate, superior and lateral units.
 - c) Monitors communications security (COMSEC).
- 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]
- a) Positioning is such that the engineer battalion commander and CPs maintain communications with higher, adjacent, and subordinate units during preparation and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]
 - (1) The engineer battalion commander exercises command and control during mission preparation.
 - (2) Engineer battalion CPs displace, as required, prior to line of departure or other mission execution time to facilitate command and control during the transition from preparation to the initiation of the battle.
 - (3) Engineer battalion staff ensures that CPs are not detected by the enemy by using passive defense measures.
 - b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (1) The engineer battalion commander positions to observe the engineer battalion as it supports the battle.
 - (2) The engineer battalion commander assesses the situation and directs changes to operations as necessary to respond to battlefield events.
 - (3) The engineer battalion commander observes and controls the main effort.
 - (a) Directs the S3 to assist him in observing and controlling main effort.

- (b) Directs the S3 to observe and control supporting efforts.
- (4) The engineer battalion commander reacts to events by:
 - (a) Repositioning engineer assets under engineer battalion control.
 - (b) Changing missions of companies under engineer battalion control.
 - (c) Changing priorities.
 - (d) Recommending changes to the brigade commander.
- c) The engineer battalion main CP positions prior to mission execution to: [FM 5-71-3, p. 2-5]
 - (1) Collect, analyze, and pass critical information.
 - (2) Maintain voice and digital communications with higher, adjacent, and subordinate units.
 - (3) Receive and disseminate situation updates during transition from the preparation phase to mission execution.
- d) The engineer battalion rear CP positions prior to mission execution to support the engineer battalion. [FM 5-71-3, p. 2-6]
 - (1) Monitors the engineer battalion A/L net to determine subordinate unit CSS requirements.
 - (2) Rapidly assumes the functions of the battalion main CP if required.
- e) The engineer battalion CPs take actions to survive: [ARTEP 5-145-MTP, Task 5-1-0018, subtask 1.e.]
 - (1) The CPs employ cover, concealment, and camouflage measures, and use routes which reduce detection by the enemy.
 - (2) CPs establish early warning, perimeter protection, and a reaction force.

- (3) OPSEC is continually monitored.
 - f) Communications are maintained without interruption with all subordinate elements and higher headquarters to allow the engineer battalion commander and staff to exercise command and control. [FM 5-71-3, pp. 2-23 through 2-26]
2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.** [TRADOC Pam 11-9, Section IV; "Battle Command," pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
- a. The engineer battalion commander and staff acquire information.
 - 1) The engineer battalion commander, using techniques such as standardized net calls, schedules and conducts a coordination session with key staff members and subordinate leaders prior to mission execution to collect information. [FM 5-71-3, p. 2-23]
 - a) Latest intelligence on the enemy, and standard and non-standard terrain products are disseminated by the engineer battalion S2.
 - b) Modifications to the plan are reviewed to verify understanding.
 - c) Engineer battalion staff officers and subordinate leaders perform final coordination.
 - d) Problems and corrective action.
 - e) The session is timed to ensure that final coordination and plan modifications occur in a timely manner (e.g., adjustments to maneuver brigade planned situational obstacle locations for Volcano can be passed to the appropriate assault and obstacle platoon leader).
 - f) Engineer battalion commander and staff continuously conduct assessment of risks to mission success and hazards for engineer operations.
 - 2) The engineer battalion commander obtains information relative to engineer battalion preparations. [FM 5-71-3, p. 2-23]

- 3) Engineer battalion subordinate leaders and staff officers collect and report CCIR according to their area of responsibility. [ARTEP 5-145-MTP, Tasks 5-1-0026, 5-1-0413]
- 4) The engineer battalion XO obtains information relative to engineer battalion preparations. [FM 5-71-3, pp. 2-1, 2-2]
- 5) The engineer battalion CSM obtains information relative to the state of engineer battalion preparations. [FM 5-71-3, p. 2-2]
- 6) The engineer battalion S2 receives significant changes to the intelligence preparation of the battlefield (IPB). [FM 5-71-3, p. 2-2]
 - a) Receives information from division engineer, maneuver brigade, and engineer battalion staff:
 - (1) TerraBase updates from division engineer.
 - (2) Intelligence summaries and spot reports from maneuver brigade and higher headquarters.
 - (3) Information from maneuver brigade and adjacent units based on previously submitted information queries.
 - (4) OPSEC reports from the engineer battalion S3 and operations section and subordinate units which contribute to analysis of engineer battalion security posture.
 - (5) Updates from the maneuver brigade S2 on enemy activity based on reports from the divisional military intelligence battalion.
 - (6) Information on current situation learned by eavesdropping on maneuver brigade and adjacent unit command and O&I nets.
 - b) Receives information from subordinate units:
 - (1) Information resulting from debriefing patrols and other R&S forces performing engineer battalion directed information collection activities, such as gathering OBSTINTEL.
 - (2) Size, activity, location, unit, time, and equipment spot reports from engineer battalion elements.

- (3) Reports from R&S elements provided by maneuver brigade.
- c) Receives IPB information from engineer battalion or maneuver brigade special staff officers and LNOs acquired through coordination with their counter-parts in higher, adjacent, and "parent" units and passed to the engineer battalion S2.
- d) Receives information through division engineer, maneuver brigade, or from other sources; e.g.,:
 - (1) Aerial photographs.
 - (2) Prisoners, deserters, and civilian population.
 - (3) Electronic warfare (EW), radars, and sensors.
- 7) Engineer battalion S3, and S3 operations section obtain information from engineer battalion or maneuver brigade subordinate units which may affect operations. [FM 5-71-3, pp. 2-2, 2-3, 2-5, 2-6]
 - a) Preparation status of engineer battalion subordinate units.
 - (1) Adherence to timelines.
 - (2) Status of survivability position construction.
 - (3) Status of obstacle production and turnover.
 - (4) Equipment status.
 - (5) Other preparations.
 - b) Changes to engineer company or maneuver Bn TF plans.
 - c) Reports from maneuver brigade subordinate units (e.g., Bn TFs, R&S forces, security elements, other subordinate units):
 - (1) Enemy contact:
 - (a) Ground.
 - (b) Fires.
 - (c) Other.

- (2) Current strength and combat power.
 - (3) Status of preparation activities and other tasks as outlined in mission timelines for:
 - (a) Maneuver brigade security forces.
 - (b) Engineer companies.
 - (4) Status of task organization.
 - (5) OPSEC reports.
 - (a) Signal security reports (e.g., loss of SOI, graphics).
 - (b) Meaconing, interference, jamming, intrusion (MIJI) reports.
 - (6) Results of local security operations.
 - (a) Security patrols.
 - (b) Listening posts/observation posts.
 - (7) Obstacle overlays, minefield reports, sector sketches, and other products as directed by engineer battalion TSOP and the engineer battalion commander.
- d) Requests for resources from engineer battalion subordinate units based on their mission analyses and determination of their needs to accomplish their assigned tasks.
 - e) Recommendations from engineer battalion subordinate commanders on changes to the plan based on their mission analyses, current status, and projected status.
 - f) Information by eavesdropping on: [FM 5-71-3, p. 2-26]
 - (1) Maneuver brigade units' command nets, such as:
 - (a) Orders from maneuver brigade commander to other commanders.

- (b) Situation reports by maneuver Bn TF commanders or other maneuver brigade assets to maneuver brigade CPs.

(2) Maneuver Bn TF's command nets.

- b. The engineer battalion commander and staff evaluate required information and update products.
 - 1) The engineer battalion commander evaluates information and reports received from: [FM 5-71-3, p. 1-8]
 - a) Engineer companies.
 - b) Other subordinates.
 - c) Engineer battalion staff.
 - d) The maneuver brigade or division engineer.
 - e) The ABE.
 - 2) The engineer battalion XO at the main CP evaluates information and reports received from: [FM 5-71-3, pp. 2-1, 2-2, 2-5]
 - a) The rear CP.
 - b) The TAC CP.
 - c) Engineer battalion subordinate units.
 - d) The supported maneuver brigade or division engineer.
 - e) Adjacent units.
 - f) Other staff officers.
 - 3) The engineer battalion CSM evaluates information and reports received from: [FM 5-71-3, p. 2-2]
 - a) Personal observations made during visits and inspections of subordinate unit preparatory activities.

- b) Reports from other noncommissioned officers in units subordinate to the engineer battalion.
- 4) The engineer battalion S2.
 - a) Engineer battalion S2 evaluates intelligence information. [FM 5-71-3, pp. 2-15 through 2-16]
 - (1) Changes to guidance/direction and information related to intelligence collection.
 - (2) Information which confirms or refutes IPB information which may affect achieving the commander's intent:
 - (a) Information requirements (IR)/PIR.
 - (b) NAIs and TAIs.
 - (3) Indications that R&S plan or operations will or will not continue to meet engineer battalion and maneuver brigade commanders' intents.
 - (a) Positioning of assets to collect PIR and IR.
 - (b) Positioning of assets to maintain constant observation of NAIs.
 - b) Engineer battalion S2 tracks status of engineer reconnaissance teams, requests for standard and non-standard topographic products, and information requests. [FN-NTC ENGR OC] [AN]
 - c) Engineer battalion S2 maintains IPB. [FM 5-71-3, p. 2-2]
 - (1) Briefs patrol leaders and other R&S forces on collection tasks, primarily related to OBSTINTEL and other engineer information. [FM 90-13-1, p. 2-2]
 - (2) Location (confirmed and suspected) of enemy obstacles, to include:
 - (a) Composition.
 - (b) Orientation.

- (c) Marking.
 - (d) Fusing.
- (3) Enemy activity.
 - (a) Indications of possible intent.
 - (b) Enemy reactions to friendly battle techniques.
 - (c) Specific enemy actions triggered by friendly actions or events.
- (4) Adherence to, or deviation from, postulated enemy course of action (ECOA).
- d) The engineer battalion S2 updates products. [FM 5-71-3, p. 2- 2]
 - (1) The situation template.
 - (2) The event template.
 - (3) The modified combined obstacle overlay (MCOO).
- 5) The engineer battalion S3 and operations section.
 - a) Engineer battalion S3 and operations section evaluate information. [FM 5-71-3, pp. 2-8 through 2-13]
 - (1) OPORDs from engineer battalion subordinate units to ensure synchronization with maneuver brigade and engineer battalion OPORD.
 - (2) Information which confirms or refutes IPB information which may affect achieving the commander's intent.
 - (3) Changes to the engineer battalion commander's guidance/direction and information concerning priorities and timelines.
 - (4) Desired engineer battalion endstates compared with what is possible based on the current scheme of engineer operations (SOEO) situation and trends.

- (a) Maneuver units.
 - (b) Fire support units.
 - (c) Engineer units.
 - (d) CSS units.
- (5) Changes to the maneuver brigade maneuver plan for impact on maneuver brigade subordinate units' maneuver plans.
- (6) Engineer battalion OPSEC information received from maneuver brigade sources and internal engineer battalion sources.
- (7) Information learned from the main effort TF's OPOD briefing. [AN]
- (8) Backbriefs from TFs' engineers. [AN]
- b) The engineer battalion S3 and operations section update products. [FM 5-71-3, pp. 2-2, 2-3; LL - CALL Newsletter No. 88-3]
 - (1) Operations overlay. (Consolidated brigade and TFs.)
 - (2) Obstacle overlay.
 - (3) Decision support template (DST).
 - (4) Engineer execution matrix (or synchronization matrix if the battalion is an engineer Bn TF).
- 6) The engineer battalion NBC NCO.
 - a) The engineer battalion NBC NCO evaluates information. [FM 5-71-3, pp. 2-3 and 2-4]
 - (1) Chemical downwind messages.
 - (2) NBC 1 reports.
 - (3) NBC 2 reports.
 - (4) NBC 4 reports.

- (5) NBC 5 reports.
 - (6) NBC 6 reports.
 - (7) Information from the engineer battalion S2 pertaining to enemy NBC capabilities.
 - b) Engineer battalion NBC NCO updates NBC products. [FM 5-71-3, pp. 2-3 through 2-4)]
 - (1) Updates NBC estimate (may or may not be in written form) and MOPP analysis.
 - (2) Enemy NBC capabilities.
 - (3) NBC equipment and supplies inventories.
 - (4) NBC overlays and graphics.
 - c) Engineer battalion NBC NCO tracks and develops activities against his chemical defense analysis. [FN-NTC Engr OC]
- 7) The engineer Bn SO and communications section.
- a) The engineer Bn SO and communications section evaluate information. [FM 5-71-3, p. 2-3]
 - (1) MIJI reports.
 - (2) Communications equipment status reports.
 - (3) COMSEC reports.
 - b) Engineer Bn SO updates communications products. [FM 5- 71-3, p. 2-3]
 - (1) Updates signal estimates (may or may not be in written form).
 - (2) Communications network overlay, area coverage overlay, and dead space overlay.
 - (3) SOIs and secure equipment keying device codes.

- 8) Engineer battalion CSS officers.
 - a) All CSS officers evaluate information. [FM 5-71-3, Chap 6]
 - (1) Current personnel and medical status.
 - (2) Current maintenance, transportation, and supply status.
 - (3) Information which confirms or refutes IPB information which may affect achieving the commander's intent.
 - (4) Answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
 - (5) Impact of adjusted plans from subordinate units on engineer battalion CSS plans.
 - b) Engineer battalion CSS officers update products.
 - (1) Engineer battalion S4 and HHC commander update transportation information and status. [FM 5-71-3, pp. 6-2 to 6-3].
 - (a) Updated transportation estimates (may or may not be in written form).
 - (b) Schedules and priorities.
 - (c) Status of supplies, equipment, and materials requiring transport.
 - (d) Availability of ground transport assets.
 - (e) Availability of air transportation assets (from engineer battalion S3).
 - (f) Logistical package convoys organization, loads, times, and schedules.
 - (g) Transportation recovery plan and back-haul plan.
 - (h) MSR and ASR traffic and route conditions.

- (i) Transportation priorities are directed by the engineer battalion commander.
- (2) Engineer battalion S4 updates supply information and status. [FM 5-71-3, Chap 6]
 - (a) Updates the supply estimate (may or may not be in written form).
 - (b) Combat basic loads (e.g., vehicles uploaded with Class (CL) V; vehicles topped off with CL III, and on-hand supply status of subordinate and supported units).
 - (c) Configuration and location of immediate and emergency resupply (CL III, IV and V) loads and push packages.
 - (d) Supply priorities as directed by the engineer battalion commander.
 - (e) Establishment and fill of stockpiles and caches.
- (3) Engineer battalion S1 updates personnel information. [FM 5-71-3, Chap 6]
 - (a) Updates the personnel estimate (may or may not be in written form).
 - (b) Personnel status of subordinate and supported units.
 - (c) Casualty feeder reports.
 - (d) Reception and processing of replacements.
 - (e) Forecast of replacements.
 - (f) Personnel actions (awards, decorations, promotions, legal action).
 - (g) EPW processing and evacuation.
 - (h) Soldier morale and welfare activities.

- (i) Personnel priorities are directed by the engineer battalion commander.
- (4) The engineer battalion maintenance technician (BMT) updates maintenance information. [FM 5-71-3, Chap 6]
 - (a) Updates the maintenance estimate (may or may not be in written form).
 - (b) Number and type of systems on hand and operational.
 - 1 Combat.
 - 2 Combat support (CS).
 - 3 CSS.
 - (c) Systems non-mission capable (NMC) and repairable.
 - (d) Timelines for repair and return of vehicles and equipment.
 - (e) On hand CL IX, authorized stockage list (ASL), and prescribed load list (PLL) stockage levels.
 - (f) Maintenance activities performed by company maintenance teams and maintenance support teams, including the location of the maintenance activities.
 - (g) Maintenance priorities and guidelines as directed by the engineer battalion commander.
- (5) Engineer battalion medical section leader updates medical information. [FM 5-71-3, pp. 6-13 and 6-14]
 - (a) Updates the medical estimate (may or may not be in written form).
 - (b) Casualty evacuation records.
 - (c) CL VIII (medical material) stock availability and resupply actions.

- (d) Augmentation by FSB medical assets.
 - (e) Disposition and capability of treatment and evacuation support in the form of maneuver battalions' TF forward aid stations, main aid stations, medical teams attached to subordinate units, and medical/ambulance support from the FSB medical company.
 - (f) Medical priorities as directed by the engineer battalion commander.
 - (g) Subunits' casualty evacuation plans.
- (6) Engineer battalion S4 and HHC commander update rear area combat operations (RACO) information. [ARTEP 5-145-MTP, Task 5-1-0039]
 - (a) Updated RACO estimates.
 - (b) Threat (levels I, II, and III) from engineer battalion S2.
 - (c) Base and base cluster defense plans integrated with FSB and maneuver brigade defense plans.
 - 1 Forces available for local security operations and reaction force.
 - 2 Indirect fire support.
 - 3 Communications capabilities.
- c. Engineer battalion CPs maintain information and engineer status; update mission essential products.
 - 1) Engineer battalion command group/TAC CP maintains and updates mission essential products: [FM 5-71-3, p. 2-5]
 - a) Information which supports the engineer battalion CCIR.
 - b) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).

- c) O&I map.
 - (1) Operations overlay (maneuver brigade, engineer battalion subordinate units, and adjacent units).
 - (2) Fire support overlay.
 - (3) SIT TEMP overlay.
 - (4) Event template overlay.
 - (5) MCOO.
 - (6) Obstacle graphics.
- d) DST.
- e) Synchronization matrix (applicable to employment as an engineer Bn TF).
- f) Engineer execution matrix.
- 2) Main CP maintains and updates mission essential information: [FM 5-71-3, p. 2- 5]
 - a) O&I map.
 - (1) Operations overlay (maneuver brigade, Bn TFs, and adjacent units).
 - (2) Fire support overlay.
 - (3) SIT TEMP overlay.
 - (4) Event template.
 - (5) MCOO.
 - (6) NBC overlay.
 - (7) CSS overlay.
 - (8) Obstacle graphics.

- b) CSS overlays and information per engineer battalion TSOP.
- c) Intelligence information from maneuver brigade and higher headquarters.
- d) Status of preparation activities to ensure compliance with stated mission timelines.
- e) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
- f) Status of engineer task organization.
- g) Obstacle and survivability position construction and progress as compared to timelines.
- h) Utilization of engineer assets and materials as compared to timelines.
- i) DST.
- j) Engineer execution matrix.
- k) Plans map (with overlays for future operations).
- l) Synchronization matrix (applicable to employment as an engineer Bn TF).
- m) Journals/logs:
 - (1) Operations.
 - (2) Intelligence.
- 3) Engineer battalion rear CP maintains and updates mission-essential information and products: [FM 5-71-3, p. 2-6]
 - a) Current O&I map.
 - (1) Operations overlay (maneuver brigade, maneuver Bn TFs, and adjacent maneuver brigades' flank units).
 - (2) Rear operations, security, and threat overlay.
 - (3) Fire support overlay.

- (4) SIT TEMP overlay.
 - (5) Event template overlay.
 - (6) MCOO.
 - (7) Obstacle graphics.
- b) DST.
- c) Engineer execution matrix.
- d) CSS situation map and overlays.
 - (1) MSR and ASR.
 - (2) CSS locations, current and projected.
 - (3) Decontamination sites.
- e) Synchronization matrix (applicable to employment as an engineer Bn TF).
- f) CSS staff journal.
- g) Current and projected personnel and equipment status.
 - (1) Personnel strength.
 - (2) Operational equipment strength.
 - (3) Status of supplies.
 - (4) Replacement personnel status/location.
 - (5) Damaged and NMC vehicles and equipment.
 - (a) Recovery status.
 - (b) Repair status.
 - (c) Replacement status.

- h) Status on location and evacuation of EPW and their equipment.
 - i) Status on location and evacuation of displaced civilians.
 - j) Status on location and availability of civilian equipment and materials.
- d. The engineer battalion commander and staff communicate information.
- 1) The engineer battalion commander communicates information. [FM 5-71-3, p. 2-1]
 - a) Changes to his intent to subordinate commanders and staff.
 - b) Changes to the SOEO to the maneuver brigade commander and staff.
 - c) Changes in subordinate units' status noted during inspections and visits to affected staff.
 - 2) All engineer battalion staff officers disseminate information. [FM 5-71-3, pp. 2-1 through 2-6]
 - a) Provide briefings to the commander on the status of mission preparedness.
 - b) Each staff representative communicates critical information needed to:
 - (1) Coordinate engineer battalion actions and plans.
 - (2) Monitor the situation.
 - (3) Direct engineer battalion actions.
 - c) All engineer battalion staff officers remain alert for and ensure that critical information they receive is passed to other staff officers who require the information as soon as it is received.
 - d) Information is communicated between engineer battalion staff officers during shift change briefings on the situation: [FM 5-71-3, pp. B-1 through B-5; LL - CALL, News from the Front]
 - (1) Enemy activities.

- (2) Status of subordinate units.
 - (3) Timelines and suspenses which must be met.
 - (4) Planning for future missions.
 - (5) Ongoing actions.
- 3) The engineer battalion S2 communicates information.
- a) Engineer battalion S2 immediately reports PIR and other critical information concerning ongoing and future missions along with analysis to: [FM 5-71-3, p. 2-2]
 - (1) Maneuver brigade commander.
 - (2) Maneuver brigade S3.
 - (3) Engineer battalion commander.
 - (4) Engineer battalion S3.
 - (5) Engineer battalion XO.
 - (6) Companies under engineer battalion control.
 - (7) Engineer battalion rear CP.
 - (8) Division engineer.
 - (9) Assistant brigade engineer (ABE).
 - b) Engineer battalion S2 disseminates: [FM 5-71-3, p. 2-2]
 - (1) Revised products.
 - (a) EBA.
 - (b) Event template.
 - (c) Situation template.
 - (d) Standard and non-standard topographic products.

- (2) PIR and other critical information.
- 4) The engineer battalion S3 and operations section communicate information.
 - a) Engineer battalion S3 and operations section report and disseminate CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [ARTEP 5-145-MTP, Task 5-1-0026/1f; FM 5-71-3, p. 2-15]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion XO.
 - (3) Engineer companies and other subordinate units.
 - (4) Engineer battalion rear CP.
 - (5) Maneuver brigade main CP.
 - (6) ABE.
 - b) The engineer battalion S3 and operations section report CCIR and other critical information concerning the ongoing and future engineer missions along with recommendations to: [FM 5-71-3, pp. 2-8 through 2-15]
 - (1) Maneuver brigade commander.
 - (2) ABE.
 - (3) Division engineer brigade commander.
 - (4) Assistant division engineer.
 - (5) Maneuver brigade subordinate commanders and leaders.
 - (6) Maneuver brigade staff officers who need the information.
 - c) Engineer battalion S3 coordinates with other units to exchange information concerning engineer operations. [FM 5-71-3, p. 2-3, ARTEP 5-145-MTP, Task 5-1-0026/6]
 - (1) Obstacle status, intent, type, and location.

- (2) Mobility plans (maneuver brigade, division, and other maneuver brigades).
 - (3) Terrain management issues with the maneuver brigade S3 to deconflict them.
 - (4) Timelines.
- 5) The engineer battalion NBC NCO communicates information.
 - a) NBC NCO reports CCIR and other critical information concerning ongoing and future missions along with recommendations to: [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
 - (4) Maneuver brigade CMLO.
 - b) NBC NCO reports engineer battalion NBC situation and analysis of CCIR, IR, and routine information to other engineer battalion staff sections and external headquarters/staff officers. [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Maneuver brigade/division engineer NBC NCO.
 - (2) Engineer battalion subordinate commanders and leaders.
 - (3) Supporting NBC units (e.g., decontamination, reconnaissance).
 - (4) Engineer battalion staff officers who need the information.
 - (5) Smoke platoons.
 - c) NBC NCO coordinates with the maneuver brigade CMLO and supporting decontamination units to confirm deliberate decontamination plans and preparations. [FM 5-71-3, pp. 2-3 through 2-4]

- d) NBC NCO confirms NBC reconnaissance plans and preparations with: [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Maneuver brigade CMLO.
 - (2) Company commanders under engineer battalion control.
 - (3) Supporting NBC reconnaissance units.
- 6) The engineer Bn SO and communications section communicate information.
 - a) Engineer Bn SO reports CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [FM 5-71-3, p. 2-3]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
 - (4) Maneuver brigade signal officer.
 - (5) Division signal battalion commander.
 - (6) Engineer battalion subordinate commanders and leaders.
 - (7) Engineer battalion staff officers who need the information.
 - b) Engineer Bn SO coordinates with the engineer battalion S3, adjacent units, and divisional signal battalion headquarters. [FM 5-71-3, p. 2-3]
 - (1) Confirms allocation and locations of signal assets and capabilities.
 - (2) Acquires signal equipment to supplement engineer battalion CPs and subordinate units which require special communications equipment.
 - c) Deconflicts terrain requirements with supported maneuver brigade and other affected units.
- 7) Engineer battalion CSS officers communicate information.

- a) Engineer battalion CSS officers report CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [FM 5-71-3, Chap 6]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
- b) Engineer battalion CSS officers report logistical situation and analysis of CCIR, IR, and routine information to engineer battalion staff and external sources: [FM 5-71-3, Chap 6]
 - (1) Engineer battalion subordinate commanders and leaders.
 - (2) Maneuver brigade rear CP.
 - (3) FSB staff.
 - (4) Engineer battalion staff officers who need the information.
 - (5) Division engineer brigade CSS staff.
- c) Engineer battalion CSS staff performs coordination with engineer brigade staff, maneuver brigade staff, engineer battalion staff, and engineer battalion units: [FM 5-71-3, Chap 6]
 - (1) To identify additional requests for support.
 - (a) Transportation assets by the S4 and HHC commander.
 - (b) Medical treatment and evacuation augmentation by the medical section sergeant.
 - (c) Maintenance support for vehicles and weapon systems and for recovery of damaged vehicles or return of repaired vehicles by the BMT.
 - (2) To coordinate the transportation and throughput of supplies and cargo (e.g., obstacle materials) to engineer battalion units by the S4.

- (3) To coordinate routine, emergency, and critical resupply operations (e.g., delivery times, types and quantities of supplies required) by the S4.
- (4) To receive and process replacements by the S1.
- (5) To track evacuation of personnel and casualties by the S1.
- (6) To process awards, decorations, promotions, and legal actions by the S1.
- (7) For security and protection of CSS units operating forward by the S4.
- (8) To deconflict terrain requirements and projected locations for:
 - (a) Engineer battalion CSS units.
 - (b) Division and higher engineer units.
- (9) To process requests for support of engineer battalion by the S4.
 - (a) Additional transportation assets.
 - (b) Medical augmentation and support.
 - (c) Additional supplies.
 - (d) Intermediate direct support /direct support/intermediate general support maintenance support for vehicles and weapon systems, and for recovery of damaged vehicles or return of repaired vehicles.
- (10) Engineer battalion S4 coordinates the passage of engineer battalion supplies and cargo through adjacent units.
- (11) Engineer battalion S4 coordinates routine, emergency, and critical resupply of the engineer battalion (e.g., delivery times, types, and quantities of supplies required).

- (12) Engineer battalion S1 receives and processes engineer battalion replacements.
 - (13) Engineer battalion S1 tracks evacuation of engineer battalion personnel and casualties.
 - (14) Engineer battalion S1 processes awards, decorations, promotions, and legal actions of engineer battalion personnel.
 - d) CSS officers provide information to the engineer battalion S2 and S3 to support engineer battalion IPB/EBA. [FM 5-71- 3, pp. 2-16 and 2-17]
 - (1) HHC commander reports enemy activity in the vicinity of the engineer battalion rear CP or field trains.
 - (2) BMT reports status of engineer equipment.
 - (3) S1 reports the status of engineer personnel.
 - (4) S4 reports the status of engineer-related supplies, other materials, and transportation operations.
 - e) S4, with assistance from S1 and HHC commander, coordinates line of communications operations with FSB engineer battalion S3, maneuver Bn TFs, and maneuver brigade. [FM 5-71-3, p. 2-4]
3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP, Tasks 5-1- 0002, 5-1-0003, 5-1-0007, 5-1-0018, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0028, 5-1-0039; FM 34- 130, Chap 2; FM 5-71-3, Chap 1 and 2; FM 101-5, Chap 3, Appendices F, J]
- a. The engineer battalion commander updates his estimate based on his assessment of incoming information relating to: [FM 5-71-3, p. 2-1]
 - 1) Mission:
 - a) Identifies changes to:
 - (1) The maneuver brigade and division commanders' intents.
 - (2) The maneuver brigade operations plan relevant to engineer operations.

- (3) The engineer battalion mission.
 - (4) Engineer task organization.
 - b) Progress and completion of engineer battalion preparation activities compared to needed endstate before the battle to include:
 - (1) Planning and refinement of plans.
 - (2) Coordination.
 - (3) Preparations by subordinate units.
- 2) Enemy:
- a) Estimate accuracy:
 - (1) Enemy engineer capabilities.
 - (2) Projected enemy engineer COA.
 - (3) Engineer battalion commander's essential elements of friendly information (EEFI).
 - b) Collection plan responsiveness; status of collection and acquisition of necessary information.
 - (1) PIR and IR:
 - (a) Whether they are being filled.
 - (b) Whether they are adequate to focus requirements for information on the enemy.
 - (2) Adequacy of engineer battalion collection assets' positions and activities.
 - (a) Engineer reconnaissance patrols.
 - (b) Engineer battalion security elements and subordinate units tasked to perform collection requirements.
 - (c) Adjacent and forward units.

- c) Effectiveness of engineer battalion OPSEC measures.
- 3) Troops:
- a) Designated friendly forces information requirements (FFIR) utility.
 - b) Capability to accomplish the engineer battalion mission and achieve the intent based on present capabilities, such as:
 - (1) Systems (vehicles, equipment) which are ready for battle. To include all supported maneuver brigade mobility assets such as mine plows and rollers.
 - (2) Engineer systems which became available since initial force ratio analysis.
 - (3) Projections from BMT of engineer systems which will be available prior to mission execution and those which will not be available.
 - (4) Adequacy of engineer battalion level OPORD synchronization, coordination, integration, and refinements based on rehearsals, backbriefs, reports from the engineer battalion S3, and personal inspections.
 - c) Impact of locations, activities, and intentions of adjacent units (left, right, front, rear, and higher) on engineer battalion battle preparations.
 - d) Subordinate unit plans and preparation activities:
 - (1) Subordinate commanders, and leaders two levels down as time allows, backbrief their missions.
 - (2) Physical preparations of engineer companies and platoons to accomplish their missions.
 - (a) Troop leading procedures.
 - (b) Pre-combat inspections.

- (3) Adequacy of engineer company and other engineer battalion elements' synchronization, integration, and coordination of engineer support, as indicated by:
 - (a) Reconnaissance.
 - (b) Rehearsals.
 - (c) Backbriefs.
 - (d) Visits and inspections.
 - (4) Construction of obstacles, fighting positions, and protective positions in accordance with timelines.
- 4) Terrain:
- a) Accuracy of initial MCOO and impact on the SOEO.
 - (1) Terrain factors (OCOKA).
 - (a) Observation and fields of fire.
 - (b) Cover and concealment.
 - (c) Obstacles.
 - (d) Key terrain.
 - (e) Avenues of approach.
 - (2) Obstacles and progress of engineer battalion efforts to reinforce the terrain.
 - b) Weather and forecasted weather factors' validity.
 - (1) Visibility (including fog and cloud cover) and light data.
 - (2) Effects of weather.
 - (a) Wind speed and directions.
 - (b) Precipitation data.

(c) Temperature and humidity.

(d) Impact on engineer operations.

5) Time:

a) Accomplishment of key mission preparations in accordance with planned timelines.

b) Sufficiency of time available to complete all tasks based on what has/has not been accomplished.

b. The engineer battalion commander projects the endstate of engineer support for the current battle based on his evaluation of the current plan, status of engineer operations, and by anticipating factors associated with each battlefield operating system (BOS). [FM 5-71-3, p. 1-8]

1) Intelligence.

a) Information that confirms or contradicts the IPB. [ARTEP 5- 145-MTP, Task 5-1-0027; FM 5-71-3, p. 2-2]

b) Information collected by engineer reconnaissance elements. [ARTEP 5-145-MTP, Task 5-1-0413]

2) Maneuver.

a) Movement and repositioning criteria support the mission for the engineer battalion operating an engineer TF. [FM 5- 71-3, pp. 3-10 and 5-9]

(1) Reconnaissance, marking, and preparation of routes for use by subordinate units.

(2) Movement can be performed without exposing the engineer TF to enemy fire during disengagement and displacement.

(3) Movement and repositioning times can be achieved.

b) Subordinate unit plans are complete, to include branches and sequels, and achieve his intent. [FM 5-71-3, p. 1-7]

3) Mobility and survivability.

- a) Mobility support activities are implemented. [FM 5-71-3, Chap 3]
 - (1) Priorities for mobility support are achieved.
 - (2) Task organization of engineer mobility assets is accomplished in accordance with designated timelines.
 - (3) The maneuver brigade commander, the maneuver brigade engineer, and fire support officer (FSO) adjust the fire support plan to support breaching operations.
 - (4) Engineer task organization optimizes the maneuver brigade's capability to maintain mobility.
 - (5) Friendly obstacles do not interfere with maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2b1b3, 5-1-0002/3b.
 - (6) The support force is able to execute effective suppressive fires.
 - (7) The assault force is capable of accomplishing its mission.
 - (8) The breach force can reduce the enemy obstacles.
 - (9) The availability of breaching assets supports planned breaching operations.
 - (10) Breach lanes support maneuver brigade mobility requirements.
 - (11) The terrain allows the engineer battalion to assemble near the breach site.
 - (12) Resources are provided for lane improvement.
 - (13) Resources are provided for detailed marking of lanes.
- b) Countermobility activities are implemented. [FM 5-71-3, p. 4-7]
 - (1) Obstacle material consumption reports are accurate and consistent with projected requirements.

- (2) Reports of minefield intention, initiation, and completion are complete and accurate.
- (3) Locations of CL IV and CL V supply points support maneuver TF and engineer company plans.
- (4) Obstacles support the maneuver brigade commander's scheme of maneuver. [FM 90-7, Chap 2]
 - (a) Are in depth throughout the sector to shape the battlefield and to fix, turn, disrupt, and block the enemy.
 - (b) Obstacle groups are emplaced to accomplish the function specified by the maneuver brigade.
 - (c) Obstacle gap and lanes closure signals and triggers are established.
 - (d) Scatterable mine (SCATMINE) employment plans are coordinated and can be implemented to achieve the planned effects. [FM 20-32, Chap 6]
 - (e) Status reports indicate work in maneuver brigade designated obstacle belts is being accomplished in accordance with designated timelines.
- e) Survivability and fighting position construction operations are implemented. [FM 5-71-3, p. 4-6]
 - (1) Weather and soil conditions permit efficient employment of earth-moving assets per the engineer estimate.
 - (2) Priorities for position construction are adhered to.
 - (3) Protective obstacles provide close-in protection.
- f) Engineer battalion OPSEC, security forces, and subordinate unit local force protection operations are assessed; needed changes directed so that: [ARTEP 5-145-MTP, Task 5-2-0913]
 - (1) The engineer battalion is protected as it prepares for the mission.

- (2) The enemy is denied information that provides indications of the commander's concept of the operation (e.g., engineer disposition and activities).
- 4) Fire support.
 - a) Fire support for breaching operations is coordinated. [FM 5-71-3, p. 1-7]
 - b) Obstacles and indirect fires are integrated. [FM 5-71-3, p. 1-8]
 - c) Artillery delivered mine employment is coordinated. [FM 5-71-3, p. 1-8]
- 5) Air defense.
 - a) Engineer battalion operations, such as breaching and obstacle emplacement, are protected from the enemy air threat. [FM 5-71-3, p. 1-8]
 - b) CL IV/V supply points receive protection. [FM 5-71-3, p. 1-8]
- 6) Command and control.
 - a) The engineer battalion commander assesses the stage of preparation compared to anticipated requirements and directs changes, if needed, to battalion preparation guidance. [FM 5-71-3, p. 1-8]
 - b) Positioning of the engineer battalion commander, command group, and CPs allows effective and rapid direction during preparation, transition to mission execution, and for future operations. [FM 5-71-3, pp. 2-4 through 2-6]
 - c) Information systems which aid command and control are available. [FM 5-71-3, pp. 2-23 through 2-25]
 - d) Command and control measures to coordinate and synchronize engineer support during the mission are disseminated and understood. [ARTEP 5-145-MTP, Task 5-1-0018]
 - e) Plans are made for disengagement of the engineer assets, termination of engineer work or reinforcement if enemy activity/capability exceeds capability to protect forces involved.

7) CSS.

- a) Transportation operations are executed as planned. [FM 5-71-3, p. 6-3]
 - (1) Required supplies, equipment, and personnel are delivered to subordinate units on designated MSRs and ASRs: transportation assets are used to back-haul equipment and material as appropriate.
 - (2) Availability and serviceability of materials and equipment are reviewed to ensure that they are transported in accordance with mission requirements.
 - (a) Requirements for additional assets are determined.
 - (b) Missions to and operations of the engineer battalion support platoon transportation assets are consistent with plans.
 - (c) Identifies new priorities for the engineer battalion support platoon.
 - (3) Impact on MSRs and ASRs by weather or enemy action are minimized.
 - (4) Maneuver brigade and engineer battalion transportation assets can transport CL IV and CL V obstacle materials from throughput to engineer battalion and TF work sites.
- b) Supply operations result in the sustainment of the engineer battalion as planned. [FM 5-71-3, pp. 6-7 through 6-9]
 - (1) Routine resupply activities are conducted and units are resupplied as required.
 - (2) Emergency resupply activities are initiated and completed as required.
 - (3) Priorities for resupply are implemented and achieve desired results.
 - (4) CL IV/V obstacle material is available in required amounts.

- (a) CL IV/V supply points are established.
 - (b) Obstacle materials are configured into packages to support all maneuver brigade subordinate units.
 - (c) Accountability of obstacle materials is maintained.
- c) Personnel operations are conducted as planned. [FM 5-71-3, pp. 6-12 and 6-13]
 - (1) Morale, welfare, and recreation support satisfies requirements in accordance with the commander's guidance and priorities.
 - (a) Replacement personnel are inspected, issued equipment, and trained (if time is available) to ensure that they are prepared for combat.
 - (b) Replacement personnel are linked-up with units and are oriented on the engineer battalion and unit situation.
 - (2) Subordinate units have trained personnel required to perform assigned tasks and mission.
 - (a) Unit strength matches TO&E requirements or provides sufficient strength to accomplish assigned missions and tasks.
 - (b) Critical military occupational specialty (MOS) and skills shortages are determined and compensated for so units can accomplish assigned missions and tasks.
- d) Engineer battalion maintenance operations result in engineer equipment being mission ready. [FM 5-71-3, pp. 6-9 through 6-12]
 - (1) Units are brought to fully mission capable status according to commander's repair priority guidance.
 - (2) Maintenance, cannibalization, and controlled substitution/exchange operations are being performed as directed.

- (3) Preventive maintenance checks and services and periodic services are conducted on all vehicles and equipment.
 - (4) Maintenance support is provided to units that are assigned, attached, in direct support, and under operational control.
 - (5) Recovery operations.
 - e) Engineer battalion medical operations comply with stated guidance and intent. [FM 5-71-3, pp. 6-13 and 6-14]
 - (1) Subordinate leaders implement measures to prevent, reduce, and combat battlefield stress.
 - (2) Required support in forms of medical personnel, supplies, and equipment are available and positioned to support the concept of the operation.
 - (3) Evacuation plan and casualty tracking systems are coordinated with all the engineer battalion leaders.
- c. The engineer battalion commander anticipates requirements and actions based on his projection of the outcome of the engineer support to the current battle. [FM 5-71-3, p. 1-8]
 - 1) Intelligence:
 - a) Adjustments necessary to the PIR.
 - b) Additional intelligence collection assets needed.
 - c) Mission changes for intelligence collection assets.
 - 2) Maneuver for the engineer battalion operating as a TF:
 - a) Missions appropriate for all subordinate units.
 - b) Repositioning or reorientation required for units at the end of the current battle.
 - c) Direction or guidance given to subordinate commanders to reduce ambiguity for future operations.

- d) Impact of adjacent unit dispositions, strength, activities, capabilities, and missions on projected engineer Bn TF operations.
- 3) Fire support:
 - a) Changes to planned obstacle locations requiring changes to planned artillery targets.
 - b) Additional fire support required for breaching operations.
- 4) Command and control:
 - a) Adjustments required in engineer battalion command and control.
 - b) Additional communications capability required.
 - c) Impact of time on future actions.
 - d) Adjustments necessary to command and control graphics.
 - e) Adjustments necessary to the DST and other operational matrixes.
- 5) Air defense BOS:
 - a) Repositioning requirements for air defense assets to support engineer operations.
 - b) Adjustments to the AD priorities.
 - c) Requirements for additional air defense assets.
- 6) Mobility and survivability (M/S) BOS:
 - a) Additional mobility/couter-mobility/survivability (M/CM/S) assets required.
 - b) Adjustments to the mobility tasks required.
 - c) Countermobility tasks required.
 - d) Survivability tasks required.
 - e) MOPP status.

- f) Decontamination requirement.
- 7) CSS BOS:
 - a) Additional CSS units required.
 - b) Adjustments necessary in the positioning of logistics support units and nodes.
 - c) Additional supplies, by class of supply required.
 - d) Additional personnel needed by MOS.
- 8) The commander assesses the impact of new FRAGOs from maneuver brigade or division engineer which direct changes to missions. [ARTEP 5-145-MTP, Task 5-1-002, subtask 1]
 - a) Time required to plan and prepare for mission changes based on current mission timelines.
 - b) Ability of engineer battalion to respond to the new situation based on level of mission preparedness.
 - (1) Engineer units available to respond without impacting engineer battalion ability to perform the current mission.
 - (2) Availability of CS, CSS, and supplies to support the new situation without impacting on support necessary for the current mission.
 - c) Capability of the engineer battalion staff to dedicate time and effort to plan and coordinate new missions; impact of diverting key staff members from monitoring preparations for the current mission to planning for a new mission.
- d. The engineer commander informs the supported maneuver brigade commander of the results of his assessment. [AN]
 - 1) The engineer battalion cannot accomplish its assigned mission without additional assets or modification of the concept.
 - 2) The engineer battalion can accomplish its assigned mission.

- e. The engineer battalion commander decides whether the current plan needs to be changed. [ARTEP 5-145-MTP, Task 5-1002, Subtask 4-7]
 - 1) When the plan can be conducted without any adjustments or modifications, engineer battalion commander continues to monitor and direct mission preparation.
 - 2) When the engineer battalion commander decides the plan must be modified; he determines: [FM 5-71-3, p. 2-8]
 - a) COAs previously developed which can be modified and developed as the new plan, or develops an entirely new plan.
 - b) Time available to develop, coordinate, and implement a new plan.
 - c) Subordinate units' ability to complete new preparation requirements under the new plan and task organization.
 - d) Engineer battalion staff's ability to continue to monitor and direct current engineer battalion activities while meeting new planning requirements.
 - 3) The engineer battalion commander determines effects on the military decision-making process (MDMP) based on complexity, potential confusion on the battlefield, staff availability, and time available. [FM 5-71-3, p. 2-15]
- 4. **The engineer battalion commander directs changes to the operation or plan.**
[TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," BCBL-Ft. Leavenworth publication, p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]
 - a. The engineer battalion commander and/or staff issue WARNOs to alert staff members and subordinate elements of changes to the plan. WARNOs may include: [FM 5-71-3, p. 2-15]
 - 1) The enemy situation, events, and the mission, task, or operation.
 - 2) The division and brigade missions.
 - 3) The division and brigade commanders' intents.
 - 4) The engineer battalion commander's intent statement.
 - 5) The earliest time of movement or degree of notice the commander gives to the main body.

- 6) Orders for preliminary action, reconnaissance, surveillance, and observation.
 - 7) Service support instructions, any special equipment necessary, regrouping of transportation, or preliminary moves to assembly areas.
 - 8) The rendezvous point or time for assembly of an orders group, whether commanders or representatives are to attend, and time needed for issuing written orders.
- b. The engineer battalion commander conducts the MDMP in a time-constrained environment, with or without staff assistance. [FM 5-71-3, p. 2-15]
- 1) Products developed during the MDMP for the current mission are used as reference points from which modifications are made to predetermined branches and sequels.
 - a) Weather analysis.
 - b) Terrain analysis.
 - c) Enemy engineer capabilities and updated IPB/EBA products.
 - d) Updated staff estimates.
 - (1) Engineer battalion capabilities.
 - (2) Constraints.
 - e) PIR, EEFI, and FFIR requested by the commander.
 - 2) The engineer battalion commander and staff simultaneously monitor, plan, and direct all aspects of engineer battalion operations (e.g., preparations for the current mission, changes to the current plan, and the next mission being formulated).
 - 3) The engineer battalion commander and staff maintain the pace of engineer battalion preparations to be ready by the designated time, make changes in a timely manner, and, if appropriate, plan for a future mission.
 - 4) The engineer battalion commander completes an update of his estimate.
 - a) Determines the current situation together with expected battle outcome and future state of both friendly and enemy forces.

- b) Recognizes similarities and differences between the initial plan and the current and projected situation occurring during combat.
- c) Determines friendly force posture and enemy probable intentions.
- 5) The engineer battalion commander conducts a rapid mission analysis by:
 - a) Identifying specified tasks.
 - b) Identifying implied tasks.
 - c) Identifying essential tasks.
 - d) Identifying limitations.
 - e) Developing the restated mission.
- 6) The engineer battalion commander may request information from the staff in developing the new SOEO. [ARTEP 5-145- MTP, Task 5-1-0002]
 - a) Uses new maneuver brigade COA to develop the SOEO.
 - b) Uses products and analyses developed during the initial mission MDMP to define branches and sequels for consideration.
 - c) Provides recommendations to modify existing branches and sequels to meet new requirements.
 - d) Provides recommendations on developing new branches and sequels based on new requirements.
 - e) The commander may request information from the staff to support his COA development.
 - (1) BOS specific information from selected staff members.
 - (2) Information available in products developed during the initial mission MDMP.
 - f) The engineer battalion staff assists the engineer battalion commander in his analysis of the plan by providing information. [ARTEP 5-145- MTP, Task 5-1-0002, subtask 2]

- (1) Reviews updated estimates and provides information based on queries.
 - (2) Provides input on previous COAs which could be used as the new plan without detailed COA development.
- 7) The engineer battalion commander develops the new SOEO, considers: [FM 5-71-3, p. 2-11]
 - a) The current situation and information.
 - b) Whether the engineer battalion has the assets and resources to execute the new SOEO.
 - c) Maneuver brigade commander's intent and COA.
 - d) The desired endstate for the engineer battalion as compared to anticipated maneuver brigade endstate.
 - e) METT-T factors:
 - (1) Mission: Identifies specified and implied tasks which his engineer battalion must accomplish.
 - (2) Enemy: The engineer battalion commander identifies:
 - (a) Single or limited number of enemy COA which the maneuver brigade must defeat.
 - (b) Enemy strength, location, disposition, activity, equipment, and capabilities.
 - (3) Terrain and weather: The engineer battalion commander identifies specific aspects of OCOKA, vegetation, soil type, hydrology, climatic conditions, and visibility.
 - (4) Troops: The commander analyzes the engineer battalion's and engineer companies' status in terms of capability and what he believes necessary to accomplish the mission.
 - (a) Capabilities, strengths, and weaknesses of subordinate commanders and units.
 - (b) Engineer systems and equipment.

- (c) Disposition.
 - (d) Supplies.
 - (5) Time: The engineer battalion commander determines the time available for planning, preparing, and executing the operation.
- 8) Engineer battalion commander describes his revised concept and COA to his staff. [FM 5-71-3, p. 2-19, B14, B15]
 - a) The engineer battalion commander expresses COA concepts:
 - (1) Intent and desired endstate.
 - (2) SOEO.
 - (a) Priorities of engineer support.
 - (b) Concept for SCATMINES.
 - (3) Enemy COA(s) to consider.
 - (4) CCIR.
 - (5) Limitations.
 - (6) Risk.
 - (7) Maneuver brigade COA.
 - b) The engineer battalion commander provides the concept and guidance to the staff for detailed COA development and mission analysis.
 - c) If time is available, engineer battalion staff conducts mission analysis and:
 - (1) Develops details on COA provided by the commander.
 - (2) Develops branches and sequels to the selected COA which adhere to the commander's guidance.

- (3) Staff officers provide recommendations, as appropriate, on their functional areas to the commander. [FM 5-71-3, p. 2-1 through 2-4]
- 9) The engineer battalion commander performs a suitability-feasibility-acceptability analysis of the new plan by himself or with staff assistance. [FM 5-71-3, pp. 2-10 through 2-13]
 - a) Suitability factors, which include:
 - (1) New concept accomplishes the mission.
 - (2) New concept meets maneuver brigade and engineer battalion commander's intent.
 - b) Feasibility factors, which include:
 - (1) Time to execute the plan(s) as designed.
 - (a) Duration of events.
 - (b) Time and distance factors for movement.
 - (2) There is sufficient ground space to accomplish the plan(s) as designed.
 - (a) Roads and terrain support the plan.
 - (b) Depth of action.
 - (c) Adequate ground space.
 - (3) Engineer battalion has the means to execute the plan(s) as designed.
 - (a) Engineer battalion engineer assets versus the enemy engineer's (force ratios).
 - (b) The engineer battalion has the special equipment and personnel to accomplish the mission (e.g., bridging equipment, mine clearing, etc.).
 - (c) Impact on ongoing preparation activities.

- (d) Impact on subordinate units.
 - (e) Requirements to alter task organization.
 - c) Acceptability: mission can be accomplished within acceptable levels of risk in terms of mission success and loss of personnel and equipment.
- 10) The engineer battalion commander quickly compares COAs (if more than one).
- 11) The engineer battalion commander selects a COA and announces his decision to key engineer battalion staff members.
- 12) Mission risk assessment is conducted to ensure that conditions most likely to cause mission failure and accidents (including fratricide) have been mitigated.
 - a) Engineer battalion units have been tasked within their capabilities.
 - b) Procedural and positive risk-reduction control measures have been implemented.
- 13) The engineer battalion commander reviews his initial CCIR to determine: [FM 5-71-3, p. 2-19]
 - a) Validity of initial CCIR.
 - b) New CCIR required to provide the engineer battalion commander with the information needed to make decisions about the plan.
- c. The engineer battalion commander directs preparation of a FRAGO. [ARTEP 5-145- MTP, Task 5-1-0002, subtask 6.]
 - 1) The engineer battalion commander provides guidance to the staff to prepare supporting documents: [FM 5-71-3, pp. D-11 through D-19]
 - a) Graphics.
 - b) DST.
 - c) Engineer execution matrix.
 - d) MCOO.

- e) Situation and event templates.
- 2) Engineer battalion staff prepares plans or orders. [ARTEP 5-145-MTP, task 5- 1-0007]
 - a) The engineer battalion XO manages and supervises internal and external coordination by the staff to synchronize plan refinements.
 - b) The engineer battalion staff takes prompt action to accomplish the guidance given by the commander.
 - (1) Publishes refinements to orders, and planning and execution products such as DST, engineer execution matrix, and obstacle overlay.
 - (2) Initiates requests to higher and adjacent units for additional support.
 - c) The engineer battalion staff at the main CP refines plans, facilitates planning for future operations, identifies and corrects problems identified during subordinate unit preparations, and coordinates additional support from maneuver brigade or division engineer.
- 3) The engineer battalion staff develops FRAGOs reflecting changes to the initial plan for the engineer battalion commander's approval:
 - a) Graphics and control measures for the operation.
 - b) DST and engineer execution matrix.
 - c) Obstacle overlay.
 - d) Communications plan.
 - e) CSS plan.
- d. The engineer battalion commander approves FRAGOs and directs members of the staff to issue FRAGOs based on his approval or in compliance with his guidance. [FM 5-71-3, p. 2-23]
 - 1) Complete FRAGOs are issued which contain: [FM 5-71-3, p. 2- 23 and D-12]

- a) Mission statement.
 - b) Commander's intent and concept of the operation.
 - c) Pertinent extracts taken from more detailed orders.
 - d) Task organization, if modified.
 - e) Control measures that promote initiative, synchronization, and agility while minimizing exposure to fratricide.
 - f) Timely changes to existing orders.
- 2) The engineer battalion commander collects the engineer battalion leadership to conduct leaders reconnaissance, and to brief and disseminate updated orders, DST, engineer execution matrix, and other mission documents, if sufficient time is available. [FM 5-71-3, p. 1-8]
- a) Engineer battalion commander and staff refine the plan to correct problems identified during rehearsals.
 - b) The engineer battalion staff works within the commander's intent to:
 - (1) Direct and control units.
 - (2) Allocate resources to support the desired endstate.
 - (3) Alert the commander to changes in the enemy or friendly situations that may require change to orders and plans.
 - c) The engineer battalion S3 informs higher and adjacent headquarters of changes to orders and plans.
- 3) The engineer battalion commander conducts confirmation briefs with subordinate commanders to ensure that they understand the changes to plans and orders. [FM 5-71-3, p. 2-23]
- e. The engineer battalion staff coordinates internally and with higher, adjacent, and supporting elements to coordinate and integrate the new plan. [FM 5-71-3, pp. 2-1 through 2-4]
5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]

- a. The engineer battalion commander performs visits and inspections.
 - 1) Engineer battalion commander provides command presence by exercising three key elements of battle command while conducting visits and inspection. [FM 5-71-3, p. 1-8]
 - a) Leadership: Exercised by inspiring and directing soldiers through personal contact. The commander is able to motivate soldiers with the desire to win through ensuring that their soldiers understand why they are engaged in a particular operation or COA and how it supports and is essential to the overall mission and intent.
 - b) Information assimilation: The commander learns the situation and state of mission preparation throughout the engineer battalion's units and functions.
 - c) Communication: The commander reinforces his intent with and focuses all subordinate leaders on a common goal. Establishing a climate conducive to open and honest communications, the commander expresses his guidance and directives and obtains concerns and issues from subordinate leaders and soldiers.
 - 2) Inspections and visits are scheduled. [FM 5-71-3, p. 2-23]
 - a) Inspections and visits do not significantly interfere with, delay, or artificially sequence subordinate units' combat preparations.
 - b) The commander determines and outlines those items and activities he will inspect based on:
 - (1) Experience.
 - (2) In-depth knowledge of the engineer battalion and its equipment.
 - (3) Assessment of the current status of the units (each company, platoon, special platoon, attachments).
 - (4) Significant points and areas such as:
 - (a) Main effort.
 - (b) Key positions.

- (c) Breach force.
 - (d) Obstacle construction.
 - (5) Items which serve as indicators of maintenance, readiness, or morale trends within the unit (subordinate leader graphics, battle fatigue).
- 3) The engineer battalion commander assesses the state of mission preparedness through inspections and visits. [FM 5-71-3, p. 2-23]
 - a) Questions subordinate leaders down to platoon leaders and mission critical equipment operators and compares their concepts of the operation with his to ensure that the engineer battalion plan is integrated at all levels.
 - b) Concentrates on those units and officers that demonstrate leadership weaknesses; checks, listens, and observes to be sure tasks are understood.
 - c) Inspects and spot-checks previously identified weaknesses to ensure that they have been corrected.
 - d) Makes a subjective assessment of cohesion, morale, and esprit and implements corrective actions when needed.
 - e) When actions taken are not in accordance with decisions, standing operating procedures (SOP), Army standards, and the OPORD, the commander makes corrections.
 - f) Takes actions to ensure correction of noted problems.
 - g) Expedites actions, fixes problems, ensures compliance with guidance, and sets/refines standards.
 - h) Manages his time and prioritizes his visits to visit at least those units most critical to the execution of his intent; e.g.,:
 - (1) The engineer supporting the maneuver brigade main effort.
 - (2) The unit or activity he will be with during the battle.

- i) Informs the engineer battalion XO and his other representatives inspecting preparations of any changes or refinements to the plan which he has directed.
 - 4) The engineer battalion commander extends his command presence by directing members of his staff to perform inspections and visits (XO, CSM, or one or more engineer battalion staff members), and to inform him of refinements and adjustments to engineer battalion preparation activities that they have directed as well as problems that they have observed. [FM 5-71-3, pp. 2-1 through 2-4]
- b. The engineer battalion commander exercises leadership and maintains unit cohesion and discipline.
 - 1) The commander checks that orders are executed and reinforces discipline by demanding compliance to standards and his guidance. [FM 5-71-3, p. 1-8]
 - 2) The commander observes subordinates. [FM 5-71-3, p. 1-8]
 - a) For indicators of shortfalls in performance or manner of performance; takes corrective action as necessary.
 - b) For noteworthy performance that he can praise and recognize.
 - 3) The commander displays a calm presence to subordinates while clearly delineating guidance; provides precise and simple orders and instructions. [FM 5-71-3, p. 1-8]
 - 4) The commander maintains a moral presence by requiring subordinates to maintain appropriate standards. [FM 5-71-3, p. 1-8]
 - 5) The commander monitors subordinates and self for degradation of mental and physical capability.
 - a) Commander appraises own physical and mental state and rests.
 - b) Battalion XO monitors the commander's and staff members' physical and mental state and recommends rest periods.
 - c) Commander ensures that subordinate commanders, staff, and soldiers are rested and prepared for battle.
- c. The engineer battalion commander and staff coordinate and integrate engineer operations through backbriefs. [FM 5-71-3, p. 2-14]

- 1) The engineer battalion commander conducts backbriefs with maneuver brigade staff and subordinate commanders. [FM 5-71-3, p. 2-23]
 - a) During and after the maneuver brigade commander's inspections and visits.
 - b) As directed by the maneuver brigade commander.
 - c) During backbriefs the engineer battalion commander verifies that subordinates understand the SOEO.
- 2) Engineer battalion staff and subordinate commanders perform backbriefs and are responsible for: [FM 5-71-3, p. 2-23; LL - CALL Newsletter No. 93-3]
 - a) Describing in detail how their schemes of engineer operations will be conducted.
 - b) Describing how their concept of the operation supports the engineer battalion commander's intent and contributes to the engineer battalion mission.
 - c) Describing the level of preparation achieved, preparation activities still requiring to be completed, and how they will adhere to the mission timelines.
- d. The engineer battalion commander coordinates and integrates engineer support through rehearsals.
 - 1) The engineer battalion commander, staff, and subordinate units prepare rehearsals. [FM 5-71-3, p. 2-23]
 - a) Commander plans and revises rehearsal objective and schedules based on: [FM 5-71-3, p. 2-18]
 - (1) Time available.
 - (2) Training status of troops.
 - (3) Complexity of the operation.
 - (4) Unit familiarity with rehearsal techniques and SOPs.

- (5) Review of earlier guidance and updates:
 - (a) Rehearsal goals and focus.
 - (b) Technique/method of rehearsal.
 - (c) Rehearsal participants.
 - (d) Rehearsal times and places.
- b) The engineer battalion commander and S3 prioritize tasks to be rehearsed based on: [FM 5-71-3, pp. 2-1 through 2-3]
 - (1) Key (critical) events and activities to be performed in battle.
 - (2) Complexity.
- c) The commander designates the number of engineer battalion level rehearsals.
- d) XO/S3 designates times for rehearsals, such that:
 - (1) Subordinates have sufficient time to conduct rehearsals.
 - (2) Subordinate commanders are not required to be in two places at once.
- e) The commander establishes outcomes, goals, and standards to be achieved.
 - (1) Subordinate commanders, staff, and leaders fully briefback their responsibilities within the parameters of the engineer battalion commander's intent.
 - (2) Identify vulnerabilities in the plan and determine the means to negate them.
- f) Engineer battalion and subordinate units prepare for rehearsals. [FM 5-71-3, p. 5-10]
 - (1) Subordinate units develop at least a tentative plan prior to their participation in the engineer battalion rehearsal.
 - (2) Subordinate units conduct their own rehearsals.

- (3) Subordinate units prepare vehicles, equipment, and soldiers prior to engineer battalion rehearsals.
 - (4) Engineer battalion level rehearsals are planned so that subordinate units are afforded time for their rehearsals.
 - (5) Build rehearsal site.
- g) The entire operation is thoroughly rehearsed using one of the following techniques depending on the time available: [FM 5-71-3, pp. 2-23 and 5-10; LL - CALL Newsletter No. 93-3]
- (1) Level I: Small scale rehearsals that do not involve mounted or dismounted maneuver. Techniques include:
 - (a) Map: Limited number of participants due to map size, used when time and space constraints are limited.
 - (b) Sand table/terrain model: Key leaders only, used to compensate for lack of sufficient time.
 - (c) Rock/stick drill: Same characteristics as sand table/terrain models, except that participants replicate their actions or their units actions.
 - (d) Radio: Participants as directed by the engineer battalion commander, used when time and enemy situations do not allow gathering of personnel; used to test radios and determine backup systems in the event of communications equipment failure.
 - (2) Level II: Focused rehearsals using selected personnel, usually key leaders, mounted in wheeled or tracked vehicles over similar terrain; technique used is tactical exercise without troops, where key leaders participate, conducted on actual mission terrain, or similar terrain.
 - (3) Level III: Maneuver brigade full scale dress rehearsal involving mounted or dismounted maneuver over terrain and distances similar to the area of operations.

h) Rehearsal participants are indicated by type of rehearsal: [FM 5-71-3, p. 2-23]

(1) Type A includes the following persons:

- (a) Battalion commander.
- (b) Battalion XO.
- (c) Battalion S3.
- (d) Battalion S2.
- (e) Battalion primary staff (S1, S4).
- (f) Battalion special staff (BMT, Bn SO, NBC NCO).
- (g) Subordinate commanders including those of attached armor or mechanized infantry elements with their FSO/fire support team (FIST).
- (h) Support platoon leader.

(2) Type B includes the following persons:

- (a) Battalion commander.
- (b) Battalion XO.
- (c) Battalion S3.
- (d) Battalion S2.
- (e) Subordinate commanders including those of attached armor or mechanized infantry elements with their FSO/FIST.

(3) Type C includes the following persons:

- (a) Battalion commander.
- (b) Battalion S3.
- (c) Battalion S2.

- (d) Subordinate commanders including those of attached armor or mechanized infantry elements.
- 2) The engineer battalion conducts engineer battalion rehearsals.
- a) Engineer battalion commander controls and participates in the engineer battalion rehearsal. [FM 5-71-3, p. 1-8]
 - (1) Ensures that rehearsal meets his goals.
 - (2) Briefs participants (or gives guidance to the XO to brief) prior to the rehearsal.
 - (a) Introduces each participant with a brief description of duties and roles for the mission.
 - (b) Provides an overview:
 - 1 Missions and tasks to be rehearsed.
 - 2 Sequence of activities rehearsed.
 - 3 Rehearsal timelines (e.g., time to rehearse each event/phase of the mission).
 - 4 Description of rehearsal site.
 - (3) Exercises the MDMP under the conditions he expects to be faced with during mission execution:
 - (a) Identifies times, events, or enemy reactions during the mission which will require him to make decisions.
 - (b) Observes how his decisions are implemented by engineer battalion units and the staff.
 - (c) Identifies which decisions produce the outcome which supports his intent and desired endstate; and which decisions will not contribute to achieving his intent and desired endstate.

- (d) Assesses utility of his decision support aids (e.g., DST, engineer execution matrix).
- (4) Tracks the probable effect of engineer battalion actions to achieve the desired endstate (with engineer battalion S3's assistance).
- (5) Uses the DST and engineer execution matrix during rehearsals to test synchronization of engineer support. [FM 5-71-3, pp. D-5 through D-19]
- b) The engineer battalion XO participates in battalion rehearsals. [FM 5-71-3, pp. 2-1 and 2-2; LL - CALL Newsletter No. 91-1]
 - (1) Prepares to lead and direct the engineer battalion, as the second-in-command, in the event of the absence of the engineer battalion commander.
 - (2) Ensures that engineer battalion staff is prepared to receive, evaluate, and disseminate information.
 - (3) Synchronizes combat multipliers to support the engineer battalion during the mission.
 - (4) Ensures that CS and CSS operations are synchronized with and support the concept.
 - (5) Describes the positioning and movement of engineer battalion CPs during the mission.
 - (6) Briefs participants in the place of the engineer battalion commander as directed.
 - (7) Ensures that all changes to the plan are recorded, coordinated, and that supporting products are updated (e.g., DST, engineer execution matrix).
- c) Engineer battalion S3 participates in battalion rehearsals. [FM 5-71-3, pp. 2-2 and 2-3]
 - (1) Describes overall operation.

- (2) Ensures that engineer support is synchronized in terms of timing to support maneuver brigade movement and maneuver.
- (3) Describes the positioning and movement of the engineer battalion command group during the mission.
- (4) Assists the engineer battalion commander in tracking the effect of engineer battalion actions to achieve the desired endstate.
- (5) Describes CP displacement ("jump") plan.
- d) Engineer battalion S2 participates in battalion rehearsals. [FM 5-71-3, p. 2-3]
 - (1) Portrays enemy actions and responses.
 - (a) Replicates all plausible and possible events and activities.
 - (b) Ensures that enemy actions are properly depicted to commander, subordinate commanders, and staff.
 - (2) Provides updated enemy and terrain information.
- e) Engineer battalion S4 participates in engineer battalion rehearsals. [FM 5-71-3, p. 2-3]
 - (1) Describes logistic support of engineer battalion.
 - (2) Portrays positioning and movement of CSS assets.
- f) Engineer battalion S1 participates in engineer battalion rehearsals.
 - (1) Describes personnel support of engineer battalion.
 - (2) Describes casualty evacuation.
- g) Engineer battalion NBC NCO participates in battalion rehearsals. [FM 5-71-3, pp. 2-3 and 2-4]

- (1) Describes NBC decontamination support of the engineer battalion (e.g., sites, equipment, procedures if other than SOP).
 - (2) Describes NBC reconnaissance support of the engineer battalion.
 - (3) Portrays potential enemy use of chemicals against the engineer battalion.
 - (4) Describes employment of smoke and other obscurants.
- h) Subordinate commanders, company first sergeant (1SG), (for engineer battalion logistics rehearsals) and, if time and situation allow, subordinate platoon leaders participate in engineer battalion rehearsals.¹ [FM 5-71-3, p. 2-23; FN-NTC Engr OCs]
 - (1) Describe their missions/tasks.
 - (2) Demonstrate how they will accomplish their assigned mission/tasks.
- i) The engineer battalion commander, S3, and other key staff officers conduct rehearsal after action reviews to ensure that critical tasks are rehearsed to acceptable levels of competence. [FM 5-71-3, p. 5- 10]
- j) The engineer battalion conducts multiple types of rehearsals, if time is available, including contingency plans. [FM 5-71-3, p. 2-18; FN-NTC Engr OCs]
 - (1) Engineer operations rehearsal.
 - (2) CSS/logistics rehearsal.
- 3) The engineer battalion commander coordinates and integrates the plan through BOS integration during the rehearsals. [FM 5-71-3, p. 1-5].
 - a) Engineer battalion commander integrates intelligence requirements during the rehearsals. [FM 5-71-3, p. 1-6]

¹ Engr Co commanders and 1SGs also attend the operations and CSS rehearsals respectively conducted by the maneuver Bn TF to which they are task organized. The HHC commander and 1SG attend the FSB rehearsal.

- (1) The commander and S2 review the DST and enemy situation template to ensure that threat COAs are clear and brief backed.
 - (2) The S2 processes information and disseminates updated intelligence of enemy situation, terrain, and weather.
 - (3) Descriptions and locations of obstacles, fortifications, and known or potential contaminated areas and available NBC delivery systems.
 - (4) Threat locations (CPs, weapon systems), strengths, capabilities, probable boundaries, known vulnerabilities, and threat probable COAs and intentions.
- b) The engineer battalion commander integrates maneuver and movement requirements during the rehearsals for when the engineer battalion is functioning as an engineer Bn TF. [FM 5-71-3, pp. 1-7, 5-9]
- (1) Subordinate units' maneuver plans are verified and integrated with the engineer Bn TF plan.
 - (a) Direct fire plans include:
 - 1 Units and weapon systems positions.
 - 2 Trigger lines for the initiation of direct fires.
 - 3 Disengagement and engagement criteria.
 - 4 Direct fire control measures.
 - (b) Maneuver plans include:
 - 1 Actions in the objective area.
 - 2 Actions on contact.
 - 3 Movement techniques.
 - 4 Loading/unloading aircraft and staging operations for air assault operations.

- (c) Security and covering force plans:
 - 1 Passage of lines.
 - 2 Battle-handover.
 - 3 Integration of fire support.
 - 4 Reconstitution.
- (2) Movement plans during the battle are verified.
 - (a) Routes are selected, reconnoitered, and marked.
 - (b) Movement to alternate and supplementary positions, including overwatch covering displacement, takes advantage of available cover and concealment.
 - (c) Direct and indirect fires are synchronized with movement and repositioning to preserve the force and to destroy or delay the enemy.
 - (d) Commitment of the reserve is checked to verify timing and to ensure that it can occupy a position to the flank or rear of the enemy without detection.
- (3) Engineer Bn TF contingency plans, branches, and sequels are verified.
- (4) Reactions to NBC air, artillery, and EW attacks are integrated to ensure force protection and reinforce the engineer Bn TF's ability to perform its mission on a contaminated battlefield.
 - (a) NBC reports and NBC warning and reporting system, including agent detection/identification and MOPP changes, are continuously assessed and disseminated.
 - (b) Decontamination sites and equipment are prepared to support hasty and deliberate decontamination.
 - (c) Engineer Bn TF units and soldiers can perform basic decontamination skills.

- c) The engineer battalion commander integrates M/CM/S requirements during the rehearsals. [FM 5-71-3, p. 1-7]
 - (1) Mobility assets are task organized, positioned, and prepared to respond to potential obstacles and choke point congestion.
 - (a) Engineer and subordinate units are prepared to conduct in-stride and deliberate breaching.
 - (b) Timing and coordination for breaching is finalized to ensure synchronization between the support, breach, and assault forces.
 - (c) Engineers and subordinate units are prepared to perform obstacle reconnaissance to confirm breach sites.
 - (2) Countermobility plan is checked to ensure integration of direct and indirect fire for each obstacle.
 - (3) Survivability positions for vehicles, personnel, and equipment are completed as planned.
- d) The engineer battalion commander integrates fire support requirements during the rehearsals. [FM 5-71-3, pp. 1-7 and 1-8]
- e) The engineer battalion commander integrates air defense requirements during the rehearsals. [FM 5-71-3, p. 1-8]
- f) Engineer battalion commander integrates CSS requirements during the rehearsals. [FM 5-71-3, Chap 6]
 - (1) CSS assets are prepared to provide planned supply, medical, and maintenance support to the engineer battalion during the mission without interfering with the operation.
 - (2) Push packages of emergency resupplies are configured and ready.
 - (3) Designated MSR and ASRs are reviewed to ensure that CSS assets can provide timely response.
 - (4) Medical assets and operations are prepared to support the engineer battalion.

- (5) Vehicles and equipment are recovered, repaired, and returned to user or delivered to higher maintenance echelons during the preparation phase.
- (6) Maintenance assets are task organized and are prepared to provide support; unit maintenance collection point is prepared to displace and provide planned support.
- g) Engineer battalion commander integrates command and control requirements during the rehearsals. [FM 5-71-3, Chap 2]
 - (1) The engineer battalion commander reviews the DST and engineer execution matrix to ensure that:
 - (a) Plan modifications are integrated.
 - (b) Mission details to achieve the commander's intent are adequately reflected.
 - (c) Engineer support is coordinated and integrated:
 - 1 Massed with sufficient redundancy to achieve desired results at the decisive point as designated by the maneuver brigade commander.
 - 2 Subordinate unit commanders backbrief their missions to the engineer battalion commander.
 - 3 Planned command and control measures are reviewed by the engineer battalion commander, staff, and subordinate leaders to verify completeness of all engineer battalion documents; at minimum:
 - a Maneuver graphics (e.g., phase lines, objectives, routes, check and coordination points).
 - b DST.
 - c Synchronization matrix.

d Obstacle overlay.

- (2) CPs and staff are prepared to support the mission.
 - (a) Ready to receive, process, and disseminate information.
 - (b) Move and position to support the engineer battalion commander during the battle.
 - (c) Coordinate and synchronize combat multipliers.
 - (d) Exchange information with the maneuver brigade and adjacent units.
- e. The engineer battalion commander, as the maneuver brigade engineer, participates in maneuver brigade rehearsals. [FM 5-71-3, p. 2-1]
 - 1) Describes movement and employment of engineer assets in support of the maneuver brigade.
 - 2) Ensures that M/CM/S operations are synchronized with maneuver.
- f. The ABE participates in the maneuver brigade rehearsals. [FM 5-71-3, p. 2-2]
 - 1) Coordinates with the Bde S3 to refine brigade plans and products.
 - 2) Records decisions and changes to the brigade plan.
 - 3) Provides relevant information to the engineer battalion CPs.
- g. The engineer battalion commander, as maneuver brigade engineer, attends maneuver Bn TF rehearsals whose assigned missions include critical aspects of M/S BOS. [FN - NTC Engr OCs]
 - 1) Reviews adequacy of TF engineer plans for supporting the maneuver TF scheme of maneuver.
 - 2) Assesses maneuver TF employment of engineer support.
- h. The engineer battalion commander ensures that any refinements to the OPORD/FRAGO and all critical associated documents are updated, reflect his most current guidance, and are distributed. [FM 101-5, App H]

- 1) The battalion commander modifies guidance and orders based on continued preparation activities, rehearsals, and other METT-T information.
 - 2) The engineer battalion staff refines original OPORD and all associated documents based on continued preparation activities, rehearsals, and other METT-T information.
 - 3) The engineer battalion staff refines the FRAGO and all associated documents based on continued preparation activities, rehearsals, and other METT-T information.
 - 4) The engineer battalion staff distributes refined/updated OPORD/FRAGO and associated documents to higher, supported, and subordinate headquarters.
- i. Engineer battalion subordinate units continue final battlefield preparation based on refined/updated OPORD/FRAGO and associated documents. [AN]

TASKS ORGANIZED BY OUTCOMES

This component links the tasks with the outcomes the task performance supports. Each outcome is linked with all appropriate tasks. This component is used for two purposes. The first is to ensure that each BF outcome is sufficiently supported by all tasks necessary to achieve the outcome. The second is to verify that the outcomes selected support the BF purpose and that they are complete in that no additional outcomes are required to define the BF. This component can be used by trainers to facilitate assessment of training proficiency and to plan training.

Outcome 1

Engineer battalion command posts maintain continuous communications with higher, adjacent, and subordinate headquarters.

Task Elements

1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. Engineer battalion CPs manage means of C3.
 - 2) The engineer battalion XO: [FM 5-71-3, p. 2-1, and ARTEP 5-145-MTP, Task 5-1-0026/1, 5-1-0026/2, 5-1-0026/3; CALL, News from the Front]
 - a) Facilitates the flow of information and communication from engineer battalion staff members and subordinate units.
 - c) The engineer battalion XO, as the engineer battalion second in command, directs the engineer battalion main CP operations and controls engineer actions the commander cannot. [FM 5-71-3, p. 2-5]
 - 4) LNOs provide information to the engineer battalion commander and staff, or the maneuver brigade headquarters, or the headquarters they represent, or units they are coordinating with for the engineer battalion. [FM 5-71-3, pp. 2-5, 2-6]
 - 5) Engineer battalion CPs maintain communications (e.g., radio and multi-channel, wire, messenger) with subordinate units, adjacent units, supporting and higher headquarters. [FM 5-71-3, pp. 2-4 - 2-6]

Tasks Organized by Outcomes for Engr Bn BF 19

- a) The engineer Bn SO ensures that communications systems and links (e.g., retransmission) are operational and support the commander, staff, and subordinate leaders.
 - b) The engineer battalion XO manages communications, including positioning of command and control elements.
 - c) The engineer Bn SO controls signal operating instructions (SOI) issue and use.
 - d) The engineer Bn SO coordinates retransmission capabilities for the engineer battalion.
 - e) The engineer Bn SO directs the engineer battalion communications section's efforts on inspecting and testing communications equipment and systems.
- 6) Engineer battalion CPs eavesdrop on higher and adjacent unit command and O&I nets for information as specified in the engineer battalion TSOP. [FM 5-71-3, p. 2-26.]
- 7) Engineer battalion S3 at the tactical (TAC) CP manages communications: [FM 5-71-3, pp. 2-5, 2-25]
- a) Facilitates control and coordination for the engineer battalion commander through communication with adjacent and supporting elements.
 - b) Passes processed information and keeps the engineer battalion commander updated on new information through concise, consolidated updates by eavesdropping on:
 - (1) Maneuver brigade command and O&I nets.
 - (2) Engineer battalion A/L net.
 - (3) Adjacent unit command and O&I nets.
 - (4) Subordinate unit command nets.
 - (5) Division engineer command and O&I nets.
 - c) Operates and monitors communications nets.
 - (1) Engineer battalion command net.

- (2) Maneuver brigade O&I net.
- 8) The engineer battalion HHC commander directs rear CP operations. [FM 5-71-3, p. 2-6]
 - c) Operates on and monitors communications nets.
 - (1) Engineer battalion command.
 - (2) Engineer battalion A/L.
 - (3) Maneuver brigade A/L.
 - (4) Is prepared to cover the same nets as the engineer battalion main CP in the event the main CP is incapacitated.
- 9) The engineer battalion HHC commander directs field trains operations. [FM 5-71-3, pp. 6-2, 6-4]
 - a) Maintains communications through physical liaison with the maneuver brigade rear CP and the FSB.
 - b) Operates on and monitors communications nets.
 - (1) Engineer battalion command.
 - (2) Engineer battalion A/L.
- b. The engineer battalion CPs maintain communications.
 - 1) The engineer Bn SO ensures that engineer battalion communications and links are operational and support the commander, staff, and subordinate leaders. [FM 5-71-3, p. 2-3].
 - a) Monitors and reports the engineer battalion's communications equipment status.
 - b) Ensures that communications are maintained with subordinate, superior and lateral units.
 - c) Monitors COMSEC.
 - 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]

- a) Positioning is such that the engineer battalion commander and CPs maintain communications with higher, adjacent, and subordinate units during preparation and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]
 - (1) The engineer battalion commander exercises command and control during mission preparation.
 - (2) Engineer battalion CPs displace, as required, prior to line of departure or other mission execution time to facilitate command and control during the transition from preparation to the initiation of the battle.
 - (3) Engineer battalion staff ensures that CPs are not detected by the enemy by using passive defense measures.
- b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (1) The engineer battalion commander positions to observe the engineer battalion as it supports the battle.
 - (2) The engineer battalion commander assesses the situation and directs changes to operations as necessary to respond to battlefield events.
 - (3) The engineer battalion commander observes and controls the main effort.
 - (a) Directs the S3 to assist him in observing and controlling main effort.
 - (b) Directs the S3 to observe and control supporting efforts.
 - (4) The engineer battalion commander reacts to events by:
 - (a) Repositioning engineer assets under engineer battalion control.
 - (b) Changing missions of companies under engineer battalion control.

- (c) Changing priorities.
 - (d) Recommending changes to the brigade commander.
 - c) The engineer battalion main CP positions prior to mission execution to: [FM 5-71-3, p. 2-5]
 - (2) Maintain voice and digital communications with higher, adjacent, and subordinate units.
 - d) The engineer battalion rear CP positions prior to mission execution to support the engineer battalion. [FM 5-71-3, p. 2-6]
 - (1) Monitors the engineer battalion A/L net to determine subordinate unit CSS requirements.
 - (2) Rapidly assumes the functions of the battalion main CP if required.
 - e) The engineer battalion CPs take actions to survive: [ARTEP 5-145-MTP, Task 5-1-0018, subtask 1.e.]
 - (1) The CPs employ cover, concealment, and camouflage measures, and use routes which reduce detection by the enemy.
 - (2) CPs establish early warning, perimeter protection, and a reaction force.
 - (3) OPSEC is continually monitored.
 - f) Communications are maintained without interruption with all subordinate elements and higher headquarters to allow the engineer battalion commander and staff to exercise command and control. [FM 5-71-3, pp. 2-23 through 2-26]
5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]
- d. The engineer battalion commander coordinates and integrates engineer support through rehearsals.
 - 3) The engineer battalion commander coordinates and integrates the plan through BOS integration during the rehearsals. [FM 5-71-3, p. 1-5].

- g) Engineer battalion commander integrates command and control requirements during the rehearsals. [FM 5-71-3, Chap 2]
 - (2) CPs and staff are prepared to support the mission.
 - (a) Ready to receive, process, and disseminate information.
 - (b) Move and position to support the engineer battalion commander during the battle.
 - (c) Coordinate and synchronize combat multipliers.
 - (d) Exchange information with the maneuver brigade and adjacent units.

Outcome 2

The battalion commander, staff, and other key individuals within the engineer battalion receive, evaluate, and process timely and accurate information on the adherence to timelines and quality of battle preparation.

Task Elements

- 1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. Engineer battalion CPs manage means of C3.
 - 1) The engineer battalion commander modifies/updates CCIR based on the current situation: [ARTEP 5-145-MTP, Task 5-1-0002]
 - a) Planned progress of preparatory tasks (e.g., changes in engineer equipment, survivability position construction, obstacle construction).
 - b) Changes to mission, enemy, terrain, troops, and time available (METT-T) (e.g., new guidance or missions from the supported maneuver brigade) which cause the engineer battalion commander to modify his CCIR.

- c) Engineer battalion commander's visualization of current preparations progress and desired endstate.
- 2) The engineer battalion XO: [FM 5-71-3, p. 2-1, and ARTEP 5-145-MTP, Task 5-1-0026/1, 5-1-0026/2, 5-1-0026/3; CALL, News from the Front]
 - a) Facilitates the flow of information and communication from engineer battalion staff members and subordinate units.
 - b) Outlines and monitors the performance and responsibilities of the staff in processing mission information, preparation status, and the commander's information requirements.
- 3) The engineer battalion commander or XO selects a "battle captain" (in accordance with the TSOP) who manages the main CP and the operations section when the XO or S3 is not available. [LL-CTC Bulletin 95-4, Chap 1; CTC Bulletin 94-1, p. 5]
 - a) Coordinates and integrates engineer battalion staff activities.
 - b) Initiates staff action as directed by the engineer battalion commander, XO, or S3.
 - c) Provides recommendations to engineer battalion commander, XO, or S3 on current situations and status of unit preparations.
- 4) LNOs provide information to the engineer battalion commander and staff, or the maneuver brigade headquarters, or the headquarters they represent, or units they are coordinating with for the engineer battalion. [FM 5-71-3, pp. 2-5, 2-6]
- 7) Engineer battalion S3 at the tactical (TAC) CP manages communications: [FM 5-71-3, pp. 2-5, 2-25]
 - b) Passes processed information and keeps the engineer battalion commander updated on new information through concise, consolidated updates.
- b. The engineer battalion CPs maintain communications.
 - 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]

- b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (1) The engineer battalion commander positions to observe the engineer battalion as it supports the battle.
 - (2) The engineer battalion commander assesses the situation and directs changes to operations as necessary to respond to battlefield events.
 - (3) The engineer battalion commander observes and controls the main effort.
 - (a) Directs the S3 to assist him in observing and controlling main effort.
 - (b) Directs the S3 to observe and control supporting efforts.
 - c) The engineer battalion main CP positions prior to mission execution to: [FM 5-71-3, p. 2-5]
 - (1) Collect, analyze, and pass critical information.
 - (3) Receive and disseminate situation updates during transition from the preparation phase to mission execution.
 - d) The engineer battalion rear CP positions prior to mission execution to support the engineer battalion. [FM 5-71-3, p. 2-6]
 - (1) Monitors the engineer battalion A/L net to determine subordinate unit CSS requirements.
2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.** [TRADOC Pam 11-9, Section IV; "Battle Command," pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
- a. The engineer battalion commander and staff acquire information.
 - 1) The engineer battalion commander, using techniques such as standardized net calls, schedules and conducts a coordination session with key staff members and subordinate leaders prior to mission execution to collect information. [FM 5-71-3, p. 2-23]

- a) Latest intelligence on the enemy, and standard and non-standard terrain products are disseminated by the engineer battalion S2.
 - b) Modifications to the plan are reviewed to verify understanding.
 - c) Engineer battalion staff officers and subordinate leaders perform final coordination.
 - d) Problems are identified and corrected.
 - e) The session is timed to ensure that final coordination and plan modifications occur in a timely manner (e.g., adjustments to maneuver brigade planned situational obstacle locations for Volcano can be passed to the appropriate assault and obstacle platoon leader).
 - f) Engineer battalion commander and staff continuously conduct assessment of risks to mission success and hazards for engineer operations.
- 2) The engineer battalion commander obtains information relative to engineer battalion preparations. [FM 5-71-3, p. 2-23]
 - 3) Engineer battalion subordinate leaders and staff officers collect and report CCIR according to their area of responsibility. [ARTEP 5-145-MTP, Tasks 5-1-0026, 5-1-0413]
 - 4) The engineer battalion XO obtains information relative to engineer battalion preparations. [FM 5-71-3, pp. 2-1, 2-2]
 - 5) The engineer battalion CSM obtains information relative to the state of engineer battalion preparations. [FM 5-71-3, p. 2-2]
 - 6) The engineer battalion S2 receives significant changes to the intelligence preparation of the battlefield (IPB). [FM 5-71-3, p. 2-2]
 - a) Receives information from division engineer, maneuver brigade, and engineer battalion staff:
 - (1) TerraBase updates from division engineer.
 - (2) Intelligence summaries and spot reports from maneuver brigade and higher headquarters.

- (3) Information from maneuver brigade and adjacent units based on previously submitted information queries.
 - (4) OPSEC reports from the engineer battalion S3 and operations section and subordinate units which contribute to analysis of engineer battalion security posture.
 - (5) Updates from the maneuver brigade S2 on enemy activity based on reports from the divisional military intelligence battalion.
 - (6) Information on current situation learned by eavesdropping on maneuver brigade and adjacent unit command and O&I nets.
- b) Receives information from subordinate units:
- (1) Information resulting from debriefing patrols and other R&S forces performing engineer battalion directed information collection activities, such as gathering OBSTINTEL.
 - (2) Size, activity, location, unit, time, and equipment spot reports from engineer battalion elements.
 - (3) Reports from R&S elements provided by maneuver brigade.
- c) Receives IPB information from engineer battalion or maneuver brigade special staff officers and LNOs acquired through coordination with their counter-parts in higher, adjacent, and "parent" units and passed to the engineer battalion S2.
- d) Receives information through division engineer, maneuver brigade, or from other sources; e.g.,:
- (1) Aerial photographs.
 - (2) Prisoners, deserters, and civilian population.
 - (3) Electronic warfare (EW), radars, and sensors.
- 7) Engineer battalion S3, and S3 operations section obtain information from engineer battalion or maneuver brigade subordinate units which may affect operations. [FM 5-71-3, pp. 2-2, 2-3, 2-5, 2-6]

- a) Preparation status of engineer battalion subordinate units.
 - (1) Adherence to timelines.
 - (2) Status of survivability position construction.
 - (3) Status of obstacle production and turnover.
 - (4) Equipment status.
 - (5) Other preparations.
- b) Changes to engineer company or maneuver Bn TF plans.
- c) Reports from maneuver brigade subordinate units (e.g., Bn TFs, R&S forces, security elements, other subordinate units):
 - (1) Enemy contact:
 - (a) Ground.
 - (b) Fires.
 - (c) Other.
 - (2) Current strength and combat power.
 - (3) Status of preparation activities and other tasks as outlined in mission timelines for:
 - (a) Maneuver brigade security forces.
 - (b) Engineer companies.
 - (4) Status of task organization.
 - (5) OPSEC reports.
 - (a) Signal security reports (e.g., loss of SOI, graphics).
 - (b) Meaconing, interference, jamming, intrusion (MIJI) reports.
 - (6) Results of local security operations.

- (a) Security patrols.
 - (b) Listening posts/observation posts.
 - (7) Obstacle overlays, minefield reports, sector sketches, and other products as directed by engineer battalion TSOP and the engineer battalion commander.
 - d) Requests for resources from engineer battalion subordinate units based on their mission analyses and determination of their needs to accomplish their assigned tasks.
 - e) Recommendations from engineer battalion subordinate commanders on changes to the plan based on their mission analyses, current status, and projected status.
 - f) Information by eavesdropping on: [FM 5-71-3, p. 2-26]
 - (1) Maneuver brigade units' command nets, such as:
 - (a) Orders from maneuver brigade commander to other commanders.
 - (b) Situation reports by maneuver Bn TF commanders or other maneuver brigade assets to maneuver brigade CPs.
 - (2) Maneuver Bn TF's command nets.
- b. The engineer battalion commander and staff evaluate required information and update products.
- 1) The engineer battalion commander evaluates information and reports received from: [FM 5-71-3, p. 1-8]
 - a) Engineer companies.
 - b) Other subordinates.
 - c) Engineer battalion staff.
 - d) The maneuver brigade or division engineer.
 - e) The ABE.

- 2) The engineer battalion XO at the main CP evaluates information and reports received from: [FM 5-71-3, pp. 2-1, 2-2, 2-5]
 - a) The rear CP.
 - b) The TAC CP.
 - c) Engineer battalion subordinate units.
 - d) The supported maneuver brigade or division engineer.
 - e) Adjacent units.
 - f) Other staff officers.
- 3) The engineer battalion CSM evaluates information and reports received from: [FM 5-71-3, p. 2-2]
 - a) Personal observations made during visits and inspections of subordinate unit preparatory activities.
 - b) Reports from other noncommissioned officers in units subordinate to the engineer battalion.
- 4) The engineer battalion S2.
 - a) Engineer battalion S2 evaluates intelligence information. [FM 5-71-3, pp. 2-15 through 2-16]
 - (1) Changes to guidance/direction and information related to intelligence collection.
 - (2) Information which confirms or refutes IPB information which may affect achieving the commander's intent:
 - (a) Information requirements (IR)/PIR.
 - (b) NAIs and TAIs.
 - (3) Indications that R&S plan or operations will or will not continue to meet engineer battalion and maneuver brigade commanders' intents.
 - (a) Positioning of assets to collect PIR and IR.

- (b) Positioning of assets to maintain constant observation of NAIs.
- b) Engineer battalion S2 tracks status of engineer reconnaissance teams, requests for standard and non-standard topographic products, and information requests. [FN-NTC ENGR OC] [AN]
- c) Engineer battalion S2 maintains IPB. [FM 5-71-3, p. 2-2]
 - (1) Briefs patrol leaders and other R&S forces on collection tasks, primarily related to OBSTINTEL and other engineer information. [FM 90-13-1, p. 2-2]
 - (2) Location (confirmed and suspected) of enemy obstacles, to include:
 - (a) Composition.
 - (b) Orientation.
 - (c) Marking.
 - (d) Fusing.
 - (3) Enemy activity.
 - (a) Indications of possible intent.
 - (b) Enemy reactions to friendly battle techniques.
 - (c) Specific enemy actions triggered by friendly actions or events.
 - (4) Adherence to, or deviation from, postulated enemy course of action (COA).
- d) The engineer battalion S2 updates products. [FM 5-71-3, p. 2-2]
 - (1) The situation template.
 - (2) The event template.
 - (3) The EBA.

- 5) The engineer battalion S3 and operations section.
 - a) Engineer battalion S3 and operations section evaluate information. [FM 5-71-3, pp. 2-8 through 2-13]
 - (1) OPORDs from engineer battalion subordinate units to ensure synchronization with maneuver brigade and engineer battalion OPORD.
 - (2) Information which confirms or refutes IPB information which may affect achieving the commander's intent.
 - (3) Changes to the engineer battalion commander's guidance/direction and information concerning priorities and timelines.
 - (4) Desired engineer battalion endstates compared with what is possible based on the current scheme of engineer operations (SOEO) situation and trends.
 - (a) Maneuver units.
 - (b) Fire support units.
 - (c) Engineer units.
 - (d) CSS units.
 - (5) Changes to the maneuver brigade maneuver plan for impact on maneuver brigade subordinate units' maneuver plans.
 - (6) Engineer battalion OPSEC information received from maneuver brigade sources and internal engineer battalion sources.
 - (7) Information learned from the main effort TF's OPORD briefing. [AN]
 - (8) Backbriefs from TFs' engineers. [AN]
 - b) The engineer battalion S3 and operations section update products. [FM 5-71-3, pp. 2-2, 2-3; LL - CALL Newsletter No. 88-3]
 - (1) Operations overlay. (Consolidated brigade and TFs.)

- (2) Obstacle overlay.
 - (3) Decision support template.
 - (4) Engineer execution matrix.
- 6) The engineer battalion NBC NCO.
 - a) The engineer battalion NBC NCO evaluates information. [FM 5-71-3, pp. 2-3 and 2-4]
 - (1) Chemical downwind messages.
 - (2) NBC 1 reports.
 - (3) NBC 2 reports.
 - (4) NBC 4 reports.
 - (5) NBC 5 reports.
 - (6) NBC 6 reports.
 - (7) Information from the engineer battalion S2 pertaining to enemy NBC capabilities.
 - b) Engineer battalion NBC NCO updates NBC products. [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Updates NBC estimate (may or may not be in written form) and MOPP analysis.
 - (2) Enemy NBC capabilities.
 - (3) NBC equipment and supplies inventories.
 - (4) NBC overlays and graphics.
 - c) Engineer battalion NBC NCO tracks and develops activities against his chemical defense analysis. [FN-NTC Engr OC]
- 7) The engineer Bn SO and communications section.
 - a) The engineer Bn SO and communications section evaluate information. [FM 5-71-3, p. 2-3]

- (1) MIJI reports.
 - (2) Communications equipment status reports.
 - (3) COMSEC reports.
 - b) Engineer Bn SO updates communications products. [FM 5- 71-3, p. 2-3]
 - (1) Updates signal estimates (may or may not be in written form).
 - (2) Communications network overlay, area coverage overlay, and dead space overlay.
 - (3) SOIs and secure equipment keying device codes.
- 8) Engineer battalion CSS officers.
- a) All CSS officers evaluate information. [FM 5-71-3, Chap 6]
 - (1) Current personnel and medical status.
 - (2) Current maintenance, transportation, and supply status.
 - (3) Information which confirms or refutes IPB information which may affect achieving the commander's intent.
 - (4) Answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
 - (5) Impact of adjusted plans from subordinate units on engineer battalion CSS plans.
 - b) Engineer battalion CSS officers update products.
 - (1) Engineer battalion S4 and HHC commander update transportation information and status. [FM 5-71-3, pp. 6-2 to 6-3].
 - (a) Updated transportation estimates (may or may not be in written form).
 - (b) Schedules and priorities.

- (c) Status of supplies, equipment, and materials requiring transport.
 - (d) Availability of ground transport assets.
 - (e) Availability of air transportation assets (from engineer battalion S3).
 - (f) Logistical package convoys organization, loads, times, and schedules.
 - (g) Transportation recovery plan and back-haul plan.
 - (h) MSR and ASR traffic and route conditions.
 - (i) Transportation priorities are directed by the engineer battalion commander.
- (2) Engineer battalion S4 updates supply information and status. [FM 5-71-3, Chap 6]
- (a) Updates the supply estimate (may or may not be in written form).
 - (b) Combat basic loads (e.g., vehicles uploaded with CL V; vehicles topped off with CL III, and on-hand supply status of subordinate and supported units).
 - (c) Configuration and location of immediate and emergency resupply (CL III, IV and V) loads and push packages.
 - (d) Supply priorities as directed by the engineer battalion commander.
 - (e) Establishment and fill of stockpiles and caches.
- (3) Engineer battalion S1 updates personnel information. [FM 5-71-3, Chap 6]
- (a) Updates the personnel estimate (may or may not be in written form).
 - (b) Personnel status of subordinate and supported units.

- (c) Casualty feeder reports.
 - (d) Reception and processing of replacements.
 - (e) Forecast of replacements.
 - (f) Personnel actions (awards, decorations, promotions, legal action).
 - (g) EPW processing and evacuation.
 - (h) Soldier morale and welfare activities.
 - (i) Personnel priorities are directed by the engineer battalion commander.
- (4) The engineer BMT updates maintenance information. [FM 5-71-3, Chap 6]
- (a) Updates the maintenance estimate (may or may not be in written form).
 - (b) Number and type of systems on hand and operational.
 - 1 Combat.
 - 2 Combat support (CS).
 - 3 CSS.
 - (c) Systems non-mission capable (NMC) and repairable.
 - (d) Timelines for repair and return of vehicles and equipment.
 - (e) On hand CL IX, ASL, and PLL stockage levels.
 - (f) Maintenance activities performed by company maintenance teams and maintenance support teams, including the location of the maintenance activities.

- (g) Maintenance priorities and guidelines as directed by the engineer battalion commander.
- (5) Engineer battalion medical section leader updates medical information. [FM 5-71-3, pp. 6-13 and 6-14]
 - (a) Updates the medical estimate (may or may not be in written form).
 - (b) Casualty evacuation records.
 - (c) CL VIII stock availability and resupply actions.
 - (d) Augmentation by FSB medical assets.
 - (e) Disposition and capability of treatment and evacuation support in the form of maneuver battalions' TF forward aid stations, main aid stations, medical teams attached to subordinate units, and medical/ambulance support from the FSB medical company.
 - (f) Medical priorities as directed by the engineer battalion commander.
 - (g) Subunits' casualty evacuation plans.
- (6) Engineer battalion S4 and HHC commander update RACO information. [ARTEP 5-145-MTP, Task 5-1-0039]
 - (a) Updated RACO estimates.
 - (b) Threat (levels I, II, and III) from engineer battalion S2.
 - (c) Base and base cluster defense plans integrated with FSB and maneuver brigade defense plans.
 - 1 Forces available for local security operations and reaction force.
 - 2 Indirect fire support.
 - 3 Communications capabilities.

c. Engineer battalion CPs maintain information and engineer status; update mission essential products.

- 1) Engineer battalion command group/TAC CP maintains and updates mission essential products: [FM 5-71-3, p. 2-5]
 - a) Information which supports the engineer battalion CCIR.
 - b) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
 - c) O&I map.
 - (1) Operations overlay (maneuver brigade, engineer battalion subordinate units, and adjacent units).
 - (2) Fire support overlay.
 - (3) Situation template overlay.
 - (4) Event template overlay.
 - (5) MCOO.
 - (6) Obstacle graphics.
 - d) DST.
 - e) Synchronization matrix.
 - f) Engineer execution matrix.
- 2) Main CP maintains and updates mission essential information: [FM 5-71-3, p. 2- 5]
 - a) O&I map.
 - (1) Operations overlay (maneuver brigade, Bn TFs, and adjacent units).
 - (2) Fire support overlay.
 - (3) Situation template overlay.
 - (4) Event template.

- (5) MCOO.
- (6) NBC overlay.
- (7) CSS overlay.
- (8) Obstacle graphics.
- b) CSS overlays and information per engineer battalion TSOP.
- c) Intelligence information from maneuver brigade and higher headquarters.
- d) Status of preparation activities to ensure compliance with stated mission timelines.
- e) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
- f) Status of engineer task organization.
- g) Obstacle and survivability position construction and progress as compared to timelines.
- h) Utilization of engineer assets and materials as compared to timelines.
- i) DST.
- j) Engineer execution matrix.
- k) Plans map (with overlays for future operations).
- l) Synchronization matrix.
- m) Journals/logs:
 - (1) Operations.
 - (2) Intelligence.
- 3) Engineer battalion rear CP maintains and updates mission-essential information and products: [FM 5-71-3, p. 2-6]

- a) Current O&I map.
 - (1) Operations overlay (maneuver brigade, maneuver Bn TFs, and adjacent maneuver brigades' flank units).
 - (2) Rear operations, security, and threat overlay.
 - (3) Fire support overlay.
 - (4) Situation template overlay.
 - (5) Event template overlay.
 - (6) MCOO.
 - (7) Obstacle graphics.
- b) DST.
- c) Engineer execution matrix.
- d) CSS situation map and overlays.
 - (1) MSR and ASR.
 - (2) CSS locations, current and projected.
 - (3) Decontamination sites.
- e) Synchronization matrix (applicable to employment as an engineer Bn TF).
- f) CSS staff journal.
- g) Current and projected personnel and equipment status.
 - (1) Personnel strength.
 - (2) Operational equipment strength.
 - (3) Status of supplies.
 - (4) Replacement personnel status/location.
 - (5) Damaged and NMC vehicles and equipment.

- (a) Recovery status.
 - (b) Repair status.
 - (c) Replacement status.
 - h) Status on location and evacuation of EPW and their equipment.
 - i) Status on location and evacuation of displaced civilians.
 - j) Status on location and availability of civilian equipment and materials.
- 4. **The engineer battalion commander directs changes to the operation or plan.**
[TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]
 - b. The engineer battalion commander conducts the MDMP in a time-constrained environment, with or without staff assistance. [FM 5-71-3, p. 2-15]
 - 2) The engineer battalion commander and staff simultaneously monitor, plan, and direct all aspects of engineer battalion operations (e.g., preparations for the current mission, changes to the current plan, and the next mission being formulated).
 - 3) The engineer battalion commander and staff maintain the pace of engineer battalion preparations to be ready by the designated time, make changes in a timely manner, and, if appropriate, plan for a future mission.
 - 6) The engineer battalion commander may request information from the staff in developing the new SOEO. [ARTEP 5-145- MTP, Task 5-1-0002]
 - a) Uses new maneuver brigade COA to develop the SOEO.
 - b) Uses products and analyses developed during the initial mission MDMP to define branches and sequels for consideration.
 - c) Provides recommendations to modify existing branches and sequels to meet new requirements.
 - d) Provides recommendations on developing new branches and sequels based on new requirements.

- e) The commander may request information from the staff to support his COA development.
 - (1) BOS specific information from selected staff members.
 - (2) Information available in products developed during the initial mission MDMP.
 - f) The engineer battalion staff assists the engineer battalion commander in his analysis of the plan by providing information. [ARTEP 5-145- MTP, Task 5-1-0002, subtask 2]
 - (1) Reviews updated estimates and provides information based on queries.
 - (2) Provides input on previous COAs which could be used as the new plan without detailed COA development.
5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]
- a. The engineer battalion commander performs visits and inspections.
 - 1) Engineer battalion commander provides command presence by exercising three key elements of battle command while conducting visits and inspection. [FM 5- 71-3, p. 1-8]
 - b) Information assimilation: The commander learns the situation and state of mission preparation throughout the engineer battalion's units and functions.
 - 2) Inspections and visits are scheduled. [FM 5-71-3, p. 2-23]
 - a) Inspections and visits do not significantly interfere with, delay, or artificially sequence subordinate units' combat preparations.
 - b) The commander determines and outlines those items and activities he will inspect based on:
 - (1) Experience.
 - (2) In-depth knowledge of the engineer battalion and its equipment.

- (3) Assessment of the current status of the units (each company, platoon, special platoon, attachments).
 - (4) Significant points and areas such as:
 - (a) Main effort.
 - (b) Key positions.
 - (c) Breach force.
 - (d) Obstacle construction.
 - (5) Items which serve as indicators of maintenance, readiness, or morale trends within the unit (subordinate leader graphics, battle fatigue).
- 3) The engineer battalion commander assesses the state of mission preparedness through inspections and visits. [FM 5-71-3, p. 2-23]
- a) Questions subordinate leaders down to platoon leaders and mission critical equipment operators and compares their concepts of the operation with his to ensure that the engineer battalion plan is integrated at all levels.
 - b) Concentrates on those units and officers that demonstrate leadership weaknesses; checks, listens, and observes to be sure tasks are understood.
 - c) Inspects and spot-checks previously identified weaknesses to ensure that they have been corrected.
 - d) Makes a subjective assessment of cohesion, morale, and esprit and implements corrective actions when needed.
 - h) Manages his time and prioritizes his visits to visit at least those units most critical to the execution of his intent; e.g.,:
 - (1) The engineer supporting the maneuver brigade main effort.
 - (2) The unit or activity he will be with during the battle.
- 4) The engineer battalion commander extends his command presence by directing members of his staff to perform inspections and visits (XO, CSM, or one or more engineer battalion staff members), and to inform him

of refinements and adjustments to engineer battalion preparation activities that they have directed as well as problems that they have observed. [FM 5-71-3, pp. 2-1 through 2-4]

- b. The engineer battalion commander exercises leadership and maintains unit cohesion and discipline.
 - 5) The commander monitors subordinates and self for degradation of mental and physical capability.
 - a) Commander appraises own physical and mental state and rests.
 - b) Battalion XO monitors the commander's and staff members' physical and mental state and recommends rest periods.
- f. The ABE participates in the maneuver brigade rehearsals. [FM 5-71-3, p. 2-2]
 - 2) Records decisions and changes to the brigade plan.
 - 3) Provides relevant information to the engineer battalion CPs.
- g. The engineer battalion commander, as maneuver brigade engineer, attends maneuver Bn TF rehearsals whose assigned missions include critical aspects of M/S BOS. [FN - NTC Engr OCs]
 - 1) Reviews adequacy of TF engineer plans for supporting the maneuver TF scheme of maneuver.
 - 2) Assesses maneuver TF employment of engineer support.

Outcome 3

Tactically sound recommendations are developed and critical information is communicated by the battalion staff and subordinate leaders.

Task Elements

- 1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. Engineer battalion CPs manage means of C3.

- 1) The engineer battalion commander modifies/updates CCIR based on the current situation: [ARTEP 5-145-MTP, Task 5-1-0002]
 - a) Planned progress of preparatory tasks (e.g., changes in engineer equipment, survivability position construction, obstacle construction).
 - b) Changes to mission, enemy, terrain, troops, and time available (METT-T) (e.g., new guidance or missions from the supported maneuver brigade) which cause the engineer battalion commander to modify his CCIR.
 - c) Engineer battalion commander's visualization of current preparations progress and desired endstate.
- 2) The engineer battalion XO: [FM 5-71-3, p. 2-1, and ARTEP 5-145-MTP, Task 5-1-0026/1, 5-1-0026/2, 5-1-0026/3; CALL, News from the Front]
 - a) Facilitates the flow of information and communication from engineer battalion staff members and subordinate units.
- 4) LNOs provide information to the engineer battalion commander and staff, or the maneuver brigade headquarters, or the headquarters they represent, or units they are coordinating with for the engineer battalion. [FM 5-71-3, pp. 2-5, 2-6]
 - a) Responses to specific questions asked of LNOs.
 - b) Unit locations, activities, capabilities, status, and intentions.
 - c) Receipt of mission change or new guidance by the supported headquarters.
 - d) Coordination problems.
 - (1) Inability to reach/meet with specific people or staff positions.
 - (2) Receipt of information which invalidates or changes estimates and plans.
- 7) Engineer battalion S3 at the tactical (TAC) CP manages communications: [FM 5-71-3, pp. 2-5, 2-25]

- b) Passes processed information and keeps the engineer battalion commander updated on new information through concise, consolidated updates.
 - b. The engineer battalion CPs maintain communications.
 - 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]
 - b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (4) The engineer battalion commander reacts to events by:
 - (d) Recommending changes to the brigade commander.
- 2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.** [TRADOC Pam 11-9, Section IV; "Battle Command," pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. The engineer battalion commander and staff acquire information.
 - 1) The engineer battalion commander, using techniques such as standardized net calls, schedules and conducts a coordination session with key staff members and subordinate leaders prior to mission execution to collect information. [FM 5-71-3, p. 2-23]
 - a) Latest intelligence on the enemy, and standard and non-standard terrain products are disseminated by the engineer battalion S2.
 - c) Engineer battalion staff officers and subordinate leaders perform final coordination.
 - d) Problems and corrective action.
 - e) The session is timed to ensure that final coordination and plan modifications occur in a timely manner (e.g., adjustments to maneuver brigade planned situational obstacle locations for Volcano can be passed to the appropriate assault and obstacle platoon leader).

- 3) Engineer battalion subordinate leaders and staff officers collect and report CCIR according to their area of responsibility. [ARTEP 5-145-MTP, Tasks 5-1-0026, 5-1-0413]
- d. The engineer battalion commander and staff communicate information.
 - 1) The engineer battalion commander communicates information. [FM 5-71-3, p. 2-1]
 - a) Changes to his intent to subordinate commanders and staff.
 - b) Changes to the SOEO to the maneuver brigade commander and staff.
 - c) Changes in subordinate units' status noted during inspections and visits to affected staff.
 - 2) All engineer battalion staff officers disseminate information. [FM 5-71-3, pp. 2-1 through 2-6]
 - a) Provide briefings to the commander on the status of mission preparedness.
 - b) Each staff representative communicates critical information needed to:
 - (1) Coordinate engineer battalion actions and plans.
 - (2) Monitor the situation.
 - (3) Direct engineer battalion actions.
 - c) All engineer battalion staff officers remain alert for and ensure that critical information they receive is passed to other staff officers who require the information as soon as it is received.
 - d) Information is communicated between engineer battalion staff officers during shift change briefings on the situation: [FM 5-71-3, pp. B-1 through B-5; LL - CALL, News from the Front]
 - (1) Enemy activities.
 - (2) Status of subordinate units.
 - (3) Timelines and suspenses which must be met.

- (4) Planning for future missions.
 - (5) Ongoing actions.
- 3) The engineer battalion S2 communicates information.
 - a) Engineer battalion S2 immediately reports PIR and other critical information concerning ongoing and future missions along with analysis to: [FM 5-71-3, p. 2-2]
 - (1) Maneuver brigade commander.
 - (2) Maneuver brigade S3.
 - (3) Engineer battalion commander.
 - (4) Engineer battalion S3.
 - (5) Engineer battalion XO.
 - (6) Companies under engineer battalion control.
 - (7) Engineer battalion rear CP.
 - (8) Division engineer.
 - (9) ABE.
 - b) Engineer battalion S2 disseminates: [FM 5-71-3, p. 2-2]
 - (1) Revised products.
 - (a) EBA.
 - (b) Event template.
 - (c) Situation template.
 - (d) Standard and non-standard topographic products.
 - (2) PIR and other critical information.
- 4) The engineer battalion S3 and operations section communicate information.

- a) Engineer battalion S3 and operations section report and disseminate CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [ARTEP 5-145-MTP, Task 5-1-0026/1f; FM 5-71-3, p. 2-15]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion XO.
 - (3) Engineer companies and other subordinate units.
 - (4) Engineer battalion rear CP.
 - (5) Maneuver brigade main CP.
 - (6) ABE.
- b) The engineer battalion S3 and operations section report CCIR and other critical information concerning the ongoing and future engineer missions along with recommendations to: [FM 5-71-3, pp. 2-8 through 2-15]
 - (1) Maneuver brigade commander.
 - (2) ABE.
 - (3) Division engineer brigade commander.
 - (4) Assistant division engineer.
 - (5) Maneuver brigade subordinate commanders and leaders.
 - (6) Maneuver brigade staff officers who need the information.
- c) Engineer battalion S3 coordinates with other units to exchange information concerning engineer operations. [FM 5-71-3, p. 2-3, ARTEP 5-145-MTP, Task 5-1-0026/6]
 - (1) Obstacle status, intent, type, and location.
 - (2) Mobility plans (maneuver brigade, division, and other maneuver brigades).
 - (3) Terrain management issues with the maneuver brigade S3 to deconflict them.

- (4) Timelines.
- 5) The engineer battalion NBC NCO communicates information.
 - a) NBC NCO reports CCIR and other critical information concerning ongoing and future missions along with recommendations to: [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
 - (4) Maneuver brigade CMLO.
 - b) NBC NCO reports engineer battalion NBC situation and analysis of CCIR, IR, and routine information to other engineer battalion staff sections and external headquarters/staff officers. [FM 5-71-3, pp. 2-3 through 2-4]
 - (1) Maneuver brigade/division engineer NBC NCO.
 - (2) Engineer battalion subordinate commanders and leaders.
 - (3) Supporting NBC units (e.g., decontamination, reconnaissance).
 - (4) Engineer battalion staff officers who need the information.
 - (5) Smoke platoons.
 - c) NBC NCO coordinates with the maneuver brigade CMLO and supporting decontamination units to confirm deliberate decontamination plans and preparations. [FM 5-71-3, pp. 2-3 through 2-4]
- 6) The engineer Bn SO and communications section communicate information.
 - a) Engineer Bn SO reports CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [FM 5-71-3, p. 2-3]

- (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
 - (4) Maneuver brigade signal officer.
 - (5) Division signal battalion commander.
 - (6) Engineer battalion subordinate commanders and leaders.
 - (7) Engineer battalion staff officers who need the information.
- b) Engineer Bn SO coordinates with the engineer battalion S3, adjacent units, and divisional signal battalion headquarters. [FM 5-71-3, p. 2-3]
- (1) Confirms allocation and locations of signal assets and capabilities.
 - (2) Acquires signal equipment to supplement engineer battalion CPs and subordinate units which require special communications equipment.
- 7) Engineer battalion CSS officers communicate information.
- a) Engineer battalion CSS officers report CCIR and other critical information concerning the ongoing and future missions along with recommendations to: [FM 5-71-3, Chap 6]
- (1) Engineer battalion commander.
 - (2) Engineer battalion S3.
 - (3) Engineer battalion XO.
- b) Engineer battalion CSS officers report logistical situation and analysis of CCIR, IR, and routine information to engineer battalion staff and external sources: [FM 5-71-3, Chap 6]
- (1) Engineer battalion subordinate commanders and leaders.
 - (2) Maneuver brigade rear CP.

- (3) FSB staff.
- (4) Engineer battalion staff officers who need the information.
- (5) Division engineer brigade CSS staff.
- c) Engineer battalion CSS staff performs coordination with engineer brigade staff, maneuver brigade staff, engineer battalion staff, and engineer battalion units: [FM 5-71-3, Chap 6]
 - (1) To identify additional requests for support.
 - (a) Transportation assets by the S4 and HHC commander.
 - (b) Medical treatment and evacuation augmentation by the medical section sergeant.
 - (c) Maintenance support for vehicles and weapon systems and for recovery of damaged vehicles or return of repaired vehicles by the BMT.
 - (2) To coordinate the transportation and throughput of supplies and cargo (e.g., obstacle materials) to engineer battalion units by the S4.
 - (3) To coordinate routine, emergency, and critical resupply operations (e.g., delivery times, types and quantities of supplies required) by the S4.
 - (4) To receive and process replacements by the S1.
 - (5) To track evacuation of personnel and casualties by the S1.
 - (6) To process awards, decorations, promotions, and legal actions by the S1.
 - (7) For security and protection of CSS units operating forward by the S4.
 - (8) To deconflict terrain requirements and projected locations for:
 - (a) Engineer battalion CSS units.

- (b) Division and higher engineer units.
- (9) To process requests for support of engineer battalion by the S4.
 - (a) Additional transportation assets.
 - (b) Medical augmentation and support.
 - (c) Additional supplies.
 - (d) Intermediate direct support/direct support/intermediate general support maintenance support for vehicles and weapon systems, and for recovery of damaged vehicles or return of repaired vehicles.
- (10) Engineer battalion S4 coordinates the passage of engineer battalion supplies and cargo through adjacent units.
- (11) Engineer battalion S4 coordinates routine, emergency, and critical resupply of the engineer battalion (e.g., delivery times, types, and quantities of supplies required).
- (12) Engineer battalion S1 receives and processes engineer battalion replacements.
- (13) Engineer battalion S1 tracks evacuation of engineer battalion personnel and casualties.
- (14) Engineer battalion S1 processes awards, decorations, promotions, and legal actions of engineer battalion personnel.
- d) CSS officers provide information to the engineer battalion S2 and S3 to support engineer battalion IPB/EBA. [FM 5-71- 3, pp. 2-16 and 2-17]
 - (1) HHC commander reports enemy activity in the vicinity of the engineer battalion rear CP or field trains.
 - (2) BMT reports status of engineer equipment.
 - (3) S1 reports the status of engineer personnel.

- (4) S4 reports the status of engineer-related supplies, other materials, and transportation operations.
3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP, Tasks 5-1- 0002, 5-1-0003, 5-1-0007, 5-1-0018, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0028, 5-1-0039; FM 34-130, Chap 2; FM 5-71-3, Chap 1 and 2; FM 101-5, Chap 3, Appendices F, J]
 - d. The engineer commander informs the supported maneuver brigade commander of the results of his assessment. [AN]
 - 1) The engineer battalion cannot accomplish its assigned mission without additional assets or modification of the concept.
 - 2) The engineer battalion can accomplish its assigned mission.
4. **The engineer battalion commander directs changes to the operation or plan.** [TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]
 - b. The engineer battalion commander conducts the MDMP in a time-constrained environment, with or without staff assistance. [FM 5-71-3, p. 2-15]
 - 2) The engineer battalion commander and staff simultaneously monitor, plan, and direct all aspects of engineer battalion operations (e.g., preparations for the current mission, changes to the current plan, and the next mission being formulated).
 - 6) The engineer battalion commander may request information from the staff in developing the new SOEO. [ARTEP 5-145-MTP, Task 5-1-0002]
 - f) The engineer battalion staff assists the engineer battalion commander in his analysis of the plan by providing information. [ARTEP 5-145-MTP, Task 5-1-0002, subtask 2]
 - (1) Reviews updated estimates and provides information based on queries.
 - (2) Provides input on previous COAs which could be used as the new plan without detailed COA development.
 - 8) Engineer battalion commander describes his revised concept and COA to his staff. [FM 5-71-3, p. 2-19, B14, B15]

- c) If time is available, engineer battalion staff conducts mission analysis and:
 - (3) Staff officers provide recommendations, as appropriate, on their functional areas to the commander. [FM 5-71-3, p. 2-1 through 2-4]
 - 13) The engineer battalion commander reviews his initial CCIR to determine: [FM 5-71-3, p. 2-19]
 - a) Validity of initial CCIR.
 - b) New CCIR required to provide the engineer battalion commander with the information needed to make decisions about the plan.
 - d. The engineer battalion commander approves FRAGOs and directs members of the staff to issue FRAGOs based on his approval or in compliance with his guidance. [FM 5-71-3, p. 2-23]
 - 2) The engineer battalion commander collects the engineer battalion leadership to conduct leaders reconnaissance, and to brief and disseminate updated orders, DST, engineer execution matrix, and other mission documents, if sufficient time is available. [FM 5-71-3, p. 1-8]
 - b) The engineer battalion staff works within the commander's intent to:
 - (1) Direct and control units.
 - (2) Allocate resources to support the desired endstate.
 - (3) Alert the commander to changes in the enemy or friendly situations that may require change to orders and plans.
 - e. The engineer battalion staff coordinates internally and with higher, adjacent, and supporting elements to coordinate and integrate the new plan. [FM 5-71-3, pp. 2-1 through 2-4]
 - 5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]
 - e. The engineer battalion commander, as the maneuver brigade engineer, participates in maneuver brigade rehearsals. [FM 5-71-3, p. 2-1]

- 1) Describes movement and employment of engineer assets in support of the maneuver brigade.
- 2) Ensures that M/CM/S operations are synchronized with maneuver.
- f. The ABE participates in the maneuver brigade rehearsals. [FM 5-71-3, p. 2-2]
 - 1) Coordinates with the Bde S3 to refine brigade plans and products.
 - 2) Records decisions and changes to the brigade plan.
 - 3) Provides relevant information to the engineer battalion CPs.

Outcome 4

Sound (feasible, suitable, acceptable) decisions are made by the engineer battalion commander and others within the engineer battalion.

Task Elements

1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. Engineer battalion CPs manage means of C3.
 - 1) The engineer battalion commander modifies/updates CCIR based on the current situation: [ARTEP 5-145-MTP, Task 5-1-0002]
 - a) Planned progress of preparatory tasks (e.g., changes in engineer equipment, survivability position construction, obstacle construction).
 - b) Changes to mission, enemy, terrain, troops, and time available (METT-T) (e.g., new guidance or missions from the supported maneuver brigade) which cause the engineer battalion commander to modify his CCIR.
 - c) Engineer battalion commander's visualization of current preparations progress and desired endstate.
 - b. The engineer battalion CPs maintain communications.

- 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]
 - b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (2) The engineer battalion commander assesses the situation and directs changes to operations as necessary to respond to battlefield events.
 - (4) The engineer battalion commander reacts to events by:
 - (a) Repositioning engineer assets under engineer battalion control.
 - (b) Changing missions of companies under engineer battalion control.
 - (c) Changing priorities.
 - (d) Recommending changes to the brigade commander.
2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.** [TRADOC Pam 11-9, Section IV; "Battle Command," pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - a. The engineer battalion commander and staff acquire information.
 - 1) The engineer battalion commander, using techniques such as standardized net calls, schedules and conducts a coordination session with key staff members and subordinate leaders prior to mission execution to collect information. [FM 5-71-3, p. 2-23]
 - f) Engineer battalion commander and staff continuously conduct assessment of risks to mission success and hazards for engineer operations.
3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0003, 5-1-0007, 5-1-0018, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0028, 5-1-0039; FM 34-130, Chap 2; FM 5-71-3, Chap 1 and 2; FM 101-5, Chap 3, Appendices F, J]

- a. The engineer battalion commander updates his estimate based on his assessment of incoming information relating to: [FM 5-71-3, p. 2-1]
 - 1) Mission:
 - a) Identifies changes to:
 - (1) The maneuver brigade and division commanders' intents.
 - (2) The maneuver brigade operations plan relevant to engineer operations.
 - (3) The engineer battalion mission.
 - (4) Engineer task organization.
 - b) Progress and completion of engineer battalion preparation activities compared to needed endstate before the battle to include:
 - (1) Planning and refinement of plans.
 - (2) Coordination.
 - (3) Preparations by subordinate units.
 - 2) Enemy:
 - a) Estimate accuracy:
 - (1) Enemy engineer capabilities.
 - (2) Projected enemy engineer COA.
 - (3) Engineer battalion commander's essential elements of friendly information (EEFI).
 - b) Collection plan responsiveness; status of collection and acquisition of necessary information.
 - (1) PIR and IR:
 - (a) Whether they are being filled.
 - (b) Whether they are adequate to focus requirements for information on the enemy.

- (2) Adequacy of engineer battalion collection assets' positions and activities.
 - (a) Engineer reconnaissance patrols.
 - (b) Engineer battalion security elements and subordinate units tasked to perform collection requirements.
 - (c) Adjacent and forward units.
- c) Effectiveness of engineer battalion OPSEC measures.
- 3) Troops:
 - a) Designated friendly forces information requirements (FFIR) utility.
 - b) Capability to accomplish the engineer battalion mission and achieve the intent based on present capabilities, such as:
 - (1) Systems (vehicles, equipment) which are ready for battle. To include all supported maneuver brigade mobility assets such as mine plows and rollers.
 - (2) Engineer systems which became available since initial force ratio analysis.
 - (3) Projections from BMT of engineer systems which will be available prior to mission execution and those which will not be available.
 - (4) Adequacy of engineer battalion level OPORD synchronization, coordination, integration, and refinements based on rehearsals, backbriefs, reports from the engineer battalion S3, and personal inspections.
 - c) Impact of locations, activities, and intentions of adjacent units (left, right, front, rear, and higher) on engineer battalion battle preparations.
 - d) Subordinate unit plans and preparation activities:
 - (1) Subordinate commanders, and leaders two levels down as time allows, backbrief their missions.

- (2) Physical preparations of engineer companies and platoons to accomplish their missions.
 - (a) Troop leading procedures.
 - (b) Pre-combat inspections.
 - (3) Adequacy of engineer company and other engineer battalion elements' synchronization, integration, and coordination of engineer support, as indicated by:
 - (a) Reconnaissance.
 - (b) Rehearsals.
 - (c) Backbriefs.
 - (d) Visits and inspections.
 - (4) Construction of obstacles, fighting positions, and protective positions in accordance with timelines.
- 4) Terrain:
- a) Accuracy of initial MCOO and impact on the SOEO.
 - (1) Terrain factors (OCOKA).
 - (a) Observation and fields of fire.
 - (b) Cover and concealment.
 - (c) Obstacles.
 - (d) Key terrain.
 - (e) Avenues of approach.
 - (2) Obstacles and progress of engineer battalion efforts to reinforce the terrain.
 - b) Weather and forecasted weather factors' validity.
 - (1) Visibility (including fog and cloud cover) and light data.
 - (2) Effects of weather.

- (a) Wind speed and directions.
 - (b) Precipitation data.
 - (c) Temperature and humidity.
 - (d) Impact on engineer operations.
- 5) Time:
 - a) Accomplishment of key mission preparations in accordance with planned timelines.
 - b) Sufficiency of time available to complete all tasks based on what has/has not been accomplished.
- b. The engineer battalion commander projects the endstate of engineer support for the current battle based on his evaluation of the current plan, status of engineer operations, and by anticipating factors associated with each battlefield operating system (BOS). [FM 5-71-3, p. 1-8]
 - 1) Intelligence.
 - a) Information that confirms or contradicts the IPB. [ARTEP 5-145-MTP, Task 5-1-0027; FM 5-71-3, p. 2-2]
 - b) Information collected by engineer reconnaissance elements. [ARTEP 5-145-MTP, Task 5-1-0413]
 - 2) Maneuver.
 - a) Movement and repositioning criteria support the mission for the engineer battalion operating an engineer TF. [FM 5-71-3, pp. 3-10 and 5-9]
 - (1) Reconnaissance, marking, and preparation of routes for use by subordinate units.
 - (2) Movement can be performed without exposing the engineer TF to enemy fire during disengagement and displacement.
 - (3) Movement and repositioning times can be achieved.

- b) Subordinate unit plans are complete, to include branches and sequels, and achieve his intent. [FM 5-71-3, p. 1-7]
- 3) Mobility and survivability.
 - a) Mobility support activities are implemented. [FM 5-71-3, Chap 3]
 - (1) Priorities for mobility support are achieved.
 - (2) Task organization of engineer mobility assets is accomplished in accordance with designated timelines.
 - (3) The maneuver brigade commander, the maneuver brigade engineer, and fire support officer (FSO) adjust the fire support plan to support breaching operations.
 - (4) Engineer task organization optimizes the maneuver brigade's capability to maintain mobility.
 - (5) Friendly obstacles do not interfere with maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2b1b3, 5-1-0002/3b.
 - (6) The support force is able to execute effective suppressive fires.
 - (7) The assault force is capable of accomplishing its mission.
 - (8) The breach force can reduce the enemy obstacles.
 - (9) The availability of breaching assets supports planned breaching operations.
 - (10) Breach lanes support maneuver brigade mobility requirements.
 - (11) The terrain allows the engineer battalion to assemble near the breach site.
 - (12) Resources are provided for lane improvement.
 - (13) Resources are provided for detailed marking of lanes.
 - b) Countermobility activities are implemented. [FM 5-71-3, p. 4-7]

- (1) Obstacle material consumption reports are accurate and consistent with projected requirements.
- (2) Reports of minefield intention, initiation, and completion are complete and accurate.
- (3) Locations of CL IV and CL V supply points support maneuver TF and engineer company plans.
- (4) Obstacles support the maneuver brigade commander's scheme of maneuver. [FM 90-7, Chap 2]
 - (a) Are in depth throughout the sector to shape the battlefield and to fix, turn, disrupt, and block the enemy.
 - (b) Obstacle groups are emplaced to accomplish the function specified by the maneuver brigade.
 - (c) Obstacle gap and lanes closure signals and triggers are established.
 - (d) Scatterable mine (SCATMINE) employment plans are coordinated and can be implemented to achieve the planned effects. [FM 20-32, Chap 6]
 - (e) Status reports indicate work in maneuver brigade designated obstacle belts is being accomplished in accordance with designated timelines.
- e) Survivability and fighting position construction operations are implemented. [FM 5-71-3, p. 4-6]
 - (1) Weather and soil conditions permit efficient employment of earth-moving assets per the engineer estimate.
 - (2) Priorities for position construction are adhered to.
 - (3) Protective obstacles provide close-in protection.
- f) Engineer battalion OPSEC, security forces, and subordinate unit local force protection operations are assessed; needed changes directed so that: [ARTEP 5-145-MTP, Task 5-2-0913]

- (1) The engineer battalion is protected as it prepares for the mission.
 - (2) The enemy is denied information that provides indications of the commander's concept of the operation (e.g., engineer disposition and activities).
- 4) Fire support.
 - a) Fire support for breaching operations is coordinated. [FM 5-71-3, p. 1-7]
 - b) Obstacles and indirect fires are integrated. [FM 5-71-3, p. 1-8]
 - c) Artillery delivered mine employment is coordinated. [FM 5-71-3, p. 1-8]
- 5) Air defense.
 - a) Engineer battalion operations, such as breaching and obstacle emplacement, are protected from the enemy air threat. [FM 5-71-3, p. 1-8]
 - b) CL IV/V supply points receive protection. [FM 5-71-3, p. 1-8]
- 6) Command and control.
 - a) The engineer battalion commander assesses the stage of preparation compared to anticipated requirements and directs changes, if needed, to battalion preparation guidance. [FM 5-71-3, p. 1-8]
 - b) Positioning of the engineer battalion commander, command group, and CPs allows effective and rapid direction during preparation, transition to mission execution, and for future operations. [FM 5-71-3, pp. 2-4 through 2-6]
 - c) Information systems which aid command and control are available. [FM 5-71-3, pp. 2-23 through 2-25]
 - d) Command and control measures to coordinate and synchronize engineer support during the mission are disseminated and understood. [ARTEP 5-145-MTP, Task 5-1-0018]

- e) Plans are made for disengagement of the engineer assets, termination of engineer work or reinforcement if enemy activity/capability exceeds capability to protect forces involved.
- 7) CSS.
- a) Transportation operations are executed as planned. [FM 5-71-3, p. 6- 3]
 - (1) Required supplies, equipment, and personnel are delivered to subordinate units on designated MSRs and ASRs: transportation assets are used to back-haul equipment and material as appropriate.
 - (2) Availability and serviceability of materials and equipment are reviewed to ensure that they are transported in accordance with mission requirements.
 - (a) Requirements for additional assets are determined.
 - (b) Missions to and operations of the engineer battalion support platoon transportation assets are consistent with plans.
 - (c) Identifies new priorities for the engineer battalion support platoon.
 - (3) Impact on MSRs and ASRs by weather or enemy action are minimized.
 - (4) Maneuver brigade and engineer battalion transportation assets can transport CL IV and CL V obstacle materials from throughput to engineer battalion and TF work sites.
 - b) Supply operations result in the sustainment of the engineer battalion as planned. [FM 5-71-3, pp. 6-7 through 6-9]
 - (1) Routine resupply activities are conducted and units are resupplied as required.
 - (2) Emergency resupply activities are initiated and completed as required.
 - (3) Priorities for resupply are implemented and achieve desired results.

- (4) CL IV/V obstacle material is available in required amounts.
 - (a) CL IV/V supply points are established.
 - (b) Obstacle materials are configured into packages to support all maneuver brigade subordinate units.
 - (c) Accountability of obstacle materials is maintained.
- c) Personnel operations are conducted as planned. [FM 5-71-3, pp. 6-12 and 6-13]
 - (1) Morale, welfare, and recreation support satisfies requirements in accordance with the commander's guidance and priorities.
 - (a) Replacement personnel are inspected, issued equipment, and trained (if time is available) to ensure that they are prepared for combat.
 - (b) Replacement personnel are linked-up with units and are oriented on the engineer battalion and unit situation.
 - (2) Subordinate units have trained personnel required to perform assigned tasks and mission.
 - (a) Unit strength matches TO&E requirements or provides sufficient strength to accomplish assigned missions and tasks.
 - (b) Critical military occupational specialty (MOS) and skills shortages are determined and compensated for so units can accomplish assigned missions and tasks.
- d) Engineer battalion maintenance operations result in engineer equipment being mission ready. [FM 5-71-3, pp. 6-9 through 6-12]
 - (1) Units are brought to fully mission capable status according to commander's repair priority guidance.

- (2) Maintenance, cannibalization, and controlled substitution/exchange operations are being performed as directed.
 - (3) Preventive maintenance checks and services and periodic services are conducted on all vehicles and equipment.
 - (4) Maintenance support is provided to units that are assigned, attached, in direct support, and under operational control.
 - (5) Recovery operations.
- e) Engineer battalion medical operations comply with stated guidance and intent. [FM 5-71-3, pp. 6-13 and 6-14]
 - (1) Subordinate leaders implement measures to prevent, reduce, and combat battlefield stress.
 - (2) Required support in forms of medical personnel, supplies, and equipment are available and positioned to support the concept of the operation.
 - (3) Evacuation plan and casualty tracking systems are coordinated with all the engineer battalion leaders.
- c. The engineer battalion commander anticipates requirements and actions based on his projection of the outcome of the engineer support to the current battle. [FM 5-71-3, p. 1-8]
 - 1) Intelligence:
 - a) Adjustments necessary to the PIR.
 - b) Additional intelligence collection assets needed.
 - c) Mission changes for intelligence collection assets.
 - 2) Maneuver for the engineer battalion operating as a TF:
 - a) Missions appropriate for all subordinate units.
 - b) Repositioning or reorientation required for units at the end of the current battle.
 - c) Direction or guidance given to subordinate commanders to reduce ambiguity for future operations.

- d) Impact of adjacent unit dispositions, strength, activities, capabilities, and missions on projected engineer Bn TF operations.
- 3) Fire support:
 - a) Changes to planned obstacle locations requiring changes to planned artillery targets.
 - b) Additional fire support required for breaching operations.
- 4) Command and control:
 - a) Adjustments required in engineer battalion command and control.
 - b) Additional communications capability required.
 - c) Impact of time on future actions.
 - d) Adjustments necessary to command and control graphics.
 - e) Adjustments necessary to the DST and other operational matrixes.
- 5) Air defense BOS:
 - a) Repositioning requirements for air defense assets to support engineer operations.
 - b) Adjustments to the AD priorities.
 - c) Requirements for additional air defense assets.
- 6) Mobility and survivability (M/S) BOS:
 - a) Additional M/CM/S assets required.
 - b) Adjustments to the mobility tasks required.
 - c) Countermobility tasks required.
 - d) Survivability tasks required.
 - e) MOPP status.

- f) Decontamination requirement.
- 7) CSS BOS:
 - a) Additional CSS units required.
 - b) Adjustments necessary in the positioning of logistics support units and nodes.
 - c) Additional supplies, by class of supply required.
 - d) Additional personnel needed by MOS.
- 8) The commander assesses the impact of new FRAGOs from maneuver brigade or division engineer which direct changes to missions. [ARTEP 5-145-MTP, Task 5-1-002, subtask 1]
 - a) Time required to plan and prepare for mission changes based on current mission timelines.
 - b) Ability of engineer battalion to respond to the new situation based on level of mission preparedness.
 - (1) Engineer units available to respond without impacting engineer battalion ability to perform the current mission.
 - (2) Availability of CS, CSS, and supplies to support the new situation without impacting on support necessary for the current mission.
 - c) Capability of the engineer battalion staff to dedicate time and effort to plan and coordinate new missions; impact of diverting key staff members from monitoring preparations for the current mission to planning for a new mission.
- e. The engineer battalion commander decides whether the current plan needs to be changed. [ARTEP 5-145-MTP, Task 5-1002, Subtask 4-7]
 - 1) When the plan can be conducted without any adjustments or modifications, engineer battalion commander continues to monitor and direct mission preparation.
 - 2) When the engineer battalion commander decides the plan must be modified; he determines: [FM 5-71-3, p. 2-8]

- a) COAs previously developed which can be modified and developed as the new plan, or develops an entirely new plan.
 - b) Time available to develop, coordinate, and implement a new plan.
 - c) Subordinate units' ability to complete new preparation requirements under the new plan and task organization.
 - d) Engineer battalion staff's ability to continue to monitor and direct current engineer battalion activities while meeting new planning requirements.
- 3) The engineer battalion commander determines effects on the military decision-making process (MDMP) based on complexity, potential confusion on the battlefield, staff availability, and time available. [FM 5-71-3, p. 2-15]
4. **The engineer battalion commander directs changes to the operation or plan.**
[TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," BCBL-Ft. Leavenworth publication, p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]
- b. The engineer battalion commander conducts the MDMP in a time-constrained environment, with or without staff assistance. [FM 5-71-3, p. 2-15]
 - 1) Products developed during the MDMP for the current mission are used as reference points from which modifications are made to predetermined branches and sequels.
 - a) Weather analysis.
 - b) Terrain analysis.
 - c) Enemy engineer capabilities and updated IPB/EBA products.
 - d) Updated staff estimates.
 - (1) Engineer battalion capabilities.
 - (2) Constraints.
 - e) PIR, EEFI, and FFIR requested by the commander.
 - 4) The engineer battalion commander completes an update of his estimate.

- a) Determines the current situation together with expected battle outcome and future state of both friendly and enemy forces.
 - b) Recognizes similarities and differences between the initial plan and the current and projected situation occurring during combat.
 - c) Determines friendly force posture and enemy probable intentions.
- 5) The engineer battalion commander conducts a rapid mission analysis by:
- a) Identifying specified tasks.
 - b) Identifying implied tasks.
 - c) Identifying essential tasks.
 - d) Identifying limitations.
 - e) Developing the restated mission.
- 6) The engineer battalion commander may request information from the staff in developing the new SOEO. [ARTEP 5-145-MTP, Task 5-1-0002]
- a) Uses new maneuver brigade COA to develop the SOEO.
 - b) Uses products and analyses developed during the initial mission MDMP to define branches and sequels for consideration.
 - c) Provides recommendations to modify existing branches and sequels to meet new requirements.
 - d) Provides recommendations on developing new branches and sequels based on new requirements.
 - e) The commander may request information from the staff to support his COA development.
 - (1) BOS specific information from selected staff members.
 - (2) Information available in products developed during the initial mission MDMP.
 - f) The engineer battalion staff assists the engineer battalion commander in his analysis of the plan by providing information. [ARTEP 5-145-MTP, Task 5-1-0002, subtask 2]

- (1) Reviews updated estimates and provides information based on queries.
 - (2) Provides input on previous COAs which could be used as the new plan without detailed COA development.
- 7) The engineer battalion commander develops the new SOEO, considers: [FM 5-71-3, p. 2-11]
 - a) The current situation and information.
 - b) Whether the engineer battalion has the assets and resources to execute the new SOEO.
 - c) Maneuver brigade commander's intent and COA.
 - d) The desired endstate for the engineer battalion as compared to anticipated maneuver brigade endstate.
 - e) METT-T factors:
 - (1) Mission: Identifies specified and implied tasks which his engineer battalion must accomplish.
 - (2) Enemy: The engineer battalion commander identifies:
 - (a) Single or limited number of enemy COA which the maneuver brigade must defeat.
 - (b) Enemy strength, location, disposition, activity, equipment, and capabilities.
 - (3) Terrain and weather: The engineer battalion commander identifies specific aspects of OCOKA, vegetation, soil type, hydrology, climatic conditions, and visibility.
 - (4) Troops: The commander analyzes the engineer battalion's and engineer companies' status in terms of capability and what he believes necessary to accomplish the mission.
 - (a) Capabilities, strengths, and weaknesses of subordinate commanders and units.
 - (b) Engineer systems and equipment.

- (c) Disposition.
 - (d) Supplies.
- (5) Time: The engineer battalion commander determines the time available for planning, preparing, and executing the operation.
- 8) Engineer battalion commander describes his revised concept and COA to his staff. [FM 5-71-3, p. 2-19, B14, B15]
 - a) The engineer battalion commander expresses COA concepts:
 - (1) Intent and desired endstate.
 - (2) SOEO.
 - (a) Priorities of engineer support.
 - (b) Concept for SCATMINES.
 - (3) Enemy COA(s) to consider.
 - (4) CCIR.
 - (5) Limitations.
 - (6) Risk.
 - (7) Maneuver brigade COA.
 - b) The engineer battalion commander provides the concept and guidance to the staff for detailed COA development and mission analysis.
 - c) If time is available, engineer battalion staff conducts mission analysis and:
 - (1) Develops details on COA provided by the commander.
 - (2) Develops branches and sequels to the selected COA which adhere to the commander's guidance.

- (3) Staff officers provide recommendations, as appropriate, on their functional areas to the commander. [FM 5-71-3, p. 2-1 through 2-4]
- 9) The engineer battalion commander performs a suitability-feasibility-acceptability analysis of the new plan by himself or with staff assistance. [FM 5-71-3, pp. 2-10 through 2-13]
 - a) Suitability factors, which include:
 - (1) New concept accomplishes the mission.
 - (2) New concept meets maneuver brigade and engineer battalion commander's intent.
 - b) Feasibility factors, which include:
 - (1) Time to execute the plan(s) as designed.
 - (a) Duration of events.
 - (b) Time and distance factors for movement.
 - (2) There is sufficient ground space to accomplish the plan(s) as designed.
 - (a) Roads and terrain support the plan.
 - (b) Depth of action.
 - (c) Adequate ground space.
 - (3) Engineer battalion has the means to execute the plan(s) as designed.
 - (a) Engineer battalion engineer assets versus the enemy engineer's (force ratios).
 - (b) The engineer battalion has the special equipment and personnel to accomplish the mission (e.g., bridging equipment, mine clearing, etc.).
 - (c) Impact on ongoing preparation activities.
 - (d) Impact on subordinate units.

- (e) Requirements to alter task organization.
 - c) Acceptability: mission can be accomplished within acceptable levels of risk in terms of mission success and loss of personnel and equipment.
- 10) The engineer battalion commander quickly compares COAs (if more than one).
- 11) The engineer battalion commander selects a COA and announces his decision to key engineer battalion staff members.
- 12) Mission risk assessment is conducted to ensure that conditions most likely to cause mission failure and accidents (including fratricide) have been mitigated.
 - a) Engineer battalion units have been tasked within their capabilities.
 - b) Procedural and positive risk-reduction control measures have been implemented.
- 13) The engineer battalion commander reviews his initial CCIR to determine: [FM 5-71-3, p. 2-19]
 - a) Validity of initial CCIR.
 - b) New CCIR required to provide the engineer battalion commander with the information needed to make decisions about the plan.

Outcome 5

Affected units and personnel receive relevant direction, changes, and refinements to plans in time to perform troop leading procedures and required preparation.

Task Elements

1. **Engineer battalion command posts manage and maintain command, control, and communications.** [TRADOC Pam 11-9, Section IV; "Battle Command", pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - b. The engineer battalion CPs maintain communications.
- 2) CPs locate where they can control the preparation for and transition to battle. [FM 5-71-3, pp. 2-4 through 2-6]

- b) The engineer battalion commander and TAC CP position prior to mission execution to exercise command and control during the initial stages of execution. [FM 5-71-3, p. 2-5]
 - (2) The engineer battalion commander assesses the situation and directs changes to operations as necessary to respond to battlefield events.
 - (3) The engineer battalion commander observes and controls the main effort.
 - (a) Directs the S3 to assist him in observing and controlling main effort.
 - (b) Directs the S3 to observe and control supporting efforts.
 - (4) The engineer battalion commander reacts to events by:
 - (a) Repositioning engineer assets under engineer battalion control.
 - (b) Changing missions of companies under engineer battalion control.
 - (c) Changing priorities.
 - (d) Recommending changes to the brigade commander.
- 2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.** [TRADOC Pam 11-9, Section IV; "Battle Command," pp. 43, 65; ARTEP 5-145-MTP, Tasks 5-1-0002, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0413; FM 5-71-3, Chap 2; FM 101-5, Chap 3, 5, App J]
 - d. The engineer battalion commander and staff communicate information.
 - 1) The engineer battalion commander communicates information. [FM 5-71-3, p. 2-1]
 - a) Changes to his intent to subordinate commanders and staff.
 - b) Changes to the SOEO to the maneuver brigade commander and staff.

4. **The engineer battalion commander directs changes to the operation or plan.**

[TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," BCBL-Ft. Leavenworth publication, p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]

- a. The engineer battalion commander and/or staff issue WARNOs to alert staff members and subordinate elements of changes to the plan. The WARNOs may include: [FM 5-71-3, p. 2-15]
 - 1) The enemy situation, events, and the mission, task, or operation.
 - 2) The division and brigade missions.
 - 3) The division and brigade commander's intents.
 - 4) The engineer battalion commander's intent statement.
 - 5) The earliest time of movement or degree of notice the commander gives to the main body.
 - 6) Orders for preliminary action, reconnaissance, surveillance, and observation.
 - 7) Service support instructions, any special equipment necessary, regrouping of transportation, or preliminary moves to assembly areas.
 - 8) The rendezvous point or time for assembly of an orders group, whether commanders or representatives are to attend, and time needed for issuing written orders.
- b. The engineer battalion commander conducts the MDMP in a time-constrained environment, with or without staff assistance. [FM 5-71-3, p. 2-15]
 - 3) The engineer battalion commander and staff maintain the pace of engineer battalion preparations to be ready by the designated time, make changes in a timely manner, and, if appropriate, plan for a future mission.
- c. The engineer battalion commander directs preparation of a FRAGO. [ARTEP 5-145-MTP, Task 5-1-0002, subtask 6.]
 - 1) The engineer battalion commander provides guidance to the staff to prepare supporting documents: [FM 5-71-3, pp. D-11 through D-19]
 - a) Graphics.
 - b) DST.

- c) Engineer execution matrix.
- d) MCOO.
- e) Situation and event templates.
- 2) Engineer battalion staff prepares plans or orders. [ARTEP 5-145-MTP, task 5- 1-0007]
 - a) The engineer battalion XO manages and supervises internal and external coordination by the staff to synchronize plan refinements.
 - b) The engineer battalion staff takes prompt action to accomplish the guidance given by the commander.
 - (1) Publishes refinements to orders, and planning and execution products such as DST, engineer execution matrix, and obstacle overlay.
 - (2) Initiates requests to higher and adjacent units for additional support.
- 3) The engineer battalion staff develops FRAGOs reflecting changes to the initial plan for the engineer battalion commander's approval:
 - a) Graphics and control measures for the operation.
 - b) DST and engineer execution matrix.
 - c) Obstacle overlay.
 - d) Communications plan.
 - e) CSS plan.
- d. The engineer battalion commander approves FRAGOs and directs members of the staff to issue FRAGOs based on his approval or in compliance with his guidance. [FM 5-71-3, p. 2-23]
 - 1) Complete FRAGOs are issued which contain: [FM 5-71-3, p. 2- 23 and D-12]
 - a) Mission statement.
 - b) Commander's intent and concept of the operation.

- c) Pertinent extracts taken from more detailed orders.
 - d) Task organization, if modified.
 - e) Control measures that promote initiative, synchronization, and agility while minimizing exposure to fratricide.
 - f) Timely changes to existing orders.
- 2) Engineer battalion staff prepares plans or orders. [ARTEP 5-145-MTP, task 5- 1-0007]
- a) The engineer battalion XO manages and supervises internal and external coordination by the staff to synchronize plan refinements.
 - b) The engineer battalion staff takes prompt action to accomplish the guidance given by the commander.
 - (1) Publishes refinements to orders, and planning and execution products such as DST, engineer execution matrix, and obstacle overlay.
 - (2) Initiates requests to higher and adjacent units for additional support.
 - c) The engineer battalion staff at the main CP refines plans, facilitates planning for future operations, identifies and corrects problems identified during subordinate unit preparations, and coordinates additional support from maneuver brigade or division engineer.
- 3) The engineer battalion staff develops FRAGOs reflecting changes to the initial plan for the engineer battalion commander's approval:
- a) Graphics and control measures for the operation.
 - b) DST and engineer execution matrix.
 - c) Obstacle overlay.
 - d) Communications plan.
 - e) CSS plan.

- d. The engineer battalion commander approves FRAGOs and directs members of the staff to issue FRAGOs based on his approval or in compliance with his guidance. [FM 5-71-3, p. 2-23]
 - 1) Complete FRAGOs are issued which contain: [FM 5-71-3, p. 2-23 and D-12]
 - a) Mission statement.
 - b) Commander's intent and concept of the operation.
 - c) Pertinent extracts taken from more detailed orders.
 - d) Task organization, if modified.
 - e) Control measures that promote initiative, synchronization, and agility while minimizing exposure to fratricide.
 - f) Timely changes to existing orders.
 - 2) The engineer battalion commander collects the engineer battalion leadership to conduct leaders reconnaissance, and to brief and disseminate updated orders, DST, engineer execution matrix, and other mission documents, if sufficient time is available. [FM 5-71-3, p. 1-8]
 - a) Engineer battalion commander and staff refine the plan to correct problems identified during rehearsals.
 - b) The engineer battalion staff works within the commander's intent to:
 - (1) Direct and control units.
 - (2) Allocate resources to support the desire endstate.
 - (3) Alert the commander to changes in the enemy or friendly situations that may require change to orders and plans.
 - e. The engineer battalion staff coordinates internally and with higher, adjacent, and supporting elements to coordinate and integrate the new plan. [FM 5-71-3, pp. 2-1 through 2-4]
5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]

- a. The engineer battalion commander performs visits and inspections.
 - 3) The engineer battalion commander assesses the state of mission preparedness through inspections and visits. [FM 5-71-3, p. 2-23]
 - a) Questions subordinate leaders down to platoon leaders and mission critical equipment operators and compares their concepts of the operation with his to ensure that the engineer battalion plan is integrated at all levels.
 - b) Concentrates on those units and officers that demonstrate leadership weaknesses; checks, listens, and observes to be sure tasks are understood.
 - c) Inspects and spot-checks previously identified weaknesses to ensure that they have been corrected.
 - d) Makes a subjective assessment of cohesion, morale, and esprit and implements corrective actions when needed.
 - e) When actions taken are not in accordance with decisions, standing operating procedures (SOP), Army standards, and the OPORD, the commander makes corrections.
 - f) Takes actions to ensure correction of noted problems.
 - g) Expedites actions, fixes problems, ensures compliance with guidance, and sets/refines standards.
 - h) Manages his time and prioritizes his visits to visit at least those units most critical to the execution of his intent; e.g.,:
 - (1) The engineer supporting the maneuver brigade main effort.
 - (2) The unit or activity he will be with during the battle.
 - i) Informs the engineer battalion XO and his other representatives inspecting preparations of any changes or refinements to the plan which he has directed.
- h. The engineer battalion commander ensures that any refinements to the OPORD/FRAGO and all critical associated documents are updated, reflect his most current guidance, and are distributed. [FM 101-5, App H]

- 1) The battalion commander modifies guidance and orders based on continued preparation activities, rehearsals, and other METT-T information.
 - 2) The engineer battalion staff refines original OPORD and all associated documents based on continued preparation activities, rehearsals, and other METT-T information.
 - 3) The engineer battalion staff refines the FRAGO and all associated documents based on continued preparation activities, rehearsals, and other METT-T information.
 - 4) The engineer battalion staff distributes refined/updated OPORD/FRAGO and associated documents to higher, supported, and subordinate headquarters.
- i. Engineer battalion subordinate units continue final battlefield preparation based on refined/updated OPORD/FRAGO and associated documents. [AN]

Outcome 6

Subordinate leaders demonstrate an understanding of the critical elements of their own mission and mission essential tasks, the engineer battalion mission, and the battalion commander's intent.

Task Elements

3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP, Tasks 5-1- 0002, 5-1-0003, 5-1-0007, 5-1-0018, 5-1-0025, 5-1-0026, 5-1-0027, 5-1-0028, 5-1-0039; FM 34-130, Chap 2; FM 5-71-3, Chap 1 and 2; FM 101-5, Chap 3, Appendices F, J]
- a. The engineer battalion commander updates his estimate based on his assessment of incoming information relating to: [FM 5-71-3, p. 2-1]
- 3) Troops:
- d) Subordinate unit plans and preparation activities:
- (1) Subordinate commanders, and leaders two levels down as time allows, backbrief their missions.
 - (2) Physical preparations of engineer companies and platoons to accomplish their missions.
 - (a) Troop leading procedures.

(b) Pre-combat inspections.

4. **The engineer battalion commander directs changes to the operation or plan.** [TRADOC Pam 11-9, Section IV; ARTEP 5-145-MTP; "Battle Command," p. 12; FM 5-71-3; FM 101-5, Chap 2, 4]
 - d. The engineer battalion commander approves FRAGOs and directs members of the staff to issue FRAGOs based on his approval or in compliance with his guidance. [FM 5-71-3, p. 2-23]
 - 2) The engineer battalion commander collects the engineer battalion leadership to conduct leaders reconnaissance, and to brief and disseminate updated orders, DST, engineer execution matrix, and other mission documents, if sufficient time is available. [FM 5-71-3, p. 1-8]
 - 3) The engineer battalion commander conducts confirmation briefs with subordinate commanders to ensure that they understand the changes to plans and orders. [FM 5-71-3, p. 2-23]
5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]
 - a. The engineer battalion commander performs visits and inspections.
 - 3) The engineer battalion commander assesses the state of mission preparedness through inspections and visits. [FM 5-71-3, p. 2-23]
 - a) Questions subordinate leaders down to platoon leaders and mission critical equipment operators and compares their concepts of the operation with his to ensure that the engineer battalion plan is integrated at all levels.
 - b) Concentrates on those units and officers that demonstrate leadership weaknesses; checks, listens, and observes to be sure tasks are understood.
 - c) Inspects and spot-checks previously identified weaknesses to ensure that they have been corrected.
 - e) When actions taken are not in accordance with decisions, standing operating procedures (SOP), Army standards, and the OPORD, the commander makes corrections.

- f) Takes actions to ensure correction of noted problems.
 - g) Expedites actions, fixes problems, ensures compliance with guidance, and sets/refines standards.
- c. The engineer battalion commander and staff coordinate and integrate engineer operations through backbriefs. [FM 5-71-3, p. 2-14]
 - 2) Engineer battalion staff and subordinate commanders perform backbriefs and are responsible for: [FM 5-71-3, p. 2-23; LL - CALL Newsletter No. 93-3]
 - a) Describing in detail how their schemes of engineer operations will be conducted.
 - b) Describing how their concept of the operation supports the engineer battalion commander's intent and contributes to the engineer battalion mission.
 - c) Describing the level of preparation achieved, preparation activities still requiring to be completed, and how they will adhere to the mission timelines.
- d. The engineer battalion commander coordinates and integrates engineer support through rehearsals.
 - 1) The engineer battalion commander, staff, and subordinate units prepare rehearsals. [FM 5-71-3, p. 2-23]
 - a) Commander plans and revises rehearsal objective and schedules based on: [FM 5-71-3, p. 2-18]
 - (1) Time available.
 - (2) Training status of troops.
 - (3) Complexity of the operation.
 - (4) Unit familiarity with rehearsal techniques and SOPs.
 - (5) Review of earlier guidance and updates:
 - (a) Rehearsal goals and focus.
 - (b) Technique/method of rehearsal.

- (c) Rehearsal participants.
 - (d) Rehearsal times and places.
- b) The engineer battalion commander and S3 prioritize tasks to be rehearsed based on: [FM 5-71-3, pp. 2-1 through 2-3]
 - (1) Key (critical) events and activities to be performed in battle.
 - (2) Complexity.
- c) The commander designates the number of engineer battalion level rehearsals.
- d) XO/S3 designates times for rehearsals, such that:
 - (1) Subordinates have sufficient time to conduct rehearsals.
 - (2) Subordinate commanders are not required to be in two places at once.
- e) The commander establishes outcomes, goals, and standards to be achieved.
 - (1) Subordinate commanders, staff, and leaders fully briefback their responsibilities within the parameters of the engineer battalion commander's intent.
 - (2) Identify vulnerabilities in the plan and determine the means to negate them.
- f) Engineer battalion and subordinate units prepare for rehearsals. [FM 5-71-3, p. 5-10]
 - (1) Subordinate units develop at least a tentative plan prior to their participation in the engineer battalion rehearsal.
 - (2) Subordinate units conduct their own rehearsals.
 - (3) Subordinate units prepare vehicles, equipment, and soldiers prior to engineer battalion rehearsals.

- (4) Engineer battalion level rehearsals are planned so that subordinate units are afforded time for their rehearsals.
- (5) Build rehearsal site.
- g) The entire operation is thoroughly rehearsed using one of the following techniques depending on the time available: [FM 5-71-3, pp. 2-23 and 5-10; LL - CALL Newsletter No. 93-3]
 - (1) Level I: Small scale rehearsals that do not involve mounted or dismounted maneuver. Techniques include:
 - (a) Map: Limited number of participants due to map size, used when time and space constraints are limited.
 - (b) Sand table/terrain model: Key leaders only, used to compensate for lack of sufficient time.
 - (c) Rock/stick drill: Same characteristics as sand table/terrain models, except that participants replicate their actions or their units actions.
 - (d) Radio: Participants as directed by the engineer battalion commander, used when time and enemy situations do not allow gathering of personnel; used to test radios and determine backup systems in the event of communications equipment failure.
 - (2) Level II: Focused rehearsals using selected personnel, usually key leaders, mounted in wheeled or tracked vehicles over similar terrain; technique used is tactical exercise without troops, where key leaders participate, conducted on actual mission terrain, or similar terrain.
 - (3) Level III: Maneuver brigade full scale dress rehearsal involving mounted or dismounted maneuver over terrain and distances similar to the area of operations.
- h) Rehearsal participants are indicated by type of rehearsal: [FM 5-71-3, p. 2-23]
 - (1) Type A includes the following persons:
 - (a) Battalion commander.

- (b) Battalion XO.
 - (c) Battalion S3.
 - (d) Battalion S2.
 - (e) Battalion primary staff (S1, S4).
 - (f) Battalion special staff (BMT, brigade support officer BSO, NBC NCO).
 - (g) Subordinate commanders including those of attached armor or mechanized infantry elements with their FSO/fire support team (FIST).
 - (h) Support platoon leader.
- (2) Type B includes the following persons:
- (a) Battalion commander.
 - (b) Battalion XO.
 - (c) Battalion S3.
 - (d) Battalion S2.
 - (e) Subordinate commanders including those of attached armor or mechanized infantry elements with their FSO/FIST.
- (3) Type C includes the following persons:
- (a) Battalion commander.
 - (b) Battalion S3.
 - (c) Battalion S2.
 - (d) Subordinate commanders including those of attached armor or mechanized infantry elements.
- 2) The engineer battalion conducts engineer battalion rehearsals.

- a) Engineer battalion commander controls and participates in the engineer battalion rehearsal. [FM 5-71-3, p. 1-8]
 - (1) Ensures that rehearsal meets his goals.
 - (2) Briefs participants (or gives guidance to the XO to brief) prior to the rehearsal.
 - (a) Introduces each participant with a brief description of duties and roles for the mission.
 - (b) Provides an overview:
 - 1 Missions and tasks to be rehearsed.
 - 2 Sequence of activities rehearsed.
 - 3 Rehearsal timelines (e.g., time to rehearse each event/phase of the mission).
 - 4 Description of rehearsal site.
 - (3) Exercises the MDMP under the conditions he expects to be faced with during mission execution:
 - (a) Identifies times, events, or enemy reactions during the mission which will require him to make decisions.
 - (b) Observes how his decisions are implemented by engineer battalion units and the staff.
 - (c) Identifies which decisions produce the outcome which supports his intent and desired endstate; and which decisions will not contribute to achieving his intent and desired endstate.
 - (d) Assesses utility of his decision support aids (e.g., DST, engineer execution matrix).
 - (4) Tracks the probable effect of engineer battalion actions to achieve the desired endstate (with engineer battalion S3's assistance).

- (5) Uses the DST and engineer execution matrix during rehearsals to test synchronization of engineer support. [FM 5-71-3, pp. D-5 through D-19]]
- b) The engineer battalion XO participates in battalion rehearsals. [FM 5-71-3, pp. 2-1 and 2-2; LL - CALL Newsletter No. 91-1]
 - (1) Prepares to lead and direct the engineer battalion, as the second in command, in the event of the absence of the engineer battalion commander.
 - (2) Ensures that engineer battalion staff is prepared to receive, evaluate, and disseminate information.
 - (3) Synchronizes combat multipliers to support the engineer battalion during the mission.
 - (4) Ensures that CS and CSS operations are integrated with and support the concept.
 - (5) Describes the positioning and movement of engineer battalion CPs during the mission.
 - (6) Briefs participants in the place of the engineer battalion commander as directed.
 - (7) Ensures that all changes to the plan are recorded, coordinated, and that supporting products are updated (e.g., DST, engineer execution matrix).
- c) Engineer battalion S3 participates in battalion rehearsals. [FM 5-71-3, pp. 2-2 and 2-3]
 - (1) Describes overall operation.
 - (2) Ensures that engineer support is synchronized in terms of timing to support maneuver brigade movement and maneuver.
 - (3) Describes the positioning and movement of the engineer battalion command group during the mission.
 - (4) Assists the engineer battalion commander in tracking the effect of engineer battalion actions to achieve the desired endstate.

- (5) Describes CP displacement (“jump”) plan.
- d) Engineer battalion S2 participates in battalion rehearsals. [FM 5-71-3, p. 2-3]
 - (1) Portrays enemy actions and responses.
 - (a) Replicates all plausible and possible events and activities.
 - (b) Ensures that enemy actions are properly depicted to commander, subordinate commanders, and staff.
 - (2) Provides updated enemy and terrain information.
- e) Engineer battalion S4 participates in engineer battalion rehearsals. [FM 5-71-3, p. 2-3]
 - (1) Describes logistic support of engineer battalion.
 - (2) Portrays positioning and movement of CSS assets.
- f) Engineer battalion S1 participates in engineer battalion rehearsals.
 - (1) Describes personnel support of engineer battalion.
 - (2) Describes casualty evacuation.
- g) Engineer battalion NBC NCO participates in battalion rehearsals. [FM 5-71-3, pp. 2-3 and 2-4]
 - (1) Describes NBC decontamination support of the engineer battalion (e.g., sites, equipment, procedures if other than SOP).
 - (2) Describes NBC reconnaissance support of the engineer battalion.
 - (3) Portrays potential enemy use of chemicals against the engineer battalion.
 - (4) Describes employment of smoke and other obscurants.

- h) Subordinate commanders, company first sergeant (1SG), (for engineer battalion logistics rehearsals) and, if time and situation allow, subordinate platoon leaders participate in engineer battalion rehearsals.¹ [FM 5-71-3, p. 2-23; FN-NTC Engr OCs]
 - (1) Describe their missions/tasks.
 - (2) Demonstrate how they will accomplish their assigned mission/tasks.
- i) The engineer battalion commander, S3, and other key staff officers conduct rehearsal after action reviews to ensure that critical tasks are rehearsed to acceptable levels of competence. [FM 5-71-3, p. 5-10]
- j) The engineer battalion conducts multiple types of rehearsals, if time is available, including contingency plans. [FM 5-71-3, p. 2-18; FN-NTC Engr OCs]
 - (1) Engineer operations rehearsal.
 - (2) CSS/logistics rehearsal.
- 3) The engineer battalion commander coordinates and integrates the plan through BOS considerations during the rehearsals. [FM 5-71-3, p. 1-5].
 - a) Engineer battalion commander integrates intelligence requirements during the rehearsals. [FM 5-71-3, p. 1-6]
 - (1) The commander and S2 review the DST and enemy situation template to ensure that threat COAs are clear and briefed back.
 - (2) The S2 processes information and disseminates updated intelligence of enemy situation, terrain, and weather.
 - (3) Descriptions and locations of obstacles, fortifications, and known or potential contaminated areas and available NBC delivery systems.

¹ Engr Co commanders and 1SGs also attend the operations and CSS rehearsals respectively conducted by the maneuver Bn TF to which they are task organized. The HHC commander and 1SG attend the FSB rehearsal.

- (4) Threat locations (CPs, weapon systems), strengths, capabilities, probable boundaries, known vulnerabilities, and threat probable COAs and intentions.
- b) The engineer battalion commander integrates maneuver and movement requirements during the rehearsals for when the engineer battalion is functioning as an engineer Bn TF. [FM 5-71-3, pp. 1-7, 5-9]
 - (1) Subordinate units' maneuver plans are verified and integrated with the engineer Bn TF plan.
 - (a) Direct fire plans include:
 - 1 Units and weapon systems positions.
 - 2 Trigger lines for the initiation of direct fires.
 - 3 Disengagement and engagement criteria.
 - 4 Direct fire control measures.
 - (b) Maneuver plans include:
 - 1 Actions in the objective area.
 - 2 Actions on contact.
 - 3 Movement techniques.
 - 4 Loading/unloading aircraft and staging operations for air assault operations.
 - (c) Security and covering force plans:
 - 1 Passage of lines.
 - 2 Battle-handover.
 - 3 Integration of fire support.
 - 4 Reconstitution.
 - (2) Movement plans during the battle are verified.
 - (a) Routes are selected, reconnoitered, and marked.

- (b) Movement to alternate and supplementary positions, including overwatch covering displacement, takes advantage of available cover and concealment.
 - (c) Direct and indirect fires are synchronized with movement and repositioning to preserve the force and to destroy or delay the enemy.
 - (d) Commitment of the reserve is checked to verify timing and to ensure that it can occupy a position to the flank or rear of the enemy without detection.
- (3) Engineer Bn TF contingency plans, branches, and sequels are verified.
- (4) Reactions to NBC air, artillery, and EW attacks are integrated to ensure force protection and reinforce the engineer Bn TF's ability to perform its mission on a contaminated battlefield.
 - (a) NBC reports and NBC warning and reporting system, including agent detection/identification and MOPP changes, are continuously assessed and disseminated.
 - (b) Decontamination sites and equipment are prepared to support hasty and deliberate decontamination.
 - (c) Engineer Bn TF units and soldiers can perform basic decontamination skills.
- c) The engineer battalion commander integrates M/CM/S requirements during the rehearsals. [FM 5-71-3, p. 1-7]
 - (1) Mobility assets are task organized, positioned, and prepared to respond to potential obstacles and choke point congestion.
 - (a) Engineer and subordinate units are prepared to conduct in-stride and deliberate breaching.
 - (b) Timing and coordination for breaching is finalized to ensure synchronization between the support, breach, and assault forces.

- (c) Engineers and subordinate units are prepared to perform obstacle reconnaissance to confirm breach sites.
 - (2) Countermobility plan is checked to ensure integration of direct and indirect fire for each obstacle.
 - (3) Survivability positions for vehicles, personnel, and equipment are completed as planned.
- d) The engineer battalion commander integrates fire support requirements during the rehearsals. [FM 5-71-3, pp. 1-7 and 1-8]
- e) The engineer battalion commander integrates air defense requirements during the rehearsals. [FM 5-71-3, p. 1-8]
- f) Engineer battalion commander integrates CSS requirements during the rehearsals. [FM 5-71-3, Chap 6]
 - (1) CSS assets are prepared to provide planned supply, medical, and maintenance support to the engineer battalion during the mission without interfering with the operation.
 - (2) Push packages of emergency resupplies are configured and ready.
 - (3) Designated MSR and ASRs are reviewed to ensure that CSS assets can provide timely response.
 - (4) Medical assets and operations are prepared to support the engineer battalion.
 - (5) Vehicles and equipment are recovered, repaired, and returned to user or delivered to higher maintenance echelons during the preparation phase.
 - (6) Maintenance assets are task organized and are prepared to provide support; unit maintenance collection point is prepared to displace and provide planned support.
- g) Engineer battalion commander integrates command and control requirements during the rehearsals. [FM 5-71-3, Chap 2]

- (1) The engineer battalion commander reviews the DST and engineer execution matrix to ensure that:
 - (a) Plan modifications are integrated.
 - (b) Mission details to achieve the commander's intent are adequately reflected.
 - (c) Engineer support is coordinated and integrated:
 - 1 Massed with sufficient redundancy to achieve desired results at the decisive point as designated by the maneuver brigade commander.
 - 2 Subordinate unit commanders backbrief their missions to the engineer battalion commander.
 - 3 Planned command and control measures are reviewed by the engineer battalion commander, staff, and subordinate leaders to verify completeness of all engineer battalion documents; at minimum:
 - a Maneuver graphics (e.g., phase lines, objectives, routes, check and coordination points).
 - b DST.
 - c Synchronization matrix.
 - d Obstacle overlay.
- (2) CPs and staff are prepared to support the mission.
 - (a) Ready to receive, process, and disseminate information.
 - (b) Move and position to support the engineer battalion commander during the battle.
 - (c) Coordinate and synchronize combat multipliers.

Tasks Organized by Outcomes for Engr Bn BF 19

- (d) Exchange information with the maneuver brigade and adjacent units.
- e. The engineer battalion commander, as the maneuver brigade engineer, participates in maneuver brigade rehearsals. [FM 5-71-3, p. 2-1]
 - 1) Describes movement and employment of engineer assets in support of the maneuver brigade.
 - 2) Ensures that M/CM/S operations are synchronized with maneuver.
- f. The ABE participates in the maneuver brigade rehearsals. [FM 5-71-3, p. 2-2]
 - 1) Coordinates with the Bde S3 to refine brigade plans and products.
 - 2) Records decisions and changes to the brigade plan.
 - 3) Provides relevant information to the engineer battalion CPs.
- g. The engineer battalion commander, as maneuver brigade engineer, attends maneuver Bn TF rehearsals whose assigned missions include critical aspects of M/S BOS. [FN - NTC Engr OCs]
 - 1) Reviews adequacy of TF engineer plans for supporting the maneuver TF scheme of maneuver.
 - 2) Assesses maneuver TF employment of engineer support.

Outcome 7

Soldiers and units are disciplined and are motivated to accomplish the mission.

Task Elements

- 5. **The engineer battalion commander directs and leads subordinate units.** [TRADOC Pam 11-9, Section IV; "Battle Command" pp. 7, 10; ARTEP 5-145-MTP; FM 5-71-3; FM 71-123, Chap 2, 3, 6]
 - a. The engineer battalion commander performs visits and inspections.
 - 1) Engineer battalion commander provides command presence by exercising three key elements of battle command while conducting visits and inspection. [FM 5-71-3, p. 1-8]

- a) Leadership: Exercised by inspiring and directing soldiers through personal contact. The commander is able to motivate soldiers with the desire to win through ensuring that their soldiers understand why they are engaged in a particular operation or COA and how it supports and is essential to the overall mission and intent.
 - c) Communication: The commander reinforces his intent with and focuses all subordinate leaders on a common goal. Establishing a climate conducive to open and honest communications, the commander expresses his guidance and directives and obtains concerns and issues from subordinate leaders and soldiers.
- 2) Inspections and visits are scheduled. [FM 5-71-3, p. 2-23]
- 3) The engineer battalion commander assesses the state of mission preparedness through inspections and visits. [FM 5-71-3, p. 2-23]
 - e) When actions taken are not in accordance with decisions, standing operating procedures (SOP), Army standards, and the OPORD, the commander makes corrections.
 - f) Takes actions to ensure correction of noted problems.
 - g) Expedites actions, fixes problems, ensures compliance with guidance, and sets/refines standards.
- 4) The engineer battalion commander extends his command presence by directing members of his staff to perform inspections and visits (XO, CSM, or one or more engineer battalion staff members), and to inform him of refinements and adjustments to engineer battalion preparation activities that they have directed as well as problems that they have observed. [FM 5-71-3, pp. 2-1 through 2-4]
- b. The engineer battalion commander exercises leadership and maintains unit cohesion and discipline.
 - 1) The commander checks that orders are executed and reinforces discipline by demanding compliance to standards and his guidance. [FM 5-71-3, p. 1-8]
 - 2) The commander observes subordinates. [FM 5-71-3, p. 1-8]
 - a) For indicators of shortfalls in performance or manner of performance; takes corrective action as necessary.

- b) For noteworthy performance that he can praise and recognize.
- 3) The commander displays a calm presence to subordinates while clearly delineating guidance; provides precise and simple orders and instructions. [FM 5-71-3, p. 1-8]
- 4) The commander maintains a moral presence by requiring subordinates to maintain appropriate standards. [FM 5-71-3, p. 1-8]
- 5) The commander monitors subordinates and self for degradation of mental and physical capability.
 - a) Commander ensures that subordinate commanders, staff, and soldiers are rested and prepared for battle.

LESSONS LEARNED

This component identifies the lessons learned extracted from the U.S. Army Center for Army Lessons Learned (CALL) publications relevant to performing this battlefield function (BF). The lessons learned are organized and listed by the appropriate task in the BF task list. Where appropriate to address the absence of a task in an Army Training and Evaluation Program - Mission Training Plan (ARTEP-MTP), the lessons learned have been structured as tasks and are included in the detailed task list as subtasks. The purpose of the lessons learned component is to provide the user with the most recent tactics, techniques, and procedures (TTP) associated with the performance of the tasks in this BF.

1. **Engineer battalion command posts manage and maintain command, control, and communications.**

LL- Have a designated individual track MCI. [CALL, News From the Front!]

2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and, maintain status.**

LL- Employ engineer execution matrices: Engineer execution matrices and clear detailed commander's guidance, continually monitored by the tactical operations center (TOC)/command group assures that responsibility stays fixed and receives command emphasis. [CALL Newsletter No. 88-3: Heavy Forces]

LL- Practice SOPs for reporting to ensure that they are workable and effective. [CALL Bulletin No. 90-9: Operation Just Cause Lessons Learned]

LL- Minimum critical information (MCI) that should be tracked in the battalion TOC (both friendly AND enemy forces) includes relative combat power, unit locations, obstacle overlay, execution matrix, task organization, and personnel status. [CALL, News From the Front!]

LL- Information boards need to be updated (at a minimum) every four hours. [CALL, News From the Front!]

LL- Conduct formal shift change briefs in the TOC. This process forces information updates and sharing. [CALL, News From the Front!]

3. **The engineer battalion commander visualizes the battlefield.**

LL- Identify the enemy weakness then mass on it: Verify the situational template before breaching or bypassing. The recon prior to the attack or actions on contact must achieve this. [CALL Newsletter No. 88-3: Heavy Forces]

LL- Develop and update the situation template and ensure that key personnel are provided with current intelligence information. [CALL Newsletter No. 5: Leadership]

LL- TOPIC: C2 effectiveness under stress.

DISCUSSION: There are many factors that can create stress in combat operations: fatigue, anxiety, time, intense heat, battlefield uncertainty, etc. Reactions to stress are varied, but there are clear indications, from combat experience and less stressful research and training environments, that soldier performance in command and control C2 operations can suffer.

LESSON(S) LEARNED: Do not underestimate your opponent. At the outbreak of conflicts, there is a common tendency to underestimate the opponent's military abilities. At the beginning of the U.S. Civil War, both sides thought they could win quickly and easily. In many training exercises, U.S. planners seem to assume that because the opponent is culturally different, not a world power, or technologically inferior, he will be easy to defeat. After the enemy is more successful than anticipated, then it is common to overestimate his capabilities. Maintain a realistic, balanced perspective on enemy capabilities. Plan ahead. The reality of violent combat can cause commanders and staffs to concentrate on just the immediate battle. This is especially true if operations do not go exactly as planned. Yet most of our potential adversaries fight in echelons, and, in a fast-paced battle, we must be preparing to meet the second echelon while fighting the first. Eliminate future surprises by planning for the next battle during the current fight. See the entire battlefield. Under stress it is more comfortable to narrow your focus to your immediate control and within your own boundaries. What is happening on your flanks and rear is critical to accomplishing your mission. The support you might get from the flanks and from higher command could be critical to accomplishing your mission. Commanders and staffs must consider the bigger picture when planning and conducting their operations. Decide early, then plan in detail. After the concept of the operation has been decided, there is still much detailed planning to be done. Do not let the search for a perfect concept consume all your time and effort or use up time your subordinates need. Numerous CTC exercises have shown that a good workable concept, planned in detail, rehearsed, and well executed, is a winning strategy. Simple concepts, thoroughly planned! Making complex, tricky-to-execute plans is asking for trouble. Keep plans simple, but plan them in detail. Achieving synchronization depends on working out the time, space, and force details. Whenever possible, determine the criteria for key decisions in advance. For example, rather than simply ordering a unit to "withdraw before becoming decisively engaged," pre-establish the criteria for making the decision to withdraw. [CALL Newsletter No. 90-8, Special Edition, "Winning in the Desert, Tactics, Techniques and Procedures for Maneuver Commanders," pp. 23-24]

4. The engineer battalion commander directs changes to the operation or plan.

- LL- Review your intent and address each subordinate directly to ensure that he understands how his mission relates to your intent. [CALL Newsletter No. 93-3: The Battalion and Brigade Battle Staff]
- LL- Staff integration in planning, preparation, and execution of missions continues to be a challenge. Each staff member must actively participate in mission analysis, COA development, analysis and comparison, war-gaming and orders production. Each staff officer and LNO must properly advise the staff to ensure the proper employment of his assets as well as the focusing of combat power. Units should establish planning and TOC operational procedures that promote staff cross-talk. Information sharing must occur during the execution phase to ensure accurate battle tracking. Staff members need to work together to analyze information and provide updated estimates to the staff and commander to support the current battle and plan for future operations. Every staff member should continuously assist the S2 with the intelligence preparation of the battlefield (IPB). [CALL CTC Bulletin No. 93-4, p. 9]

5. The engineer battalion commander directs and leads subordinate forces.

- LL- If problems are found during a rehearsal, plans must be developed at all levels that allow incorporation of these changes into mission planning. [CALL Newsletter No. 91-1: Rehearsals]
- LL- Use troop-leading procedures effectively. Planning and rehearsals are often much more important than trying to create a perfect plan at the higher headquarters. [CALL Bulletin No. 90-9: Operation Just Cause Lessons Learned]
- LL- **MILITARY DECISION-MAKING PROCESS**
Commanders and staffs can assist their subordinates to understand the plan by conducting additional briefings and rehearsals. Backbriefs, confirmation briefs, and rehearsals conducted by the commander and staff assist subordinates in understanding the order.

CONFIRMATION BRIEF

The commander conducts a confirmation brief with subordinates shortly after the operations order briefing. During the confirmation brief, subordinates tell the commander what their mission is. The commander provides subordinates time to analyze their mission while they are still at the order brief. Then subordinates brief him on their mission, tasks, and their understanding of his intent. If there are misunderstandings, the commander corrects them before the subordinate commander begins planning.

BACKBRIEF

After subordinate commanders have had time to develop their plans, they meet with the commander collectively to review their plans. The subordinate commanders brief the commander on the details of how they will accomplish their mission. It is beneficial for the commander to meet with all his subordinate commanders together, rather than one at a time. A commander will identify a problem that will require coordination with other commanders. If everyone is at the same location, the problem can be solved quickly while at the backbrief.

REHEARSALS

The final event to emphasize and conduct to ensure that subordinates understand the plan is the rehearsal. The commander identifies the type of rehearsal during his planning guidance. There are seven types of rehearsals a commander can choose from: full, key leader, terrain model, sketch map, map, radio, and backbrief. His decision will depend on the amount of time and resources available. [CALL Newsletter No. 93-3, "The Battalion and Brigade Staff," p. 31-32]

- LL- The commander must take his unit out and actually time them performing certain actions to his standard so they understand his intent and so he knows exactly how long they need to reach his goal. [CALL Newsletter No. 90-8: Winning in the Desert II]

GATE TASKS

This component identifies critical individual or collective tasks upon which each battlefield function (BF) task identified in the task list is dependent. In order to ensure efficient and safe training of the major task, the participants should have achieved a level of proficiency or understanding in these gate tasks.

TASK

- 1. Engineer battalion command posts manage and maintain command, control, and communications.**

INDIVIDUAL/COLLECTIVE PROFICIENCIES

Engr Bn Cdr

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn XO

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn S3

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

ABE

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

[ARTEP 71-3-MTP]

- Conduct engineer operations staff

supervision. [71-3-8005]

Engr Bn S2

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 34-35II-MQS, Intelligence]

- Analyze intelligence and combat information. [013381.394004]
- Assist in preparing the intelligence annex. [013381.414001]
- Brief and debrief R&S assets. [013381.064012]
- Conduct battlefield area evaluation. [01-3381.01-4012]
- Conduct terrain and weather analysis. [01-3381.01-4013]
- Conduct threat evaluation. [01-3381.01-4014]
- Conduct intelligence liaison. [01-3381.166-5001]
- Conduct situation development. [01-3381.01-4016]
- Conduct target development. [01-3381.01-4017]
- Conduct all source intelligence analysis. [013381.414014]
- Direct collection management operations. [013381.445002]
- Direct analysis and dissemination of information. [013381.415002]
- Direct asset management. [013381.065001]
- Direct recording and evaluation of information. [013381.415001]
- Disseminate intelligence and combat information. [013381.394005]
- Prepare intelligence taskings. [01-3381.39-4002]
- Record intelligence and combat

information. [013381.394003]

Engr Bn SO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 11-25II-MQS, Signal]

- Direct a net control station (NCS) operation. [01-5704.04-0003]
- Employ communications system of a maneuver brigade or battalion. [01-5841.07-0001]
- Identify the data communications techniques used with tactical communications systems. [01-5769.04-0001]
Implement communications system control element operations. [01-5753.07-002]
- Implement displacement of communications nodes. [01-5754.04-0002]
- Manage secure voice communications system. [01-5735.04-0001]
- Manage network traffic routing. [01-5710.07-002]
- Perform distribution management of communications variables for combat radio operations using battlefield SOI system. [01-588.07-001]
- Provide communications support using frequency modulated (FM) voice communications. [01-5704.04-9001]

Engr Bn S1

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military

problem-solving process. [03-9001.13-0001]

[STP 12-42II-MQS, Adjutant General]

- Manage casualty reporting system. [01-0160.01-1701]
- Manage personnel replacement system. [04-0160.01-1951]
- Manage officer personnel assignment operations. [03-0160.01-1401]
- Manage the personnel accounting and strength reporting system. [03-0160.01-1301]
- Manage postal operations. [01-0160.01-2054]
- Manage enlisted personnel assignment operations. [03-0160.01-1351]
- Manage unit postal operations. [03.0107.00-2002]
- Recommend unit of assignment for junior enlisted and senior noncommissioned officers (NCOs). [03-0160.00-2103]
- Review the personnel summary, personnel requirement report, and battle roster for completeness. [01-0160.00-1001]

Engr Bn S4

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 10-92ABDII-MQS, Quartermaster]

- Assess unit capabilities to support proposed operations. [S3-5101.00-0229]
- Determine CL V (conventional) requirements. [01-4000.11-1111]
- Determine and verify water requirements for a unit. [01-5103.00-0030]
- Direct receipt, storage, and issue of

- supplies. [03-5101.00-0018]
- Evaluate supply point operations. [01-5101.00-0194]
- Manage the receipt, issue, and storage of supplies. [03-5101.00-0287]
- Plan subsistence field operations and advise commander on subsistence operations. [03-5106.00-0130]
- Prepare command logistics plans, estimates, and orders. [03-5106.00-0166]
- Trace the flow of requests for and receipt of Classes II, III, IV, V, VII, and IX supplies and identify field services available to divisional units. [S3-5101.00-0273]
- Supervise field feeding operations. [03-5105.00-0107]
- Supervise the receipt, storage, and distribution of petroleum products. [03-5103.00-0081]

[STP 55-88 II-MQS, Transportation]

- Plan convoy operations. [01-7300.75-0500]
- Plan use of host-nation assets. [01-7320.70-0435]
- Plan highway net use. [01-7320.75-0535]
- Prepare unit load plan. [01-7220.65-0010]
- Request host-nation transportation support. [01-7320.70-0480]

Engr Bn HHC Cdr

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Co Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander

- or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Subordinate Unit Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

LNOs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn S1 Section

[ARTEP 71-3-MTP]

- Assist in the establishment of the rear CP. [71-3-1012]
- Assist in conduct of replacement operations. [71-3-1003]
- Conduct by-name casualty reporting. [71-3-1004]
- Coordinate essential financial service. [71-3-1006]
- Manage the awards and decorations program. [71-3-1011]
- Perform strength management. [71-3-1002]
- Perform essential personnel actions. [71-3-1005]
- Provide essential administrative service support. [71-3-1007]

Engr Bn S3 Section

[STP 5-21II-MQS, Engineer]

- Advise supported units on engineer capabilities and employment. [01-2250.10-1002]
- Advise the commander on the use of terrain for combat operations.

[01-2250.20-1008]

- Conduct engineer support for river-crossing operations. [01-1980.10-1001]
- Direct the reduction of complex obstacles. [01-1940.20-1002]
- Direct the clearance of complex obstacles. [01-1940.20-1003]
- Direct the construction of fords. [01-1980.10-1002]
- Direct the construction of combat roads and trails. [01-1990.10-1002]
- Establish intelligence production requirements and essential elements of terrain or engineer information. [01-2250.20-1004]
- Evaluate engineer intelligence for dissemination. [01-2250.20-1005]
- Plan engineer support for river-crossing operations. [01-2080.20-1001]
- Prepare engineer estimates. [01-2250.20-1001]
- Prepare engineer annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

[STP 5-12B24-SM-TG, Engineer]

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for non-explosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the engineer estimate. [051-195-4050]
- Prepare a route reconnaissance overlay. [051-196-3009]
- Prepare a tunnel reconnaissance report. [051-196-3031]
- Prepare a reconnaissance report. [051-196-3032]
- Prepare a bridge reconnaissance report. [051-196-3033]
- Prepare an engineer reconnaissance

report. [051-196-3035]

Engr Bn S4 Section

[ARTEP 71-3-MTP]

- Maintain current status of maintenance and supplies. [71-3-4003]
- Assist in and activate the rear CP. [71-3-4004]

[STP 10-76Z5-SM-TG, Senior Supply Sergeant (Sgt)]

- Coordinate rear area protection plan. [101-522-5523]
- Evaluate procedures for reconciliation of supply requests and requisitions. [101-522-5511]
- Evaluate logistical procedures and provide technical assistance as needed. [101-522-5601]
- Evaluate supply support storage procedures. [101-522-5529]
- Monitor automated supply cycles. [101-522-5525]
- Monitor reports of survey. [101-522-5531]
- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Review the flow of requests for supplies and the subsequent return of supplies to the using unit. [101-522-5506]
- Review road movement graphs and tables. [101-522-5503]

[STP 10-76X24-SM-TG, Subsistence Supply Specialist (Spec)]

- Review the basic daily food allowance. [101-520-4154]
- Prepare the schedule of field ration issues. [101-520-4104]
- Plan a field storage layout. [101-520-4153]

[STP 10-92A35-SM-TG, Automated

Logistics (Log) Spec]

- Check the accuracy of the prescribed load list (PLL) using the automated unit level logistics system (ULLS). [101-525-3015]
- Control and provide assistance in automated systems. [101-525-4001]
- Evaluate supply support procedures. [101-525-5003]
- Evaluate PLL procedures. [101-525-5005]
- Evaluate supply performance indicators. [101-525-5006]
- Provide logistics input for the administrative or logistics order. [101-525-5008]
- Review materiel receipts and document processing procedures. [101-525-5004]
- Review stock status listings. [101-525-5007]
- Review the process and handling of hazardous materiel. [101-525-4008]

[STP 10-92Y24-SM-TG, Unit Supply Spec]

- Account for and adjust property records for bulk petroleum. [101-521-3151]
- Check accuracy of PLL records. [101-521-4107]
- Check accuracy of the Army maintenance management system maintenance and historical records. [101-521-4108]
- Compile logistical data for unit status report worksheet. [101-521-4151]
- Control helicopter landing and departure area. [101-521-3902]
- Control/supervise property administration in unit supported by manual/automated systems. [101-521-3252]
- Direct and control application of safety measures during external transport operations. [101-521-3904]
- Direct the rigging of external sling loads. [101-521-3901]
- Direct the maintenance of sling-loading

- equipment. [101-521-3903]
- Direct the planning and forecasting of supplies (Classes I, III, and V) at the unit level. [101-521-3254]
- Inspect and provide technical assistance to units. [101-521-4101]
- Plan for the storage of supplies (Classes I (subsistence items), III, and V). [101-521-2202]
- Prepare materiel condition status report. [101-521-4104]
- Prepare equipment transfer, loss, or gain report. [101-521-2252]
- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Request and turn in ammunition. [101-521-2161]
- Request and post changes to equipment portion of authorization documents. [101-521-4102]

[STP 10-94B25-SM-TG, Food Service Spec]

- Consult with preventive medicine activity. [101-524-4134]
- Coordinate with the surgeon or director of medical services. [101-524-5155]
- Coordinate with CL I operations. [101-524-5206]
- Coordinate with food advisor. [101-524-4105]
- Coordinate with troop issue subsistence activity. [101-524-4118]
- Determine requirements and establish procedures in support of field operations. [101-524-3279]
- Develop standing operating procedures (SOP) for dining facilities and field kitchens. [101-524-4131]
- Develop, elevate, and maintain field kitchen layout and field site. [101-524-4140]
- Direct personnel in the protection and decontamination of subsistence items in a

- NBC environment. [101-524-3281]
- Evaluate subsistence protection and decontamination procedures. [101-524-4132]
- Evaluate nutrition procedures in preparing, serving, and storage of food products. [101-524-5104]
- Evaluate the subsistence sanitation program. [101-524-5204]
- Monitor Army field feeding system requisitioning and accounting procedures. [101-524-5205]
- Provide assistance to officers and NCOs operating field kitchens. [101-524-5202]
- Review and monitor the requisition and turn-in of subsistence items under the Army field feeding system. [101-524-4141]

2. **The engineer battalion commander and staff acquire, evaluate, and communicate information and maintain status.**

Engr Bn Cdr

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn XO

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn CSM

[FM 5-71-3, Chap 2]

- Perform taskings assigned by the engineer battalion commander.
- Organize and lay out engineer battalion assembly area, as necessary.
- Monitor unit morale.

- Ensure that standards are enforced by noncommissioned officers of the battalion.

Engr Bn S3

[STP 21-II-MQS,]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

ABE

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[ARTEP 71-3-MTP]

- Conduct engineer operations staff supervision. [71-3-8005]

Engr Bn S2

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 34-35II-MQS, Intelligence]

- Analyze intelligence and combat information. [013381.394004]
- Assist in preparing the intelligence annex. [013381.414001]
- Brief and debrief R&S assets. [013381.064012]
- Conduct battlefield area evaluation. [01-3381.01-4012]
- Conduct terrain and weather analysis. [01-3381.01-4013]
- Conduct threat evaluation.

- [01-3381.01-4014]
- Conduct intelligence liaison.
[01-3381.166-5001]
- Conduct situation development.
[01-3381.01-4016]
- Conduct target development.
[01-3381.01-4017]
- Conduct all source intelligence analysis.
[013381.414014]
- Direct collection management operations.
[013381.445002]
- Direct analysis and dissemination of information. [013381.415002]
- Direct asset management.
[013381.065001]
- Direct recording and evaluation of information. [013381.415001]
- Disseminate intelligence and combat information. [013381.394005]
- Participate in the development of the decision support template.
[013381.015003]
- Participate in the threat integration process. [01-3381.01-4015]
- Participate in the development of intelligence requirements.
[01-3381.01-5001]
- Plan reconnaissance operations.
[013381.445001]
- Prepare order of battle (OB) studies.
[01-3381.41-4015] *
- Prepare intelligence taskings.
[01-3381.39-4002]
- Prepare R&S plan. [01-3381.06-4011]
- Prepare the intelligence estimate.
[01-3381.41-4004]
- Record intelligence and combat information. [013381.394003]

[STP 5-21II-MQS]

- Establish intelligence production requirements and essential elements of terrain or engineer information.
[01-2250.20-1004]

- Provide input to IPB. [01-2250.20-1006]
- Prepare engineer estimates.
[01-2250.20-1001]

Engr Bn CMLO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 3-74II-MQS]

- Identify operation and functions of chemical units and staffs.
[S1-5060.02-2138]
- Prepare NBC defense annex to OPLAN or OPORD. [03-5060.01-2107]

[ARTEP 3-117-40-MTP]

- Coordinate chemical unit employment.
[3-4-0005]
- Monitor the status of chemical units.
[3-4-0006]
- Conduct chemical vulnerability analysis.
[3-4-0007]
- Conduct biological vulnerability analysis.
[3-4-0008]
- Conduct nuclear vulnerability analysis.
[3-4-0009]
- Process NBC reports. [3-4-0010]
- Prepare predictions of contamination.
[3-4-0012]
- Plan and coordinate chemical/biological survey sampling operations. [3-4-0013]
- Plan and coordinate radiological survey operations. [3-4-0014]
- Coordinate with other staff sections on NBC-related functions and operations.
[3-4-0016]
- Prepare NBC plans and orders.
[3-4-0017]

Engr Bn SO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 11-25II-MQS]

- Analyze battlefield spectrum management. [01-5701.07-0003]
- Direct a NCS operation. [01-5704.04-0003]
- Employ communications system of a maneuver brigade or battalion. [01-5841.07-0001]
- Identify the data communications techniques used with tactical communications systems. [01-5769.04-0001]
- Implement communications system control element operations. [01-5753.07-002]
- Implement displacement of communications nodes. [01-5754.04-0002]
- Manage secure voice communications system. [01-5735.04-0001]
- Manage network traffic routing. [01-5710.07-002]
- Perform distribution management of communications variables for combat radio operations using battlefield SOI system. [01-588.07-001]
- Prepare and review signal estimates, plans, and orders. [01-5765.04-9001]
- Provide communications support using FM voice communications. [01-5704.04-9001]

Engr Bn S1

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 12-42II-MQS]

- Manage casualty reporting system. [01-0160.01-1701]
- Manage personnel replacement system. [04-0160.01-1951]
- Manage officer personnel assignment operations. [03-0160.01-1401].
- Manage the personnel accounting and strength reporting system. [03-0160.01-1301]
- Manage postal operations. [01-0160.01-2054]
- Manage enlisted personnel assignment operations. [03-0160.01-1351]
- Manage unit postal operations. [03.0107.00-2002]
- Prepare the personnel estimate. [01-0160.01-2001]
- Recommend unit of assignment for junior enlisted and senior NCOs. [03-0160.00-2103]
- Review the personnel summary, personnel requirement report, and battle roster for completeness. [01-0160.00-1001]

Engr Bn S4

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 10-92ABDII-MQS]

- Assess unit capabilities to support proposed operations. [S3-5101.00-0229]
- Determine CL V (conventional) requirements. [01-4000.11-1111]

- Determine and verify water requirements for a unit. [01-5103.00-0030]
- Direct receipt, storage, and issue of supplies. [03-5101.00-0018]
- Evaluate supply point operations. [01-5101.00-0194]
- Manage the receipt, issue, and storage of supplies. [03-5101.00-0287]
- Plan subsistence field operations and advise commander on subsistence operations. [03-5106.00-0130]
- Prepare command logistics plans, estimates, and orders. [03-5106.00-0166]
- Trace the flow of requests for and receipt of Classes I, II, III, IV, V, VII, and IX supplies and identify field services available to divisional units. [S3-5101.00-0273]
- Supervise field feeding operations. [03-5105.00-0107]
- Supervise the receipt, storage, and distribution of petroleum products. [03-5103.00-0081]

[STP 55-88II-MQS, Transportation]

- Plan convoy operations. [01-7300.75-0500]
- Plan use of host-nation assets. [01-7320.70-0435]
- Plan highway net use. [01-7320.75-0535]
- Prepare unit load plan. [01-7220.65-0010]
- Request host-nation transportation support. [01-7320.70-0480]

Engr BMO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 9-91BCII-MQS, Ordinance]

- Evaluate CL IX performance.

- [01-4716.26-0002]
- Identify maintenance trends.
[01-4710.26-0004]
- Interpret maintenance reports.
[01-4730.27-0002]
- Plan logistics support for maintenance operations. [01-4720.26-0001]

[STP 55-88II-MQS, Transportation]

- Plan evacuation of equipment.
[01-4999-.26-0001]

Engr Bn HHC Cdr

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Co Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Subordinate Unit Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn S1 Section

[ARTEP 71-3-MTP]

- Assist in the establishment of the rear CP.
[71-3-1012]
- Assist in conduct of replacement operations. [71-3-1003]
- Conduct by-name casualty reporting.
[71-3-1004]

- Coordinate essential financial service. [71-3-1006]
- Manage the awards and decorations program. [71-3-1011]
- Perform strength management. [71-3-1002]
- Perform essential personnel actions. [71-3-1005]
- Provide essential administrative service support. [71-3-1007]

Engr Bn S3 Section

[STP 5-21II-MQS]

- Advise supported units on engineer capabilities and employment. [01-2250.10-1002]
- Advise the commander on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct engineer support for river-crossing operations. [01-1980.10-1001]
- Direct the reduction of complex obstacles. [01-1940.20-1002]
- Direct the clearance of complex obstacles. [01-1940.20-1003]
- Direct the construction of fords. [01-1980.10-1002]
- Direct the construction of combat roads and trails. [01-1990.10-1002]
- Establish intelligence production requirements and essential elements of terrain or engineer information. [01-2250.20-1004]
- Evaluate engineer intelligence for dissemination. [01-2250.20-1005]
- Plan engineer support for river-crossing operations. [01-2080.20-1001]
- Prepare engineer estimates. [01-2250.20-1001]
- Prepare engineer annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

[STP 5-12B24-SM-TG]

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for non-explosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the engineer estimate. [051-195-4050]
- Prepare a route reconnaissance overlay. [051-196-3009]
- Prepare a tunnel reconnaissance report. [051-196-3031]
- Prepare a reconnaissance report. [051-196-3032]
- Prepare a bridge reconnaissance report. [051-196-3033]
- Prepare an engineer reconnaissance report. [051-196-3035]

Engr Bn S4 Section

[ARTEP 71-3-MTP]

- Maintain current status of maintenance and supplies. [71-3-4003]
- Assist in and activate the rear CP. [71-3-4004]

[STP 10-76Z5-SM-TG Senior Supply Sgt]

- Coordinate rear area protection plan. [101-522-5523]
- Evaluate procedures for reconciliation of supply requests and requisitions. [101-522-5511]
- Evaluate logistical procedures and provide technical assistance as needed. [101-522-5601]
- Evaluate supply support storage procedures. [101-522-5529]
- Monitor automated supply cycles. [101-522-5525]
- Monitor reports of survey. [101-522-5531]
- Provide logistics input for the

administrative or logistics order.

[101-522-5403]

- Review the flow of requests for supplies and the subsequent return of supplies to the using unit. [101-522-5506]
- Review road movement graphs and tables. [101-522-5503]

[STP 10-76X24-SM-TG, Subsistence Supply Spec]

- Review the basic daily food allowance. [101-520-4154]
- Prepare the schedule of field ration issues. [101-520-4104]
- Plan a field storage layout. [101-520-4153]

[STP 10-92A35-SM-TG, Automated Log Spec]

- Check the accuracy of the PLL using the automated ULLS. [101-525-3015]
- Control and provide assistance in automated systems. [101-525-4001]
- Evaluate supply support procedures. [101-525-5003]
- Evaluate PLL procedures. [101-525-5005]
- Evaluate supply performance indicators. [101-525-5006]
- Provide logistics input for the administrative or logistics order. [101-525-5008]
- Review materiel receipts and document processing procedures. [101-525-5004]
- Review stock status listings. [101-525-5007]
- Review the process and handling of hazardous materiel. [101-525-4008]

[STP 10-92Y24-SM-TG, Unit Supply Spec]

- Account for and adjust property records for bulk petroleum. [101-521-3151]
- Check accuracy of PLL records. [101-521-4107]

- Check accuracy of the Army maintenance management system maintenance and historical records. [101-521-4108]
- Compile logistical data for unit status report worksheet. [101-521-4151]
- Control helicopter landing and departure area. [101-521-3902]
- Control/supervise property administration in unit supported by manual/automated systems. [101-521-3252]
- Direct and control application of safety measures during external transport operations. [101-521-3904]
- Direct the rigging of external sling loads. [101-521-3901]
- Direct the maintenance of sling-loading equipment. [101-521-3903]
- Direct the planning and forecasting of supplies (Classes I, III, and V) at the unit level. [101-521-3254]
- Inspect and provide technical assistance to units. [101-521-4101]
- Plan for the storage of supplies (Classes, I, III, and V). [101-521-2202]
- Prepare materiel condition status report. [101-521-4104]
- Prepare equipment transfer, loss, or gain report. [101-521-2252]
- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Request and turn in ammunition. [101-521-2161]
- Request and post changes to equipment portion of authorization documents. [101-521-4102]

[STP 10-94B25-SM-TG, Food Service Spec]

- Consult with preventive medicine activity. [101-524-4134]
- Coordinate with the surgeon or director of medical services. [101-524-5155]
- Coordinate with CL I operations. [101-524-5206]

- Coordinate with food advisor.
[101-524-4105]
- Coordinate with troop issue subsistence activity. [101-524-4118]
- Determine requirements and establish procedures in support of field operations.
[101-524-3279]
- Develop SOP for dining facilities and field kitchens. [101-524-4131]
- Develop, elevate, and maintain field kitchen layout and field site.
[101-524-4140]
- Direct personnel in the protection and decontamination of subsistence items in a NBC environment. [101-524-3281]
- Evaluate subsistence protection and decontamination procedures.
[101-524-4132]
- Evaluate nutrition procedures in preparing, serving, and storage of food products. [101-524-5104]
- Evaluate the subsistence sanitation program. [101-524-5204]
- Monitor Army field feeding system requisitioning and accounting procedures.
[101-524-5205]
- Provide assistance to officers and NCOs operating field kitchens. [101-524-5202]
- Review and monitor the requisition and turn-in of subsistence items under the Army field feeding system.
[101-524-4141]

3. **The engineer battalion commander visualizes the battlefield.**

Engr Bn Cdr

[STP 21-II-MQS]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn XO

[STP 21-II-MQS, Common Tasks]

- Solve problems using the military

problem-solving process.

[03-9001.13-0001]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn CSM

[FM 5-71-3, Chap 2]

- Performs taskings assigned by the engineer battalion commander.
- Organizes and lays out engineer battalion assembly area, as necessary.
- Monitors unit morale.
- Ensures that standards are enforced by noncommissioned officers of the battalion.

Engr Bn S3

[STP 21-II-MQS]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn S2

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

ABE

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

Engr Bn CMLO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn SO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn S1

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn S4

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem solving process. [03-9001.13-0001]

Engr Bn BMO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

4. **The engineer battalion commander directs changes to the operation or plan.**

Engr Bn Cdr

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn XO

[STP 21-II-MQS]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn CSM

[FM 5-71-3, Chap 2]

- Perform taskings assigned by the engineer battalion commander.
- Organize and lay out engineer battalion assembly area, as necessary.
- Monitor unit morale.
- Ensures that standards are enforced by noncommissioned officers of the battalion.

Engr Bn S3

[STP 21-II-MQS]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

ABE

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[STP 5-21II MQS, Engineer]

- Prepare engineer annexes.
[01-2250.20-1002]

Engr Bn S2

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military

problem-solving process.
[03-9001.13-0001]

[STP 34-35II-MQS, Intelligence]

- Assist in preparing the intelligence annex.
[013381.414001]

Engr Bn CMLO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[ARTEP 3-117-40-MTP, Chemical Sec and NBC Center]

- Prepare NBC plans and orders.
[3-4-0017]

Engr Bn SO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[STP 11-25II-MQS]

- Prepare and review signal estimates, plans, and orders. [01-5765.04-9001]

Engr Bn S1

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem solving process.
[03-9001.13-0001]

Engr Bn S4

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[STP 10-92ABDII-MQS]

- Prepare command logistics plans, estimates, and orders. [03-5106.00-0166]

[STP 55-88II-MQS]

- Plan logistics support for maintenance operations. [01-4720.26-0001]
- Determine CL V (conventional) requirements. [01-4000.11-1111]
- Assess unit capabilities to support proposed operations. [S3-5101.00-0229]

Engr BMO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[STP 55-88II-MQS]

- Plan logistics support for maintenance operations. [01-4720.26-0001]

Engr Bn HHC Cdr

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

Engr Co Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process.
[03-9001.13-0001]

Subordinate Unit Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn S1 Section

[ARTEP 71-3-MTP]

- Assist in the establishment of the rear CP. [71-3-1012]
- Assist in conduct of replacement operations. [71-3-1003]
- Conduct by-name casualty reporting. [71-3-1004]
- Coordinate essential financial service. [71-3-1006]
- Manage the awards and decorations program. [71-3-1011]
- Perform strength management. [71-3-1002]
- Perform essential personnel actions. [71-3-1005]
- Provide essential administrative service support. [71-3-1007]

Engr Bn S3 Section

[STP 5-21II-MQS, Engineer]

- Advise supported units on engineer capabilities and employment. [01-2250.10-1002]
- Advise the commander on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct engineer support for river-crossing operations. [01-1980.10-1001]
- Direct the reduction of complex obstacles. [01-1940.20-1002]
- Direct the clearance of complex obstacles. [01-1940.20-1003]
- Direct the construction of fords. [01-1980.10-1002]
- Direct the construction of combat roads

- and trails. [01-1990.10-1002]
- Establish intelligence production requirements and essential elements of terrain or engineer information. [01-2250.20-1004]
- Evaluate engineer intelligence for dissemination. [01-2250.20-1005]
- Plan engineer support for river-crossing operations. [01-2080.20-1001]
- Prepare engineer estimates. [01-2250.20-1001]
- Prepare engineer annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

[STP 5-12B24-SM-TG, Engineer]

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for non-explosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the engineer estimate [051-195-4050]
- Prepare a route reconnaissance overlay. [051-196-3009]
- Prepare a tunnel reconnaissance report. [051-196-3031]
- Prepare a reconnaissance report. [051-196-3032]
- Prepare a bridge reconnaissance report. [051-196-3033]
- Prepare an engineer reconnaissance report. [051-196-3035]

Engr Bn S4 Section

[ARTEP 71-3-MTP]

- Maintain current status of maintenance and supplies. [71-3-4003]
- Assist in and activate the rear CP. [71-3-4004]

[STP 10-76Z5-SM-TG, Senior Supply Sgt]

- Coordinate rear area protection plan. [101-522-5523]
- Evaluate procedures for reconciliation of supply requests and requisitions. [101-522-5511]
- Evaluate logistical procedures and provide technical assistance as needed. [101-522-5601]
- Evaluate supply support storage procedures. [101-522-5529]
- Monitor automated supply cycles. [101-522-5525]
- Monitor reports of survey. [101-522-5531]
- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Review the flow of requests for supplies and the subsequent return of supplies to the using unit. [101-522-5506]
- Review road movement graphs and tables. [101-522-5503]

[STP 10-76X24-SM-TG, Subsistence Supply Spec]

- Review the basic daily food allowance. [101-520-4154]
- Prepare the schedule of field ration issues. [101-520-4104]
- Plan a field storage layout. [101-520-4153]

[STP 10-92A35-SM-TG, Automated Log Spec]

- Check the accuracy of the PLL using the automated ULLS. [101-525-3015]
- Control and provide assistance in automated systems. [101-525-4001]
- Evaluate supply support procedures. [101-525-5003]
- Evaluate PLL procedures. [101-525-5005]
- Evaluate supply performance indicators.

- [101-525-5006]
- Provide logistics input for the administrative or logistics order. [101-525-5008]
- Review materiel receipts and document processing procedures. [101-525-5004]
- Review stock status listings. [101-525-5007]
- Review the process and handling of hazardous materiel. [101-525-4008]

[STP 10-92Y24-SM-TG, Unit Supply Spec]

- Account for and adjust property records for bulk petroleum. [101-521-3151]
- Check accuracy of PLL records. [101-521-4107]
- Check accuracy of the Army maintenance management system maintenance and historical records. [101-521-4108]
- Compile logistical data for unit status report worksheet. [101-521-4151]
- Control helicopter landing and departure area. [101-521-3902]
- Control/supervise property administration in unit supported by manual/automated systems. [101-521-3252]
- Direct and control application of safety measures during external transport operations. [101-521-3904]
- Direct the rigging of external sling loads. [101-521-3901]
- Direct the maintenance of sling-loading equipment. [101-521-3903]
- Direct the planning and forecasting of supplies (Classes I, III, and V) at the unit level. [101-521-3254]
- Inspect and provide technical assistance to units. [101-521-4101]
- Plan for the storage of supplies (Classes I, III, and V). [101-521-2202]
- Prepare materiel condition status report. [101-521-4104]
- Prepare equipment transfer, loss, or gain report. [101-521-2252]

- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Request and turn in ammunition. [101-521-2161]
- Request and post changes to equipment portion of authorization documents. [101-521-4102]

[STP 10-94B25-SM-TG, Food Service Spec]

- Consult with preventive medicine activity. [101-524-4134]
- Coordinate with the surgeon or director of medical services. [101-524-5155]
- Coordinate with CL I operations. [101-524-5206]
- Coordinate with food advisor. [101-524-4105]
- Coordinate with troop issue subsistence activity. [101-524-4118]
- Determine requirements and establish procedures in support of field operations. [101-524-3279]
- Develop SOP for dining facilities and field kitchens. [101-524-4131]
- Develop, elevate, and maintain field kitchen layout and field site. [101-524-4140]
- Direct personnel in the protection and decontamination of subsistence items in a NBC environment. [101-524-3281]
- Evaluate subsistence protection and decontamination procedures. [101-524-4132]
- Evaluate nutrition procedures in preparing, serving, and storage of food products. [101-524-5104]
- Evaluate the subsistence sanitation program. [101-524-5204]
- Monitor Army field feeding system requisitioning and accounting procedures. [101-524-5205]
- Provide assistance to officers and NCOs operating field kitchens. [101-524-5202]

5. **The engineer battalion commander directs and leads subordinate forces.**

- Review and monitor the requisition and turn-in of subsistence items under the Army field feeding system. [101-524-4141]

Engr Bn Cdr

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn XO

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn CSM

[FM 5-71-3, Chap 2]

- Perform taskings assigned by the engineer battalion commander.
- Organize and lay out engineer battalion assembly area, as necessary.
- Monitor unit morale.
- Ensures that standards are enforced by noncommissioned officers of the battalion.

Engr Bn S3

[STP 21-II-MQS]

- Solve problems using the military problem-solving process. [03-9001.13-0001]
- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

Engr Bn S2

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]

- Solve problems using the military problem-solving process.
[03-9001.13-0001]

[STP 34-35II-MQS]

- Analyze intelligence and combat information. [013381.394004]
- Assist in preparing the intelligence annex.
[013381.414001]
- Brief and debrief R&S assets.
[013381.064012]
- Conduct battlefield area evaluation.
[01-3381.01-4012]
- Conduct terrain and weather analysis.
[01-3381.01-4013]
- Conduct threat evaluation.
[01-3381.01-4014]
- Conduct intelligence liaison.
[01-3381.166-5001]
- Conduct situation development.
[01-3381.01-4016]
- Conduct target development.
[01-3381.01-4017]
- Conduct all source intelligence analysis.
[013381.414014]
- Direct collection management operations.
[013381.445002]
- Direct analysis and dissemination of information. [013381.415002]
- Direct asset management.
[013381.065001]
- Direct recording and evaluation of information. [013381.415001]
- Disseminate intelligence and combat information. [013381.394005]
- Participate in the development of the decision support template.
[013381.015003]
- Participate in the threat integration process. [01-3381.01-4015]
- Participate in the development of intelligence requirements.
[01-3381.01-5001]
- Plan reconnaissance operations.

[013381.445001]

- Prepare OB studies.
[01-3381.41-4015]
- Prepare intelligence taskings.
[01-3381.39-4002]
- Prepare R&S plan. [01-3381.06-4011]
- Prepare the intelligence estimate.
[01-3381.41-4004]
- Record intelligence and combat
information. [013381.394003]

[STP 5-21II-MQS]

- Establish intelligence production
requirements and essential elements of
terrain or engineer information.
[01-2250.20-1004]
- Provide input to IPB. [01-2250.20-1006]
- Prepare engineer estimates.
[01-2250.20-1001]

Engr Bn CMLO

[STP 21-II-MQS]

- Communicate effectively as a commander
or staff officer. [03-9001.12-0003]
- Solve problems using the military
problem-solving process.
[03-9001.13-0001]

[STP 3-74II-MQS, Chemical]

- Identify operation and functions of
chemical units and staffs.
[S1-5060.02-2138]

[ARTEP 3-117-40-MTP, Chemical Sec and
NBC Center]

- Coordinate chemical unit employment.
[3-4-0005]
- Monitor the status of chemical units.
[3-4-0006]
- Conduct chemical vulnerability analysis.
[3-4-0007]
- Conduct biological vulnerability analysis.
[3-4-0008]
- Conduct nuclear vulnerability analysis.

- [3-4-0009]
- Process NBC reports. [3-4-0010]
- Prepare predictions of contamination. [3-4-0012]
- Plan and coordinate chemical/biological survey sampling operations. [3-4-0013]
- Plan and coordinate radiological survey operations. [3-4-0014]
- Coordinate with other staff sections on NBC-related functions and operations. [3-4-0016]
- Prepare NBC plans and orders. [3-4-0017]

Engr Bn SO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 11-25II-MQS, Signal]

- Analyze battlefield spectrum management. [01-5701.07-0003]
- Direct a NCS operation. [01-5704.04-0003]
- Employ communications system of a maneuver brigade or battalion. [01-5841.07-0001]
- Identify the data communications techniques used with tactical communications systems. [01-5769.04-0001]
- Implement communications system control element operations. [01-5753.07-002]
- Implement displacement of communications nodes. [01-5754.04-0002]
- Manage secure voice communications system. [01-5735.04-0001]
- Manage network traffic routing. [01-5710.07-002]

- Perform distribution management of communications variables for combat radio operations using battlefield SOI system. [01-588.07-001]
- Prepare and review signal estimates, plans, and orders. [01-5765.04-9001]
- Provide communications support using FM voice communications. [01-5704.04-9001]

Engr Bn S1

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 12-42II-MQS, Adjutant General]

- Manage casualty reporting system. [01-0160.01-1701]
- Manage personnel replacement system. [04-0160.01-1951]
- Manage officer personnel assignment operations. [03-0160.01-1401]
- Manage the personnel accounting and strength reporting system. [03-0160.01-1301]
- Manage postal operations. [01-0160.01-2054]
- Manage enlisted personnel assignment operations. [03-0160.01-1351]
- Manage unit postal operations. [03.0107.00-2002]
- Prepare the personnel estimate. [01-0160.01-2001]
- Recommend unit of assignment for junior enlisted and senior NCOs. [03-0160.00-2103]
- Review the personnel summary, personnel requirement report and battle roster for completeness. [01-0160.00-1001]

Engr Bn S4

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 10-92ABDII-MQS, Quartermaster]

- Assess unit capabilities to support proposed operations. [S3-5101.00-0229]
- Determine CL V (conventional) requirements. [01-4000.11-1111]
- Determine and verify water requirements for a unit. [01-5103.00-0030]
- Direct receipt, storage, and issue of supplies. [03-5101.00-0018]
- Evaluate supply point operations. [01-5101.00-0194]
- Manage the receipt, issue, and storage of supplies. [03-5101.00-0287]
- Plan subsistence field operations and advise commander on subsistence operations. [03-5106.00-0130]
- Prepare command logistics plans, estimates, and orders. [03-5106.00-0166]
- Trace the flow of requests for and receipt of Classes I, II, III, IV, V, VII, and IX supplies and identify field services available to divisional units. [S3-5101.00-0273]
- Supervise field feeding operations. [03-5105.00-0107]
- Supervise the receipt, storage, and distribution of petroleum products. [03-5103.00-0081]

[STP 55-88II-MQS, Transportation]

- Plan convoy operations. [01-7300.75-0500]
- Plan use of host-nation assets. [01-7320.70-0435]
- Plan highway net use. [01-7320.75-0535]
- Prepare unit load plan. [01-7220.65-

0010]

- Request host-nation transportation support. [01-7320.70-0480]

Engr BMO

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

[STP 9-91BCII-MQS, Ordinance]

- Evaluate CL IX performance. [01-4716.26-0002]
- Identify maintenance trends. [01-4710.26-0004]
- Interpret maintenance reports. [01-4730.27-0002]
- Plan logistics support for maintenance operations. [01-4720.26-0001]

[STP 55-88II-MQS, Transportation]

- Plan evacuation of equipment. [01-4999-.26-0001]

Engr Bn HHC Cdr

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Co Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Subordinate Unit Cdrs

[STP 21-II-MQS]

- Communicate effectively as a commander or staff officer. [03-9001.12-0003]
- Solve problems using the military problem-solving process. [03-9001.13-0001]

Engr Bn S1 Section

[ARTEP 71-3-MTP]

- Assist in the establishment of the rear CP. [71-3-1012]
- Assist in conduct of replacement operations. [71-3-1003]
- Conduct by-name casualty reporting. [71-3-1004]
- Coordinate essential financial service. [71-3-1006]
- Manage the awards and decorations program. [71-3-1011]
- Perform strength management. [71-3-1002]
- Perform essential personnel actions. [71-3-1005]
- Provide essential administrative service support. [71-3-1007]

Engr Bn S3 Section

[STP 5-21II-MQS, Engineer]

- Advise supported units on engineer capabilities and employment. [01-2250.10-1002]
- Advise the commander on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct engineer support for river-crossing operations. [01-1980.10-1001]
- Direct the reduction of complex obstacles. [01-1940.20-1002]
- Direct the clearance of complex obstacles. [01-1940.20-1003]
- Direct the construction of fords. [01-1980.10-1002]
- Direct the construction of combat roads and trails. [01-1990.10-1002]
- Establish intelligence production

requirements and essential elements of terrain or engineer information.

[01-2250.20-1004]

- Evaluate engineer intelligence for dissemination. [01-2250.20-1005]
- Plan engineer support for river-crossing operations. [01-2080.20-1001]
- Prepare engineer estimates. [01-2250.20-1001]
- Prepare engineer annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

[STP 5-12B24-SM-TG, Engineer]

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for non-explosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the engineer estimate. [051-195-4050]
- Prepare a route reconnaissance overlay. [051-196-3009]
- Prepare a tunnel reconnaissance report. [051-196-3031]
- Prepare a reconnaissance report. [051-196-3032]
- Prepare a bridge reconnaissance report. [051-196-3033]
- Prepare an engineer reconnaissance report. [051-196-3035]

Engr Bn S4 Section

[ARTEP 71-3-MTP]

- Maintain current status of maintenance and supplies. [71-3-4003]
- Assist in and activate the rear CP. [71-3-4004]

[STP 10-76Z5-SM-TG Senior Supply Sgt]

- Coordinate rear area protection plan.

- [101-522-5523]
- Evaluate procedures for reconciliation of supply requests and requisitions. [101-522-5511]
- Evaluate logistical procedures and provide technical assistance as needed. [101-522-5601]
- Evaluate supply support storage procedures. [101-522-5529]
- Monitor automated supply cycles. [101-522-5525]
- Monitor reports of survey. [101-522-5531]
- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Review the flow of requests for supplies and the subsequent return of supplies to the using unit. [101-522-5506]
- Review road movement graphs and tables. [101-522-5503]

[STP 10-76X24-SM-TG, Subsistence Supply Spec]

- Review the basic daily food allowance. [101-520-4154]
- Prepare the schedule of field ration issues. [101-520-4104]
- Plan a field storage layout. [101-520-4153]

[STP 10-92A35-SM-TG, Automated Log Spec]

- Check the accuracy of the PLL using the automated unit level logistics systems (ULLS). [101-525-3015]
- Control and provide assistance in automated systems. [101-525-4001]
- Evaluate supply support procedures. [101-525-5003]
- Evaluate PLL procedures. [101-525-5005]
- Evaluate supply performance indicators. [101-525-5006]

- Provide logistics input for the administrative or logistics order. [101-525-5008]
- Review materiel receipts and document processing procedures. [101-525-5004]
- Review stock status listings. [101-525-5007]
- Review the process and handling of hazardous materiel. [101-525-4008]

[STP 10-92Y24-SM-TG, Unit Supply Spec]

- Account for and adjust property records for bulk petroleum. [101-521-3151]
- Check accuracy of PLL records. [101-521-4107]
- Check accuracy of the Army maintenance management system maintenance and historical records. [101-521-4108]
- Compile logistical data for unit status report worksheet. [101-521-4151]
- Control helicopter landing and departure area. [101-521-3902]
- Control/supervise property administration in unit supported by manual/automated systems. [101-521-3252]
- Direct and control application of safety measures during external transport operations. [101-521-3904]
- Direct the rigging of external sling loads. [101-521-3901]
- Direct the maintenance of sling-loading equipment. [101-521-3903]
- Direct the planning and forecasting of supplies (Classes I, III, and V) at the unit level. [101-521-3254]
- Inspect and provide technical assistance to units. [101-521-4101]
- Plan for the storage of supplies (Classes I, III, and V). [101-521-2202]
- Prepare materiel condition status report. [101-521-4104]
- Prepare equipment transfer, loss, or gain report. [101-521-2252]

- Provide logistics input for the administrative or logistics order. [101-522-5403]
- Request and turn in ammunition. [101-521-2161]
- Request and post changes to equipment portion of authorization documents. [101-521-4102]

[STP 10-94B25-SM-TG, Food Service Spec]

- Consult with preventive medicine activity. [101-524-4134]
- Coordinate with the surgeon or director of medical services. [101-524-5155]
- Coordinate with CL I operations. [101-524-5206]
- Coordinate with food advisor. [101-524-4105]
- Coordinate with troop issue subsistence activity. [101-524-4118]
- Determine requirements and establish procedures in support of field operations. [101-524-3279]
- Develop SOP for dining facilities and field kitchens. [101-524-4131]
- Develop, elevate, and maintain field kitchen layout and field site. [101-524-4140]
- Direct personnel in the protection and decontamination of subsistence items in a NBC environment. [101-524-3281]
- Evaluate subsistence protection and decontamination procedures. [101-524-4132]
- Evaluate nutrition procedures in preparing, serving, and storage of food products. [101-524-5104]
- Evaluate the subsistence sanitation program. [101-524-5204]
- Monitor Army field feeding system requisitioning and accounting procedures. [101-524-5205]
- Provide assistance to officers and NCOs operating field kitchens.

[101-524-5202]

- Review and monitor the requisition and turn-in of subsistence items under the Army field feeding system.

[101-524-4141]

REFERENCES

This component identifies the references and sources used by the author to develop the battlefield function (BF) task list. This component provides users with sources for further information.

Field Manuals (FMs)

5-71-3	Brigade Engineer Combat Operations (Armored), October 1995
5-71-100	Division Engineer Combat Operations, April 1993
6-20-10	Tactics, Techniques, and Procedures for the Targeting Process, Final Draft, February 1995
6-20-40	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Heavy), January 1990
6-20-50	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Light), January 1990
20-32	Mine/Countermine Operations, September 1992
25-100	Training the Force, November 1988
25-101	Battle Focused Training, September 1990
34-130	Intelligence Preparation of the Battlefield, July 1994
71-3	Armored and Mechanized Infantry Brigade, January 1996
71-123	Tactics, Techniques, and Procedures for Combined Arms Heavy Forces: Armored and Mechanized Infantry Brigade, Battalion/Task Force, and Company/Team, September 1992
90-7	Combined Arms Obstacle Integration, 29 September 1994
90-13-1	Combined Arms Breaching Operations, 7 May 1993
101-5	Command and Control for Commanders and Staff, "Final Draft," August 1993

Army Training and Evaluation Programs (ARTEPs)

3-117-40 MTP	Mission Training Plan for Chemical Section and NBC Center, September 1994

5-145-MTP Mission Training Plan for the Headquarters and Headquarters Company, Engineer Battalion, Heavy Division/Corps, October 1989

71-3-MTP Mission Training Plan for the Heavy Brigade Command Group and Staff, October 1988

U. S. Army Training and Doctrine Command Pamphlet (TRADOC Pam)

11-9 Blueprint of the Battlefield, May 1991

Battle Command Battle Laboratory Publication

BATTLE COMMAND: Leadership and Decision Making for War and Operations Other Than War, Battle Command Battle Laboratory, Fort Leavenworth, KS, April 1994

Command General Staff College - Student Text (CGSC ST)

ST 101-5 Command and Staff Decision Processes, January 1994

Soldier Training Publications (STPs)

3-74II-MQS Military Qualification Standards II, Chemical Branch (74), Company Grade Officer's Manual, March 1991

5-21II-MQS Military Qualification Standards II, Engineer (21), Company Grade Officer's Manual, March 1991

5-12B24-SM-TG Combat Engineer Soldiers Manual and Training Guide, Skill levels 2, 3, 4, December 1990

9-91BCII-MQS Military Qualification Standards II, Ordnance Branch (91BC), Company Grade Officers Manual, March 1991

10-92ABDII-MQS Military Qualification Standards II, Quartermaster (92AB), Company Grade Officers Manual, March 1991

10-76X24-SM-TG MOS 76X (Skill Levels 2-4) Subsistence Supply Specialist, Soldier's Manual and Trainer's Guide, December 1985

10-76Z5-SM-TG MOS 76Z (Skill Level 5) Senior Supply/Service Sergeant, Soldier's Manual and Trainer's Guide, May 1989

10-92A35-SM-TG MOS 92A (Skill Levels 3-5) Automated Logistical Specialist Soldier's Manual and Trainer's Guide, November 1993

10-92Y24-SM-TG	MOS 92Y (Skill Levels 2-4) Unit Supply Specialist Soldier's Manual and Trainer's Guide, February 1994
10-94B25-SM-TG	MOS 94B (Skill Levels 2-5) Food Service Specialist SM&TG, March 1993
11-25II-MQS	Military Qualification Standards II, Signal Corps (25), Company Grade Officer's Manual, August 1991
12-42II MQS	Military Qualification Standards II, Adjutant General's Corps (42), Company Grade Officers Manual, September 1991
21-II-MQS	Military Qualification Standards II, Manual of Common Tasks for Lieutenants and Captains, January 1991
34-35II-MQS	Military Qualification Standards II, Military Intelligence Branch (35), Company Grade Officer's Manual, September 1991
55-88II-MQS	Military Qualification Standards II, Transportation Branch (88), Company Grade Officers Manual 1991

Lessons Learned Bulletins

CALL Newsletter No 5: Leadership, July 1987

CALL Newsletter No 88-3: Heavy Forces, Fall 1988

CALL Newsletter No. 90-8: Winning in the Desert II, September 1990

CALL Bulletin No 90-9: Operation Just Cause Lessons Learned, October 1990

CALL Newsletter No 91-1: Rehearsals, April 1991

CALL Newsletter No. 93-3: The Battalion and Brigade Staff, July 1993

CALL Combined Training Center (CTC) Bulletin 93-4, July 1993

CALL, News From the Front, April 1994

CALL CTC Bulletin 94-1: Lessons and Information, March 1994

CALL CTC Bulletin 95-4: Lessons and Information, March 1995

CALL Newsletter No. 95-6: National Training Center's "Fighting with Fires," 1995

Appendix A

INDEX of BRIGADE COMBAT TEAM BATTLEFIELD FUNCTIONS Grouped By Battlefield Operating System (BOS)

This component lists the thirty-nine (39) battlefield functions (BFs) for each battlefield operating system (BOS) which have been identified as relevant to U.S. Army tactical echelon units. These BFs were identified based on an analysis of Training and Doctrine Command (TRADOC) Pamphlet 11-9, "Blueprint of the Battlefield." The purpose of this component is to depict the BOS and the BF which define each BOS.

INTELLIGENCE	(1)	Conduct intelligence planning.
	(2)	Collect information.
	(3)	Process information.
	(4)	Disseminate intelligence.
MANEUVER	(5)	Conduct tactical movement.
	(6)	Engage enemy with direct fire and maneuver.
AIR DEFENSE	(16)	Take active air defense measures.
	(17)	Take passive air defense measures.
FIRE SUPPORT	(7)	Employ mortars.
	(8)	Employ field artillery.
	(9)	Employ close air support.
	(10)	Conduct electronic collection and electronic attack.
	(11)	Conduct battlefield psychological operations.
	(12)	~~Employ chemical weapons.~~ ¹
	(13)	Conduct counter target acquisition operations.
	(14)	Employ naval surface fires.
MOBILITY AND SURVIVABILITY	(15)	Coordinate, synchronize and integrate fire support.
	(21)	Overcome obstacles.
	(22)	Enhance movement.
	(23)	Provide countermobility.
	(24)	Enhance physical protection.
	(25)	Provide operations security.
	(26)	Conduct deception operations.
	(27)	Provide NBC defense.

¹ Although U.S. national policy has renounced the use of chemical weapons, this BF is retained because it is a function which might be performed by other nations.

**COMMAND AND
CONTROL**

- (18) Plan for combat operations.
- (19) Direct and lead unit during preparation for the battle.
- (20) Direct and lead units in execution of battle.

**COMBAT SERVICE
SUPPORT**

- (28) Provide transport services.
- (29) Conduct supply operations.
- (30) Provide personnel services.
- (31) Maintain weapons systems and equipment.
- (32) Provide health services.
- (33) Treat and evacuate battlefield casualties.
- (34) Conduct enemy prisoners of war (EPW) operations.
- (35) Conduct law and order operations.
- (36) Conduct civil affairs operations.
- (37) Provide sustainment engineering.
- (38) Evacuate non-combatants from area of operations.
- (39) Provide field services.

Appendix B

STRUCTURE OF BATTLEFIELD FUNCTIONS (BFs) RELEVANT TO BRIGADE OPERATIONS

This component provides a description of each BF and the battlefield operating system (BOS) with which it is aligned. Included with each BF definition is a listing of major doctrinal topics and aspects addressed by the BF. These definitions provide the necessary framework required to understand the focus of each BF. Under most circumstances, heavy brigades will be involved in the accomplishment of some or all aspects of the BF. The involvement can vary from extensive, wherein the BF is a major focus, to minor, wherein the brigade headquarters only furnishes information. In the latter instances, the involvement may not be sufficient to warrant incorporation into a brigade's training program, although the brigade's responsibilities for the function are likely addressed in its SOP for tactical operations (TACSOP). The BF definitions were extrapolated from TRADOC Pam 350-7 "Blueprint of the Battlefield," as well as other doctrinal publications relevant to the applicable BF or BOS.

1. **Intelligence BOS** - The ways and means of acquiring, analyzing, and using knowledge of the enemy, weather, and terrain required by a commander in planning, preparing, and conducting combat operations. These BFs are continuous throughout the planning, preparation, and execution phases of the battle.
 - a. **BF (1) Conduct Intelligence Planning** - The developing and coordinating of information relative to the enemy, weather, and terrain prior to and during the development of the unit OPORD; the planning to collect information from battlefield sources and to acquire intelligence from other headquarters. Focus of this BF is the intelligence preparation of the battlefield (IPB). This BF addresses:
 - 1) Reconnaissance and surveillance plan (R&S Plan).
 - 2) Integrated threat templates (e.g., doctrinal, event, input to DST).
 - 3) Terrain and weather analysis.
 - b. **BF (2) Collect Information** - Obtaining information in any manner from the heavy brigade's elements and from sources outside the heavy brigade (e.g., higher headquarters and adjacent units). This BF includes the tasks associated with managing the processes and activities necessary to collect battlefield information which may eventually be used to provide intelligence relative to the enemy, terrain, and weather. This BF addresses:
 - 1) Information collected as a result of the R & S Plan.
 - 2) Continuous information collection and acquisition from all sources.

- c. **BF (3) Process Information** - Converting information into intelligence through collation, evaluation, analysis, integration, and interpretation in a continual process. This BF addresses:
 - 1) Evaluation of threat information.
 - 2) Evaluation of physical environment information.
 - 3) Integration of intelligence information.
 - 4) Development of enemy intentions.
 - 5) Development of targeting information.
 - 6) Preparation of intelligence reports.
 - 7) Update of situational template.
 - 8) Provision of battlefield area reports.
- d. **BF (4) Disseminate Intelligence** - Transmitting of information by any means (verbal, written, electronic, etc.), from one person or place to another to provide timely dissemination of critical intelligence to all appropriate members of the combined arms team. This BF addresses:
 - 1) The sending of processed intelligence in a timely manner to those on the combined arms team who can, by its receipt, take appropriate actions to accomplish the mission. This includes intelligence on the enemy, terrain, and weather.
 - 2) The sending of raw intelligence directly from those responsible for reconnaissance and surveillance to the commander should that raw intelligence be time sensitive (and not be subject to receipt and processing by intelligence analysts).
 - 3) Dissemination of battlefield reports.
- 2. **Maneuver BOS** - The employment of direct fire weapons, platforms, and systems through movement and fire and maneuver to achieve a position of advantage in respect to enemy ground forces, in order to accomplish the mission. The direct fire weapons are tank guns, BFV 25mm, anti-tank guns and rockets, attack helicopter guns and rockets, small arms, crew-served weapons, and directed energy weapons systems.
 - a. **BF (5) Conduct Tactical Movement** - Planning for and directing the positioning of direct fire weapons systems relative to the enemy to secure or retain positional advantage, making full use of terrain and formations. Tactical movement occurs when

contact with the enemy is likely or imminent but direct fire engagement has not yet occurred. Units supporting maneuver units are included. This BF addresses:

- 1) Subordinate element OPORD preparation and dissemination.
- 2) Preparation for movement.
- 3) Movement, both mounted and dismounted, and on and off road.
- 4) Closure of movement to tactical assembly area or tactical positions.
- 5) Navigation.
- 6) Air movement.

b. **BF (6) Engage Enemy with Direct Fire and Maneuver** - Planning for and directing elements in ground combat with the enemy using direct fire and/or close combat in order to destroy the enemy or cause him to withdraw. This BF relates only to those direct fire weapons systems associated with the maneuver BOS. This BF addresses:

- 1) Preparation of engagement areas.
- 2) Rehearsals of battle plans.
- 3) Prevention of fratricide.
- 4) Conduct of close combat.
- 5) Integration of direct fire with maneuver.
- 6) Control of terrain.
- 7) Consolidation and reorganization.

3. **Fire Support BOS** - The collective, coordinated, and synchronized use of target acquisition data, indirect fire weapons, armed aircraft (less attack helicopters) and other lethal and non-lethal means against ground targets in support of maneuver force operations and to achieve the commander's intent and scheme of maneuver. The fire support BOS addresses these weapons: mortars, field artillery, close air support, electronic measures, and naval surface fires.

a. **BF (7) Employ Mortars** - Planning for and employment of mortars by the maneuver unit to place fires on the enemy or terrain to support the commander's concept and intent.

- b. **BF (8) Employ Field Artillery** - Planning for and directing of indirect artillery fires to be placed on the enemy or terrain to support the commander's concept and intent. The fire support coordination tasks necessary to integrate the field artillery and the maneuver units are the primary focus. This BF does not address those field artillery tasks associated directly with those actions taken by the batteries of the artillery battalion in the conduct of their support mission such as fire direction center (FDC) operations, gun operations, etc. This BF addresses:
 - 1) Fire support - maneuver unit rehearsals.
 - 2) Fire support element (FSE) operations during the preparation and execution phases of the battle.
 - 3) Positioning and movement within the maneuver unit sector or zone.
 - 4) Indirect fire missions in support of maneuver commander's concept and intent.
- c. **BF (9) Employ Close Air Support** - Planning for, requesting, and employing armed aircraft (less attack helicopters) in coordination with other fire support (lethal and non-lethal) against ground targets in support of the brigade commander's concept and intent. This BF addresses:
 - 1) Air-ground attack requests.
 - 2) Air space coordination and management.
 - 3) Air liaison officer, forward air controller; other Army fire support coordination officers, United States Navy (USN)/United States Marine Corps (USMC) brigade team commander, supporting arms liaison team (SALT) and firepower control team (FCT) tasks that enable air-to-ground attacks.
- d. **BF (10) Conduct Electronic Collection and Jamming¹** - Planning for and directing actions taken to deny the enemy effective command, control, and communications of his own tactical force in support of maneuver commander's concept and intent. This BF includes jamming, deception, and collection.
- e. **BF (11) Conduct Battlefield Psychological Operations** - Planning for and directing the conduct or support of psychological operations (when psychological operations units are available) as an integral part of combat operations to bring psychological pressure to bear on enemy forces and civilians under enemy control in the battle area, to

¹ Title and structure change to "Conduct electronic collection and electronic attack" are presently under consideration.

assist in the achievement of tactical objectives in support of the brigade commander's concept and intent.

- f. ~~BF (12) Employ Chemical Weapons~~² - Employing chemical agents or other means to degrade enemy capabilities in support of the brigade commander's concept and intent.
 - g. **BF (13) Conduct Counter Target Acquisition Operations** - Planning for and directing the suppression (e.g., using smoke or dazzling illumination) to degrade enemy direct observation, optics, radar, sensors, electronic direction finding (DF) equipment, and imaging systems in support of the commander's concept and intent.
 - h. **BF (14) Employ Naval Surface Fires** - Planning for and directing naval gunfire in support of the maneuver commander's concept and intent.
 - i. **BF (15) Coordinate, Synchronize, and Integrate Fire Support** - Coordinating all fire support means in support of the maneuver commander's concepts and intents. The BF integrates BF 7-14.
4. **Air Defense BOS** - The means and measures organic or assigned to the maneuver commander which, when employed successfully, will nullify or reduce the effectiveness of attack by hostile aircraft or missiles after they are airborne.
- a. **BF (16) Take Active Air Defense Measures** - Planning for and directing the application of firepower to destroy enemy air targets. This BF encompasses the coordinating tasks which enable the commander to successfully employ any attached or assigned air defense weapons system, as well as the tasks necessary to employ all organic weapons systems against enemy air targets. This BF addresses:
 - 1) Employment of air defense artillery guns and missiles.
 - 2) Employment of maneuver unit weapons systems such as small arms, automatic weapons, Bradley Fighting Vehicle (BFV) 25 mm and tube-launched, optically tracked, wire guided missiles (TOWs), and tank main gun against enemy air.
 - 3) Airspace management.
 - 4) Early warning.
 - b. **BF (17) Take Passive Air Defense Measures** - Planning for and directing the protection of the unit from enemy air by means other than weapons. This BF addresses:

² Although U.S. national policy has renounced the use of chemical weapons, this BF is retained because it is a function which might be performed by other nations.

- 1) Early warning.
 - 2) Dispersion.
 - 3) Deception.
5. **Command and Control BOS** - The ways and means a commander exercises authority and direction over organic and assigned combat power in the accomplishment of the mission.
- a. **BF (18) Plan for Combat Operations** - The integration of all members of the unit in the coordinated development of an operations order which will guide the activities of the unit in conducting combat operations to accomplish assigned missions. The product/outcome of this BF is a briefed, understood OPORD. This BF addresses:
- 1) Receipt and analysis of higher headquarters (HQ) OPORD.
 - 2) Issuance of warning order.
 - 3) Restated mission statement.
 - 4) Commander's estimate process/troop leading procedures.
 - 5) Commander's guidance.
 - 6) Mission analysis (includes course of action development).
 - 7) Decision brief to commander.
 - 8) Development of a synchronized OPORD.
 - 9) Reproduction and distribution of OPORD to all participants.
 - 10) Briefing of OPORD; understanding of order by participants.
 - 11) FRAGO planning and issue.
- b. **BF (19) Direct and Lead Unit during Preparation for the Battle** - The ways and means to prepare the unit so that it is ready to support the commander's concept and intent. This BF addresses:
- 1) Commander's actions and decisions.
 - 2) Directing preparation for the battle.

- 3) Issuing orders.
 - 4) Communicating information.
 - 5) Confirmation briefs and backbriefs.
 - 6) Rehearsals.
 - 7) Maintaining and updating information and force status.
 - 8) Decisions to act or change ongoing actions.
 - 9) Confirming IPB through the reconnaissance effort.
 - 10) Determining actions to implement decisions.
 - 11) Synchronizing preparation (e.g., management of time).
 - 12) TOC operations (e.g., staff integration).
 - 13) Second in command (2IC) responsibilities.
 - 14) Continuous and sustained operations.
 - 15) Communications (e.g., planning, installation and operation of system, management, site election).
- c. **BF (20) Direct and Lead Units in Execution of Battle** - The ways and means to command and control the unit's execution of the battle plan to accomplish the commander's concept and intent. This BF addresses:
- 1) Commander's actions and decisions.
 - 2) Directing the conduct of the battle.
 - 3) Issuing orders.
 - 4) Information distribution.
 - 5) Synchronizing tactical operations (e.g., use of DST).
 - 6) TOC operations (includes CP displacement, security, survivability, battle tracking).
 - 7) Continuity of command (e.g., C2 redundancy).

- 8) Second in command (2IC) responsibilities.
 - 9) Continuous and sustained operations.
 - 10) Consolidation and reorganization.
6. **Mobility and Survivability BOS** - The ways and means that permit freedom of movement, relative to the enemy, while retaining the force's ability to fulfill its primary mission, as well as the measures the force takes to remain viable and functional by protection from the effects of enemy weapons systems and natural occurrences.
- a. **BF (21) Overcome Obstacles** - Planning for and directing actions to remove or clear/reduce natural and man-made obstacles.
 - b. **BF (22) Enhance movement** - Planning for and coordinating elements providing mobility for the unit in its area of operations. This BF addresses:
 - 1) Construction and repair of combat roads and trails.*
 - 2) Facilitating movement on routes. (This includes control of road traffic and control of refugees and stragglers.)*
 - 3) Tracking status of routes.*
 - 4) Host nation support.*
 - c. **BF (23) Provide Countermobility** - Planning for and directing actions to delay, channel, or stop enemy offensive movement consistent with the commander's concept and intent by enhancing the effectiveness of friendly direct and indirect weapons systems.
 - d. **BF (24) Enhance Physical Protection** - Planning for and directing actions that provide protection of friendly forces on the battlefield by enhancing the physical protection of personnel, equipment and weapons systems, and supplies.
 - e. **BF (25) Provide Operations Security** - Planning for and directing action to deny information to the enemy about friendly capabilities and intentions by identifying, controlling, and protecting indicators associated with planning and conducting military operations. This BF addresses:
 - 1) Analysis to determine key assets and threats to them.

* Normally accomplished by units supporting the division.

- 2) Monitoring of implementation of OPSEC measures.
- 3) Physical security measures.
- 4) Signal security.
- 5) Electronic security.

f. **BF (26) Conduct Deception Operations** - Taking actions in accordance with the division's or corps' deception plan to mask the objectives of tactical operations in order to delay effective enemy reaction. This BF addresses:

- 1) Physical deception.
- 2) Electronic deception.

g. **BF (27) Provide NBC Defense** - The avoidance of contamination; the protection of people, objects or areas from chemical or biological agents by absorbing, destroying, neutralizing, or otherwise rendering harmless or removing such agents; and the removal of radioactive material. This BF addresses:

- 1) Decontamination of individual soldiers and equipment.
- 2) Decontamination of weapon systems and supplies.
- 3) Hasty and deliberate decontamination.
- 4) Avoidance of contaminated areas.
- 5) NBC reconnaissance.
- 6) NBC defensive measures.
- 7) NBC warning.

7. **Combat Service Support BOS** - The support, assistance, and service provided to sustain forces, primarily in the area of logistics, personnel services, and health services.

a. **BF (28) Provide Transport Services** - Planning for and directing provision or coordination for transportation which will assure sustainment support operations in support of the unit. This BF addresses:

- 1) Movement of cargo, equipment, and personnel by surface or air.

- 2) Loading, transloading, and unloading material and supplies.
- 3) Reporting status.
- b. **BF (29) Conduct Supply Operations** - Planning for and directing provision of the items necessary to equip, maintain, and operate the force during the preparation and execution phases of the battle. This BF addresses:
 - 1) Requesting, receiving, procuring, storing, protecting, relocating, and issuing supplies to the specific elements of the force.
 - 2) Providing munitions to weapons systems.
 - 3) Providing fuel and petroleum products to equipment and weapons systems.
 - 4) Reporting status.
- c. **BF (30) Provide Personnel Services** - Planning for and directing all personnel-related matters to sustain the force. This BF addresses:
 - 1) Personnel administrative services.
 - a) Replacement, casualty reporting.
 - b) Awards and decorations.
 - c) Postal operations.
 - d) Promotions, reductions.
 - 2) Financial services.
 - 3) Unit ministry team operations.
 - 4) Legal services.
 - 5) Public affairs services.
 - 6) Preservation of the force through safety.
 - 7) Management of stress.
 - 8) Reporting status.

- d. **BF (31) Maintain Weapons Systems and Equipment** - Planning for and directing preservation and repair of weapons systems and equipment. This BF includes the provision of repair parts and end items to all members of the unit before, during and after the battle. Included also is doctrinal echeloning of maintenance (organization, direct support (DS), general support (GS)). This BF addresses:
 - 1) Recovery.
 - 2) Diagnosis, substitution, exchange, repair and return of equipment and weapons systems to the combined arms force.
 - 3) Reporting status.
- e. **BF (32) Provide Health Services** -Planning for, directing and coordinating health services regardless of location, to promote, improve, conserve or restore the mental or physical well-being of individuals or groups. This BF addresses:
 - 1) Preventive medicine.
 - 2) Field sanitation.
 - 3) Mental health.
- f. **BF (33) Treat and Evacuate Battlefield Casualties** - Planning for and directing the application of medical procedures on battlefield casualties beginning with "buddy aid" through treatment by trained medical personnel. The BF includes movement of casualties from the forward edge of the battlefield back to division-level medical facilities. This BF addresses:
 - 1) Triage of battlefield casualties.
 - 2) Treatment and movement of casualties to rear (MEDEVAC).
 - 3) Evacuation.
 - 4) Handling and processing the remains of soldiers who have died of wounds.
 - 5) Reporting status.
- g. **BF (34) Conduct Enemy Prisoners of War (EPW) Operations** - Planning for and directing the collection, processing, evacuation, and safeguarding of enemy prisoners of war. This BF addresses:
 - 1) Collecting and evacuating EPW.

- 2) Searching, segregating, safeguarding, silencing, and rapid rearward movement of EPW.
-
- h. **BF (35) Conduct Law and Order Operations** - Enforcing laws and regulations and maintaining of unit and personnel discipline.
 - i. **BF (36) Conduct Civil Affairs Operations** - Planning for, directing, and/or coordinating assigned tasks to conduct activities which encompass the relationship between the military forces and civil authorities and the citizens in a friendly or occupied country or area when U.S. military forces are present.
 - j. **BF (37) Provide Sustainment Engineering** - Planning for and coordinating the actions of elements (when in the unit area), providing repair and construction of facilities and lines of communication. This BF addresses:
 - 1) Rear area restoration.*
 - 2) Construction and maintenance of lines of communication (roads, railroads, ports, airfields).*
 - 3) Construction support:
 - a) Marshaling, distribution and storage facilities.*
 - b) Pipelines.*
 - c) Fixed facilities.*
 - d) Well drilling.*
 - e) Dismantlement of fortifications.*
 - k. **BF (38) Evacuate Non-combatants from Area of Operations** - Planning for and directing the unit's participation in actions to use available military and host-nation resources for the evacuation of US forces, dependents, US government civilian employees, and private citizens (US and other). This BF addresses:
 - 1) Medical support.
 - 2) Transportation.

* Normally accomplished by units supporting the division.

- 3) Security.
 - 4) Preparation of temporary shelters.
 - 5) Operation of clothing exchange facilities.
 - 6) Operation of bathing facilities.
 - 7) Graves registration.
 - 8) Laundry.
 - 9) Feeding.
1. **BF (39) Provide Field Services** - Planning for and coordinating the provision of service logistics functions by CSS elements*. This BF addresses:
- 1) Clothing exchange.
 - 2) Shower facilities.
 - 3) Graves registration.
 - 4) Laundry and clothes renovation.
 - 5) Bakeries.
 - 6) Feeding (rations supply, kitchens).
 - 7) Salvage.

* Normally accomplished by units supporting the division.

Appendix C

BFs LISTED BY ECHELON

This component depicts the identification of BFs to the echelon/type unit based on previous research and analysis.

INTELLIGENCE BOS		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(1)	Conduct Intelligence Planning	X	X	X	X	X	
(2)	Collect Information	X	X	X	X	X	X
(3)	Process Information	X	X	X	X	X	X
(4)	Disseminate Information	X	X	X	X	X	X

MANEUVER BOS		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(5)	Conduct Tactical Movement	X	X	X	X	X	X
(6)	Engage the Enemy with Direct Fire and Maneuver	X	X ¹				

FIRE SUPPORT BOS		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(7)	Employ Mortars	X	X				
(8)	Employ Field Artillery	X	X	X	X	X	X
(9)	Employ Close Air Support	X	X				

¹ BF 6, as defined, concerns how units will engage the enemy through maneuver and direct fires. The function is performed by the element directly controlling the direct fire systems. Initial analysis indicates that this is accomplished by maneuver battalions, such as a mechanized infantry or armor Bn TF, and attack helicopter battalions. The brigade commander and brigade staff's involvement in the engagement of the enemy is through direction of the subordinate battalions. Hence, the brigade's control is not direct to the systems involved. Therefore, the brigade involvement is described within the context of BF 18, 19, and 20. Further analysis is required.

FIRE SUPPORT BOS (cont.)		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(10)	Conduct Electronic Collection and Jamming ²						
(11)	Conduct Battlefield Psychological Operations						
(12)	~~Employ Chemical Weapons~~ ³						
(13)	Conduct Counter Target Acquisition Operations			X			
(14)	Employ Naval Surface Fires	X	X				
(15)	Coordinate, Synchronize, and Integrate Fire Support	X	X	X	X	X	

AIR DEFENSE BOS		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(16)	Take Active Air Defense Measures	X	X				X
(17)	Take Passive Air Defense Measures	X	X	X	X	X	X

COMMAND AND CONTROL BOS		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry⁴
(18)	Plan for Combat Operations	X	X	X	X	X	
(19)	Direct and Lead Units During Preparation for Battle	X	X	X	X	X	
(20)	Direct and Lead Units in Execution of Battle	X	X	X	X	X	

² Title and focus change to "Conduct electronic collection and electronic attack" are presently under consideration.

³ Although U.S. national policy has renounced the use of chemical weapons, this BF is retained because it is a function which could be performed by other nations.

⁴ The battle phases of plan, prepare, and execute are inherent to the ADA battery's performance of BF 16, Take Active Air Defense Measures.

MOBILITY AND SURVIVABILITY BOS	Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(21) Overcome Obstacles	X	X		X		
(22) Enhance Movement				X		
(23) Provide Countermobility	X	X		X		
(24) Enhance Physical Protection	X	X	X	X	X	X
(25) Provide Operations Security	X	X	X	X	X	X
(26) Conduct Deception Operations						
(27) Provide NBC Defense	X	X	X	X	X	X

COMBAT SERVICE SUPPORT BOS	Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(28) Provide Transport Services	X	X	X	X	X	
(29) Conduct Supply Operations	X	X	X	X	X	X
(30) Provide Personnel Services	X	X	X	X	X	
(31) Maintain Weapons Systems and Equipment	X	X	X	X	X	X
(32) Provide Health Services		X			X	
(33) Treat and Evacuate Battlefield Casualties	X	X	X	X	X	X
(34) Conduct Enemy Prisoner of War Operations		X			X	
(35) Conduct Law and Order Operations						
(36) Conduct Civil Affairs Operations						
(37) Provide Sustainment Engineering						
(38) Evacuate Non-combatants from Area of Operations						
(39) Provide Field Services					X	

Appendix D

USER'S GUIDE

This component is designed to facilitate use of the function analysis. The examples are based on the function analysis (FA) of BF 18--Plan for Combat Operations--as performed by the heavy brigade.

Section 1 - Background on Functional Approach to Training and Battlefield Functions

Given the task-based nature of Army training, the tools for identifying, structuring, and organizing tasks critical for combat effectiveness are essential to realizing goals of Army training for the 21st century. Providing such tools has been a persistent effort in structuring assessment and planning of collective training. Army Training and Evaluation Program Mission Training Plans (ARTEP-MTPs), which list tasks by mission, represent one approach to provide that structure. A complementary approach has emerged in the use of functional areas.

Several initiatives have considered tasks in relation to functional areas rather than missions. One such approach was adopted at the Combat Training Centers (CTCs). The specific approach developed in the mid-1970s used Battlefield Operating Systems (BOSs) as the framework for after action reviews (AARs) and take home packages. The BOSs are seven functional areas which encompass tactical operations.

In addition, to enhance the utility of the BOS structure, the U.S. Army Training and Doctrine Command (TRADOC) developed the Blueprint of the Battlefield. That work used the BOS structure as a framework to describe the tactical level of war in terms of operating systems, functions, and generic tasks. While the functional hierarchy in the Blueprint of the Battlefield provided finer granularity than the BOS, the Blueprint of the Battlefield did not represent battlefield processes, critical sequences of events, procedural steps, and many of the tasks that must be accomplished.

This research product is part of an effort to improve further the functional structure for planning and assessing collective training through the identification and analysis of Battlefield Functions (BFs). Like the Blueprint of the Battlefield, the BFs orient on functions (activities and processes that occur over time) while retaining granularity that supports task-based training. The BF analyses extend the Blueprint of the Battlefield in two ways:

- Identify relationships among BOSs, tasks, echelons, and people required to achieve identified outcomes, thus improving representation of battlefield processes and sequences of events.
- Provide explicit ties to tasks derived from ARTEP-MTPs and doctrine, tactics, techniques, and procedures described in doctrinal manuals, applied at CTCs, or identified by experienced field commanders, thus improving representation of procedural steps and tasks that must be accomplished.

The FAs of BFs have been conducted at a level of detail that supports a functional approach to training. The functional approach uses battlefield functions performed by units as the basis for assessing proficiency and planning training. The BF FAs provide content and a framework to apply the functional approach to training. Thirty-nine (39) BFs (Appendix A) are relevant to tactical operations at echelons from battalion through corps. Association of specific BFs to particular type units indicates that those BFs are germane to the unit's training program.

Section 2 - Overview of Components to a BF Function Analysis

The BF FA conducted as part of this project (Innovative Tools and Techniques for Brigade and Below Staff Training (ITTBBST)) contains seventeen (17) components including this User's Guide. The components allow BF FA users the capability to use the BF FA for a variety of purposes, some of which are described in Section 3 below. The title and a brief description of each BF FA component follow.

Overview: Information is provided concerning the presentation of the BF FA components, the table of organization and equipment (TO&E) of the type unit for which the BF FA is relevant, and the context in which the FA was developed. The information provides an overview of the analytical approach used for the FA.

Purpose and Outcomes: The overall end result which the BF is supposed to accomplish, termed the purpose, is identified. This component also identifies the endstates or bottom line results necessary to achieve the purpose, termed outcomes.

Flow Charts by Battle Phase (Plan, Prepare, Execute): This graphical description portrays the sequence of BF tasks within the framework of tactical battle phases (i.e., planning, preparation, execution). This component describes the flow of tasks during each battle phase, the vertical task linkages (to higher and lower echelon units), and horizontal linkages to other BFs for the echelon being analyzed. It also depicts information flow which affects the tasks.

Task Linkages to Other BFs/Units: Tasks performed in other BFs or by other units are described as they relate (i.e., are linked) to the tasks of the BF being analyzed. These descriptions provide verbal details of the relationships portrayed graphically by the Flow Charts. The purpose of this component is to allow the user to incorporate related tasks and participants into a training exercise for this BF. Tasks which link to this analysis have been extracted for BFs or units for which FAs have been accomplished and extrapolated for FAs which have not yet been developed.

Key Participants by Task: The participants required to perform the tasks are identified. Identification is based on the appropriate echelon/type unit TO&E. It includes special staff members who are critical for task accomplishment.

Key Inputs and Outputs: The critical information required and generated by participants to successfully accomplish the BF is identified. Where information results from the performance of the BF tasks, BF information output is identified. One BF's information output normally is provided as another BF's input. Critical input and output are organized by the specific part of the doctrinal product or means used to communicate it. The source of critical information is specific only to the BF echelon and function being analyzed, and is not intended to reflect all the information the product may contain. The linkages of inputs and outputs to specific tasks are depicted in the Flow Charts component.

Task List Summary: The tasks which are described in detail in the Task List are summarized and numbered. The numbers allow cross referencing among BF FA components.

Task Lists: Tasks and supporting tasks necessary to perform the function are listed by battle phase. Normally, the task identifies the primary participants responsible for performing the tasks. The tasks have been extracted from the appropriate ARTEP-MTPs, echelon and functional area field manuals (FMs), and proponent school special texts. The specific sources of references for each task and subtask are shown in brackets [] following the task. Tasks derived from ARTEP-MTPs are referenced with the ARTEP-MTP number and task number, such as [ARTEP 5-145-MTP, Task 05-1-0002/1]. Tasks derived from FMs are referenced with the FM number and page number, such as [FM 5-71-3, p. 2-11]. Tasks identified during interviews with TRADOC school proponent subject matter experts (SMEs), CTC Operations Groups, and Army Forces Command units are referenced as field notes (FN) and the source is reflected, such as [FN-NTC CSS OCs]. Tasks derived from the Center for Army Lessons Learned (CALL) are referenced with the notation LL for lessons learned; the CALL publication number and page number are included, such as [LL-CALL Newsletter 95-6, p. 16]. In some cases, the analysis of the BF resulted in identification of tasks for which no doctrinal references could be identified. Such tasks were selected based on author experience and relevant doctrine. These tasks are referenced as author notes [AN]. The references facilitate review of original source material for further detail and context.

Tasks Organized by Outcomes: Tasks and supporting tasks necessary to perform the function are listed by outcome. The component supports analysis of performance related to outcomes to identify tasks for sustainment or remediation training.

Lessons Learned Integrated into the Task List: The lessons learned extracted from the CALL publications relevant to performing this BF are identified. They are organized and listed by the appropriate task from the Task List component. The purpose of this component is to provide the user with recent tactics, techniques, and procedures (TTP) associated with the performance of the tasks in this BF.

Gate Tasks: Critical individual or collective tasks which BF participants must be able to perform prior to engaging in the identified BF tasks are listed so that the training can be conducted efficiently and safely.

References: The references and sources used by the analyst are identified.

Index of Battlefield Functions: The thirty-nine (39) BFs relevant to Army tactical echelon units, organized by the BOS they compose, as derived from TRADOC Pamphlet 11-9, Blueprint of the Battlefield, are identified.

Structure of Battlefield Functions: Definitions for the 39 BFs and BOSs they compose are provided.

BFs Listed by Echelon: The occurrences of BFs relevant to training according to echelon/type units are listed. This list is subject to change as research into the relevance of functions continues.

User's Guide: Descriptions are provided of the background of BFs and the Functional Approach to training (Section 1), the components of a BF FA (in this section), and approaches to exploit the flexibility of the BF FA to support multiple Army uses and users (Section 3).

Acronyms and Abbreviations: The acronyms and abbreviations used in the analysis are listed. The acronyms and abbreviations were taken from relevant doctrinal references.

Section 3 - Use of the BF Function Analysis

The analysis of a function contained in each BF FA can support a variety of purposes. General purposes and information needs will be suggested for force developers, materiel developers, doctrine developers, training developers, and unit commanders.

- Force Developers: Develop personnel systems and organizational structures to support the force. Purpose and Outcomes and Task Lists components, for example, could support identification of required capabilities and tasks that a particular unit or organization must be able to perform. The Flow Charts component could support delineation of a new organizational design.
- Materiel Developers: Develop requirements for new systems to ease performance activities of soldiers and to accomplish new battlefield requirements. Through the identification of requirements, new technologies and processes can be applied to support force needs. The Flow Charts component, for example, could be used to illustrate opportunities to revise procedures to take advantage of enhancements in areas such as information dissemination.

- Doctrine Developers: Develop new and modify existing doctrine to integrate emerging technologies and to implement changing Army missions and priorities. TTP will evolve to meet new battlefield conditions and requirements as well as to guide combined arms, joint service, and multinational operations. The emphasis in BF FAs on interrelationships can identify gaps in task coverage which should be addressed through revisions to publications such as ARTEP-MTPs.
- Training Developers: Develop new and modify existing training programs to support new doctrine, emerging technologies, changes in organization, and reduced resources and training environments. Potential uses of a BF FA to support areas such as development of training support packages (TSP) and development of training aids, devices, simulators, and simulations (TADSS) are discussed in Section 4.
- Unit Commanders: Assess training effectiveness, develop training plans, and execute training. BF FA support for training assessment and planning training events is discussed in Section 4.

Developers and commanders often begin by performing or examining one or more front end analyses (FEAs) to gain an understanding of a relevant issue. Whether they perform FEAs themselves or draw from available analyses (like the BF FAs), information is sought on many topics. Likely topics include the following (with relevant BF FA components):

- What are the objectives/missions of the system? (Purpose and Outcomes)
- What are the vertical and horizontal linkages between elements, and what are the information inputs and outputs associated with these? (Flow Charts, Tasks Linked to Other BFs/Units, and Key Inputs and Outputs)
- What are the processes and tasks being performed within each element? (Task Lists, Tasks Organized by Outcomes, and Flow Charts)
- Who are the players and/or target audience? (Key Participants by Task)
- What enabling and objective knowledge and skills are required? (Gate Tasks)

- Are there any experiences and lessons learned that would be helpful? (Task Lists and Lessons Learned Integrated into the Task List)

Two detailed examples of BF FA usage are presented in Section 4 below. These examples demonstrate, first, how unit commanders and, second, how training developers can use BF FAs. The examples should serve as a guide for potential BF FA users in that generic information within the BF FAs is transferable to the other applications.

Section 4 - Unit Commander and Training Developer Use of a BF Task Analysis

Unit Commanders

Unit commanders use published Army doctrine as contained in FM 25-100, Training the Force (November 1988), and FM 25-101, Battle Focused Training (September 1990) to assess training effectiveness and to plan training events. The BF FAs provide relevant information for assessment and planning within the intent of those documents. The added information supports functional training which uses proficiency related to functions as the basis for identifying tasks to be trained and structuring training on those tasks. The BF FAs supplement the training and assessment systems and processes already in use by commanders.

1. Conduct Training Assessment

The commander assesses the mission essential task list (METL) to identify functions that require attention, to select outcomes for training focus, and to provide specific guidance for training. This functional training assessment allows the commander to perform an analysis across several layers with a successively narrow focus:

- METL tasks.
- Each BOS for each METL task that requires remediation or sustainment.
- Relevant BFs for each BOS that requires remediation or sustainment.
- Relevant outcomes for each BF that requires remediation or sustainment.

The commander assesses BF performance in the context of the unit METL and the BOS by using the Purpose and Outcomes component. To support the assessment, commanders could develop and complete a worksheet which relates BFs and the outcomes to the METL and BOS, as depicted in Figure D-1, which presents a completed assessment worksheet for BF 18.

BF 18 Outcomes (extracted from the function analysis):

1. Complete, concise, feasible, suitable, acceptable, and tactically sound brigade orders that conform to doctrinal standards are issued.
2. Brigade orders are received in no more than 1/3 of the available time and understood by key participants and subordinates.
3. Sufficient hard copies of the brigade order and all key accompanying documents are provided to key personnel in accordance with TSOP.
4. Brigade operations, command, and control continue during planning process.

Mission Essential Tasks	CURRENT TRAINING STATUS					Overall METL Status
	BOS: Command and Control					
	BF: 18- Plan for Combat Operations					
	Outcomes	1	2	3	4	
Defend		P	P	T	P	P
	<u>Outcome 1:</u> OPORD generally very good; need more detail on control measures (excessive risk of fratricide).					
	<u>Outcome 2:</u> Too slow getting information to supporting battalions--FSB especially needs support requirements earlier.					
	<u>Outcome 3:</u> Dissemination is very smooth.					
	<u>Outcome 4:</u> Weak communications between main CP and adjacent units.					
Attack; Movement to Contact		P	U	T	P	P
	<u>Outcome 1:</u> Accuracy of graphics questionable--MCOO inaccurate or unclear--not sure which, may be both.					
	<u>Outcome 2:</u> Adjacent units never received initial WARNO.					
	<u>Outcome 3:</u> OPORD distribution continued to be a strength.					
	<u>Outcome 4:</u> Rear CP: situation map (SITMAP) and information displays of tactical situation were not current.					
Overall BF Status: BF 18 = P				BOS Status = P		

Note: Italics indicate entries made by hypothetical commander.

Figure D-1. Assessment worksheet for heavy brigade performance of BF 18.

2. Plan Training Events

The BF FA supports four steps related to planning a training event. The use of BF FAs to perform each of these tasks is described below.

a. Selecting Tasks and Supporting Tasks To Be Trained

1) Selection of tasks by outcome or battle phase. When the training assessment identifies outcomes to be achieved, trainers can focus their attention on particular tasks that support the outcome. This process can be streamlined by referring to the Tasks Organized by Outcomes component of a BF FA. The tasks relevant to each outcomes for the BF 18 FA are shown in Figure D-2. While many of the tasks are required by more than one outcome, the supporting tasks will usually vary between the outcomes.

If trainers have no basis for identifying an outcome within the BF or if the training is to focus on a single battle phase, they can select tasks from the Task List Summary component. For most BFs, this component is organized by the battle phases--plan, prepare, and execute--supported by the Flow Chart. The exceptions to that organization are BFs 1 through 4, which cover the Intelligence BOS, and BFs 18 through 20, which cover the command and control BOS by battle phase. The Intelligence BFs reflect the continuous nature of the intelligence cycle.

BF 18 Outcomes (OC):

1. Complete, concise, feasible, suitable, acceptable, and tactically sound brigade orders that conform to doctrinal standards are issued.
2. Brigade orders are received in no more than 1/3 of the available time and understood by key participants and subordinates.
3. Sufficient hard copies of the brigade order and all key accompanying documents are provided to key personnel in accordance with TSOP.
4. Brigade operations, command, and control continue during planning process.

Tasks (from the Task List)	OC 1	OC 2	OC 3	OC 4
1. The brigade commander and staff direct and lead the brigade during planning for the battle.				X
2. The brigade receives an order initiating a new mission from higher headquarters.	X	X		
3. The brigade commander and staff conduct mission analysis.	X	X		
4. The brigade executive officer directs the staff in the preparation and issuance of a brigade warning order.	X			
5. The brigade commander issues initial planning guidance.	X	X		
6. The brigade commander and staff prepare estimates.	X			
7. The brigade commander and staff develop course(s) of action.	X			
8. The brigade commander and staff analyze course(s) of action.	X			
9. The brigade staff compares course(s) of action.	X			
10. The brigade commander announces decision.	X			
11. The brigade staff prepares the operations order.	X	X	X	
12. The brigade commander and staff issue the operations order.	X	X	X	

Figure D-2. Overview of tasks by outcomes for BF 18 FA.

2) Selection of supporting tasks. Trainers must also select supporting tasks. Supporting tasks are blocks of performance required by the task. Each task and supporting task is structured to describe actions to be performed (e.g., steps) or the end states of the task (i.e., aspects of the standard). The detailed description for each task and supporting task is contained in the Task List component. An excerpt from that component of the BF 18 FA is shown in Figure D-3.

5. **The brigade commander issues initial planning guidance.** [FM 101-5, Chap 4, p. 4-15]
- a. The brigade commander develops planning guidance: [FM 101-5, p. 4-16; FM 71-3, p. 3-3]
 - 1) Using the results of his own mission analysis and his METT-T assessment. [FM 101-5, p. 4-16]
 - 2) Using the results of the brigade staff's mission analysis. [FM 6-20-40, p. 2-1; FM 6-20-50, p. 2-1; FM 6-20-10, p. 1-5; FN-Joint Readiness Training Center (JRTC); FN-194 armor (AR)]
 - b. The brigade XO prepares the brigade staff to receive the brigade commander's guidance. [FM 101-5, p. 4-15; ARTEP 71-3 MTP, Task 71-3-0001/2]
 - 1) Determines who must be present at the commander's guidance briefing, if not SOP (e.g., engineer battalion Cdr, fire support coordinator (FSCOORD), MP platoon leader).
 - 2) Ensures staff is prepared to take notes on guidance issued (depending on the level of detail and specificity of guidance).
 - c. The brigade commander issues planning guidance to the brigade staff, which may include: [FM 101-5, p. 4-17; FM 6-20-40, p. 2-1, 2-3; FM 6-20-50, p. 2-1, 2-3; FM 6-20-10, p. 1-7; ARTEP 71-3 MTP, Task 71-3-0001/3]
 - 1) Enemy COA. [FM 101-5, p. 4-17]
 - 2) Restated mission. [FM 101-5, p. 4-18]

Figure D-3. Example of supporting tasks extracted from the Task List of BF 18 FA.

3) Identification of references. As Figure D-3 also illustrates, the doctrinal source (publication number and task number or page number), in brackets, is included with the listing of each task and supporting task. Trainers can refer to the References component to determine the doctrinal publication title and publication date. They can then refer to doctrinal source material for further detail and context, if desired. Figure D-4 provides examples taken from the References component of BF 18.

Field Manuals (FMs)	
6-20-40	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Heavy)
6-20-50	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Light)
71-3	The Armored and Mechanized Infantry Brigade
101-5	Command and Control for Commanders and Staff (Draft)
Army Training and Evaluation Program (ARTEPs)	
71-3-MTP	Mission Training Plan for the Heavy Brigade Command Group and Staff

Figure D-4. Excerpt from References component of BF 18 FA.

4) Identification of techniques and useful training information. As part of the task selection process and the planning of the training event, trainers can refer to the Lessons Learned component. This component identifies lessons learned extracted from the CALL publications. This component also provides information not necessarily contained in the applicable doctrinal references but determined to be relevant to training of the function based on performance history of brigades at the CTCs. In other cases, lessons learned at CTCs may provide a clearer definition of how tasks should be performed and the conditions under which they must be performed. An excerpt from that component of the BF 18 FA is shown in Figure D-5.

5.	The brigade commander issues initial planning guidance.
LL -	Determine the amount of planning guidance the staff requires to develop the plan. [CALL Newsletter No. 93-3: The Battalion and Brigade Battle Staff, p. 9]
LL -	Do not suppress the staff's ability to plan by providing excessive planning guidance. [CALL Newsletter No. 93-3: The Battalion and Brigade Battle Staff, p. 9]
LL -	Sketch the initial concept of the operation for the staff. [CALL Newsletter No. 93-3: The Battalion and Brigade Battle Staff, p. 9]

Figure D-5. Excerpt from Lessons Learned Integrated into the Task List component of BF 18 FA.

b. Selecting the Training Audience. After determining which tasks must be trained, trainers should next identify the training audience. The Key Participants by Task component of the BF FA supports that analysis. This component, based on the unit's TO&E, specifies the participants required to perform the tasks selected for training. One potential result of this review is that trainers may have to coordinate (through the appropriate commanders) with external units to have a specific special staff member participate in the training event. Figure D-6 depicts an example of that component of the BF 18 FA.

<u>Tasks</u>
5. The brigade commander issues initial planning guidance.
<u>Participants</u>
Bde Cdr, Bde XO, Bde CSM, Bde S2, DS MI Co Cdr, Bde S3, Bde S3-Air, Bde S3 operations (Opns) Sgt, CMLO, FSCOORD, FSO, Engr Bn Cdr, ABE, air defense liaison officer (ADLO), aviation liaison officer (AVLO), air liaison officer (ALO), Bde S1, Bde Chaplain, Bde Surgeon, MP platoon (Plt) leader (Ldr), Bde S4, brigade support officer (BSO), Bde HQ Co commandant (Cmdt), Bde S5 (if assigned)

Figure D-6. Excerpt from Key Participants by Task component of BF 18.

c. Identifying Task Training Sequences and Products To Support Training. Unit trainers must also decide which products and information sources must be replicated or

emulated to introduce external stimuli to the training events. The Flow Charts and Key Inputs and Outputs components help determine that information.

The flow charts are used to determine: (a) the flow of tasks during each battle phase; (b) vertical task linkages (to higher and lower echelon units); (c) horizontal task linkages (to tasks in other BFs for the echelon being analyzed); and (d) information input and output which affect relevant tasks. The flow charts provide a graphical description of tasks as they are sequenced within the framework of the battle phases. Although the sequencing of tasks throughout each battle phase is intended to reflect the flow of tasks, tasks may be performed concurrently or may interact with preceding or subsequent tasks.

The Inputs section of the Key Inputs and Outputs component contains critical information, organized by the doctrinal product or means used to communicate it, required by participants to achieve the purpose of the BF. The information and products described must be replicated to drive training events. The Lessons Learned Integrated into the Task List component can also support identification of conditions to be replicated.

The Outputs section of the Key Inputs and Outputs component describes information which results from the performance of the BF tasks. The Outputs should be covered by performance standards and should usually be covered during the after action review (AAR). An excerpt from the Key Inputs and Outputs component of the BF 18 FA is shown in Figure D-7.

KEY INPUTS**D - 4 GUIDANCE AND INFORMATION FROM THE DIVISION
COMMANDER AND STAFF.**

- a. Division commanders verbal or written guidance.
- b. Operational situation reports (OPSITREPs).
- c. Periodic personnel report (PPREPT).
- d. Periodic intelligence report (PERINTREP).
- e. Periodic operation report (PEROPRPT).
- f. Periodic logistics report (PERLOGRPT).
- g. Periodic civil affairs report (PERCARPT).
- h. Engineer reports.
- i. Field artillery reports.
- j. Air defense artillery reports.
- k. Other reports of planning or critical combat information of interest to the brigades.

KEY OUTPUTS**Bde - 3 BRIGADE WARNING ORDER**

- a. Mission, intent, and CCIR of brigade commander.
- b. Graphics.
- c. Types of fire support munitions available, including CSR and required supply rate (RSR).
- d. Enemy situation.
- e. Assets available for collection of information and intelligence.
- f. Task organization.

Figure D-7. Excerpt from Key Inputs and Outputs component of BF 18 FA.

d. Determining Prerequisite Training Tasks. If units are to obtain full benefit from training, participants must have previously achieved a level of proficiency in the individual and collective tasks required to enable safe and effective training of the selected tasks. Identification of such prerequisite tasks is accomplished by analyzing the Gate Tasks component. Trainers use this information to provide focus for individual training, subordinate echelon collective training, and staff training. An excerpt from the Gate Tasks component for the BF 1 FA contained in this research product is shown in Figure D-9.

5. The brigade commander issues initial planning guidance.**S2**

[STP 34-35II-MQS, Intelligence]

- Conduct situation development [01-3381.01-4016].

Officer Common Tasks:

[STP 21-II-MQS, Common Tasks]

- Brief to Inform, Persuade, or Direct [01-9007.01-0250]
- Communicate effectively as a commander or staff officer [03-9001.12-0003]

NCO Common Tasks for: All Primary and Special Staff NCOs

[STP 21-24-SMCT, Common tasks]

- Prepare situation report [SITREP] [071-332-5022].
- Prepare a strip map [551-721-3359].
- Prepare an operation overlay [071-332-5000/ 71-3-3002[2] MTP 71-3].
- Conduct operations security [OPSEC] procedures [113-573-0002].
- Integrate risk management into mission [850-001-4001].

[ARTEP 71-3-MTP]

- Perform duties in a tactical operations center or admin/log command post [7-1-3904/3036].
- Analyze tactical mission statement [ARTEP 71-3 MTP, Task 71-3-3001].
- Prepare plans/orders/annexes IN ACCORDANCE WITH FMs 71-2 and 101-5 [7-1-3904[9] / 71-3-3002].
- Prepare operational journals [ARTEP 71-3 MTP, Task 71-3-2006[2]].
- Advise and assist staff on elements of BOS that support/impact their staff function [ARTEP 71-3 MTP, Task 71-3-0001].
- Maintain the current situation (71-3-3003).

Figure D-8. Excerpt from Gate Tasks component of BF 18 FA.

Training Developers

The TRADOC service schools (proponents) develop training materials to guide individual and collective training. Training development is conducted within the framework of the systems approach to training. The BF FAs support the systems approach for collective training by identifying not only the tasks for each type of unit, but also horizontal and vertical relationships within each BOS, relationships among BOS, and relevant details about the relationships. The descriptions of interrelationships, which describe the scope of required synchronization plus details about tasks and supporting tasks, provide training developers with information about the content of training which they are supporting.

Within TRADOC, current training development supports Force XXI. The BF FAs are especially germane to the WARFIGHTER XXI (collective) emphasis. The information in each BF FA can be applied within each of the five WARFIGHTER XXI components:

- Standard Army Training System (SATS)
- TSPs
- TADSS
- Standard After Action Review System (STAARS)
- Army Training Digital Library (ATDL)

1. Standard Army Training System

The SATS is a computer-based software system that automates training management doctrine. The most direct connection of BF FAs to SATS is through the Combined Arms Training Strategy (CATS). This is the mechanism for establishing long-range and short-range unit training strategies. Each CATS identifies tasks, drills and exercises, TADSS, and resources to support training for each unit type. BF FA components help developers identify tasks to be addressed by the strategy; the FAs are especially useful for identifying staff tasks that are not currently included in ARTEP-MTPs. In addition, BF FAs directly support two elements of the CATS--Training Unit Audience and Prerequisite Training Gates. Training developers can extract information about the audience for training from the Key Participants by Task component. They can find prerequisites for the tasks in the Gate Tasks component. Figure D-9 shows extracts from the CATS for the Armor Battalion Task Force that were based on the BF FAs for the battalion task force.

Training Unit Audience	Prerequisite Training Gates
MOVEMENT TO CONTACT	
Full TF, including Slice (includes FSO/FSE, combat electronic warfare and intelligence (CEWI) Assets, Engineer, ADA, tactical air control party (TACP), TF Combat/Field Trains (BSA))	TF Command Posts, Staff and Slice (Attached units, staff elements, and LNOs) - Assessed at "T" level task proficiency in the performance of BOS functions and supporting tasks: 7-1-3003, 4, 5, 6, 7, 8, 9, 14, 15, 18, 19, 21, 22, 23 24, 27. . .

Figure D-9. Extract from CATS for battalion task force.

2. Training Support Packages

A TSP for collective training integrates training products, materials, and information necessary to train one or more tasks. BF FAs support development of unit preparation materials, tactical materials, and trainer materials. Examples of how the components can contribute to development of TSPs include:

- The Task Lists component or Tasks Organized by Outcomes component can be a useful first draft for a training and evaluation outline. Since both lists may include tasks that are not explicitly described in ARTEP-MTPs, they are especially valuable in designing staff training.
- Training developers can augment the training and evaluation outline by providing tactics, techniques, and procedures drawn from Lessons Learned Integrated into the Task List component.
- Several components work together to specify conditions that must be replicated for realistic training. The Flow Charts and Key Participants by Task components show the type of horizontal and vertical interactions that should be built into the scenario. The Task Lists and Key Inputs and Outputs components describe the scope of those interactions. The inputs and outputs can be especially useful in packaging required information to train particular tasks.
- In addition to setting out the conditions, the Purpose and Outcomes and Key Inputs and Outputs components can be the basis for building “A Way” demonstrations of how the various units, sections, and individuals are synchronized during the operation and what results the event/exercise should produce.
- The Purpose and Outcomes component can be a guide for organizing an AAR. Once an OC identifies an outcome to be sustained or improved, the Tasks Organized by Outcomes component can be used to identify particular tasks and supporting tasks to address in the AAR.

3. Training Aids, Devices, Simulators, and Simulations (TADSS)

BF FAs support TADSS development by defining requirements in terms of tasks which should be performed. In other words, the BF FAs describe the “what” of training so that TADSS developers can develop the “how.” The FAs are especially valuable for specifying interactions between echelons and among units. Three components give such information: Flow Charts, Tasks Linked to Other BFs/Units, and Key Participants by Task.

4. Standard After Action Review System (STAARS)

The STAARS will be linked to live, virtual, and constructive exercises and operations with the intent of translating lessons learned into leader development and collective training concepts, methods, and strategies. Since BF FAs structure assessments at successively precise levels (mission, BOS, BF, outcome, and task), they would be well suited to an automated feedback

system. The BF FAs can also provide a useful level for aggregating CTC-based lessons learned between the task and BOS levels. In the same way that the Purpose and Outcomes component can facilitate AARs by CTC OCs, the information in that component can structure lessons learned.

5. Army Training Digital Library (ATDL)

The ATDL is a repository of digital information related to training. BF FAs are compatible with ATDL formats and some FAs have been partially formatted into the Automated Systems Approach to Training. The ATDL makes it possible to share the information from BF FA components with commanders in the field through the interactive electronic “library without walls” that provides digitized access to training information. In addition, the BF and outcome structure could be useful in organizing task-related information within ATDL.

Appendix E

ACRONYMS AND ABBREVIATIONS

This component identifies the acronyms used by the authors in the function analysis. Acronyms were derived from relevant doctrinal publications.

1SG	first sergeant
2IC	second in command
A2C2	Army airspace command and control
AAR	after action review
ABCS	Army battle command system
ABE	assistant brigade engineer
ACE	analysis and control element
AD	air defense
ADA	air defense artillery
ADC	area damage control
ADLO	air defense liaison officer
ADW	air defense warning
AGM	attack-guidance matrix
AI	air interdiction
A/L	administrative/logistics
ALO	air liaison officer
AN	author note
AO	area of operations
AR	armor

ARI	Army Research Institute
ARTEP	Army Training and Evaluation Program
ASL	authorized stockage list
ASP	ammunition supply point
ASR	alternate supply route
ATDL	Army Training Digital Library
ATO	air tasking order
ATP	ammunition transfer point
AVLO	aviation liaison officer
BCBL	battlefield command battle laboratory
BCC	battlefield circulation control
Bde	brigade
BF	Battlefield function
BFV	Bradley Fighting Vehicle (M2/M3)
BMO	battalion maintenance officer
BMT	battalion maintenance technician
Bn	battalion
BOS	battlefield operating system(s)
BSA	brigade support area
BSO	brigade support officer
C2	command and control

C2W	command and control warfare
C3	command, control, and communications
CALL	Center for Army Lessons Learned
CAS	close air support
CATS	combined arms training strategy
CCF	critical combat function(s)
CCIR	commander's critical information requirements
Cdr	commander
CEB	clothing exchange and bath
CEWI	combat electronic warfare and intelligence
CGSC	command and general staff college
CHS	combat health support
CI	counterintelligence
CL I	subsistence items
CL III	petroleum, oils, lubricants
CL IV	construction and barrier material
CL V	ammunition
CL VII	major end items
CL VIII	medical material
CL IX	repair parts and components
CMLO	chemical officer
CMO	civil-military operations
Cmdt	commandant

Co	company
COA	course of action
commo	communications
COMSEC	communications security
CP	command post
CS	combat support
CSM	command sergeant major
CSR	controlled supply rate
CSS	combat service support
CTC	combat training center
DF	direction finding
DISCOM	division support command
DS	direct support
DSA	division support area
DST	decision support template
DTDD	Directorate of Training Development and Doctrine
DTTP	doctrine, tactics, techniques, and procedures
EBA	engineer battlefield assessment
EC	electronic combat
EOA	enemy course of action
EEFI	essential elements of friendly information

EMP	electro-magnetic pulse
Engr	engineer
EPW	enemy prisoner(s) of war
EW	electronic warfare
FA	field artillery
FA	function analysis
FCT	firepower control team
FDC	fire direction center
FEA	front end analysis
FFIR	friendly forces information requirements
FIST	fire support team
FM	field manual
FM	frequency modulated
FN	field notes
FORSCOM	U.S. Army Forces Command
FRAGO	fragmentary order
FSB	forward support battalion
FSCM	fire support coordinating measure
FSCOORD	fire support coordinator
FSE	fire support element
FSEM	fire support execution matrix
FSO	fire support officer

GRREG	graves registration
GS	general support
HHC	headquarters and headquarters company
HN	host nation
HNS	host nation support
HPTL	high payoff target list
HQ	headquarters
HSS	health service support
IEW	intelligence and electronic warfare
IFF	identification, friend, or foe
IPB	intelligence preparation of the battlefield
IR	information requirements
ITTBBST	Innovative Tools and Techniques for Brigade and Below Staff Training
JRTC	Joint Readiness Training Center
LADW	local air defense warning
LAN	local area network
Ldr	leader
LL	lessons learned
LLTR	low level transit route
LNO	liaison officer

Log	logistics
LP	listening posts
MCI	minimum critical information
M/CM/S	mobility/counter-mobility/survivability
MCOO	modified combined obstacle overlay
MDMP	military decision-making process
MEDEVAC	medical evacuation
METL	mission essential task list
METT-T	mission, enemy, terrain, troops, and time available
MI	military intelligence
MIJI	meaconing, intrusion, jamming, and interference
MOPP	mission-oriented protective posture
MOS	military occupational specialty
MP	military police
MPD	monitors, plans, directs
MQS	military qualification standards
M/S	mobility-survivability (BOS)
MSB	main support battalion
MSR	main supply route
MTP	mission training plan
NAI	named area of interest

NBC	nuclear, biological, and chemical
NCO	noncommissioned officer
NCS	net control station
NMC	nonmission capable
NSF	naval surface fires
NTC	National Training Center
OB	order of battle
OBSTINTEL	obstacle intelligence
OC	observer-controller
OCOKA	observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach
OEG	operational exposure guide
O&I	operations and intelligence
OP	observation post
OPCON	operational control
opns	operations
OPORD	operations order
OPSEC	operations security
OPSITREP	operational situation report
Pam	pamphlet
PERCARPT	periodic civil affairs report
PERINTREP	periodic intelligence report

PERLOGRPT	periodic logistic report
PEROPRPT	periodic operation report
PIR	priority intelligence requirements
PLL	prescribed load list
Plt	platoon
PM	provost marshal
POC	point of contact
PPREPT	periodic personnel report
PRF	pulse repetition frequency
PSYOP	psychological operations
R&S	reconnaissance and surveillance
RACO	rear area combat operations
RDO	radar deployment order
ROE	rules of engagement
ROM	refuel-on-the-move
ROZ	restricted operations zone
RSR	required supply rate
S1	adjutant/personnel officer, brigade and battalion staff
S2	intelligence officer, brigade and battalion staff
S3	operations and training officer, brigade and battalion staff
S3 Air	operations and training officer - air operations, brigade and battalion staff

S4	supply/logistics officer, brigade and battalion staff
S5	civil-military operations, brigade and battalion staff
SALT	supporting arms liaison team
SATS	Standard Army Training System
SCATMINE	scatterable mine
sgt	sergeant
SITMAP	situation map
SITREP	situation report
SIT TEMP	situation template
SM	soldier's manual
SME	subject matter experts
SO	signal officer
SOEO	scheme of engineer operations
SOF	special operations forces
SOI	signal operating instructions
SOP	standing operating procedures
SOR	specific orders and requests
Spec.	specialist
SPOTREP	spot report
ST	student text
STAARS	standard after action review system
STP	soldier's training publication
SYSCON	systems control

TA	target acquisition
TA	task analysis
TAC	tactical; tactical command post
TAC CP	tactical command post
TACP	tactical air control party
TACSOP	tactical standing operating procedure
TADSS	training aids, devices, simulators, and simulations
TAI	targeted area of interest
TCF	tactical combat force
TCP	traffic control point
TF	task force
TG	trainer's guide
TOC	tactical operations center
TO&E	tables of organization and equipment
TOW	tube-launched, optically tracked, wire-guided missile
TRADOC	U.S. Army Training and Doctrine Command
TSOP	tactical standing operating procedures
TSP	training support package
TSS	target selection standards
TTP	tactics, techniques, and procedures
UAV	unmanned aerial vehicle

ULLS	unit level logistics systems
USAARMC	United States Army Armor Center
USAARMS	United States Armor School
USAES	United States Army Engineer School
USMC	United States Marine Corps
USN	United States Navy
WARNO	warning order
WCS	weapons control status
XO	executive officer