



**Research Product 98-13**

**Direct and Lead Units in Execution of Battle  
(Battlefield Function 20)  
as Accomplished by an Engineer Battalion  
Supporting a Heavy Brigade  
Volume 1: Function Analysis**

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

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**January 1998**

**Armored Forces Research Unit**

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

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

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## FOREWORD

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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

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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, United States 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.

**DIRECT AND LEAD UNITS IN EXECUTION OF BATTLE (BATTLEFIELD FUNCTION  
20) AS ACCOMPLISHED BY AN ENGINEER BATTALION SUPPORTING A HEAVY  
BRIGADE  
VOLUME 1: FUNCTION ANALYSIS**

**CONTENTS**

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	Page
OVERVIEW .....	1
PURPOSE AND OUTCOMES .....	1-1
FLOW CHARTS.....	2-1
TASK LINKAGES TO OTHER BFs/UNITS.....	3-1
KEY PARTICIPANTS BY TASK .....	4-1
KEY INPUTS AND OUTPUTS.....	5-1
TASK LIST SUMMARY.....	6-1
TASK LIST .....	7-1
TASKS ORGANIZED BY OUTCOMES.....	8-1
LESSONS LEARNED .....	9-1
GATE TASKS .....	10-1
REFERENCES .....	11-1
APPENDIX A. INDEX OF BATTLEFIELD FUNCTIONS .....	A-1
B. STRUCTURE OF BATTLEFIELD FUNCTIONS (BFs) RELEVANT TO BRIGADE OPERATIONS .....	B-1
C. BFs LISTED BY ECHELON.....	C-1
D. USER'S GUIDE.....	D-1
E. ACRONYMS AND ABBREVIATIONS .....	E-1

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) 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 preface provides the user with necessary and relevant information concerning the analysis of BF 20, Direct and Lead Units in Execution of 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 (TOE) 05336L000, dated 10 March 1996, and the engineer battalion structure described in FM 5-71-3, dated 3 October 1995. 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), Engineer Battalion Direct and Lead Units in the Execution of Battle (BF 20), is a product of the process of developing a training strategy for the engineer battalion. It is the last of three BFs (Plan, Prepare, Execute) which compose the command and control (C2) BOS. The analysis reflects all the tasks, participants, products, and processes required by the engineer battalion to achieve the outcomes necessary for the commander to direct and lead his engineer battalion during the execution phase of a 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-Battlefield Operating Systems (BOSs) linkages.<sup>1</sup>

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.

This analysis identifies the critical tasks and subtasks undertaken by the engineer battalion commander, his staff, and the engineer battalion subordinate/supporting commanders during the execution phase of battle and reflects the continuation of activities undertaken in performing BFs 18 and 19. The analysis assumes that some elements remain under the command and control of the engineer battalion. Forces under engineer battalion control may be a

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<sup>1</sup> 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).

mix of division and corps engineer assets and other units as required for the mission assigned to the battalion. For this analysis, execution commences when engineer units initiate actions to accomplish assigned mission or tasks. For example, when the engineer battalion is supporting defensive operations, many engineer battalion execution tasks will be performed during the maneuver brigade's preparation phase.

Synchronization, the process of massing the effects of combat power at the specific place and time chosen by the maneuver commander, starts in the planning phase (BF 18) when the engineer battalion commander first visualizes and then articulates his intent and concept of the scheme of engineer operations supporting the selected maneuver course of action to his staff and subordinate/supporting commanders. Synchronization continues into the preparation phase (BF 19) with the rehearsals, other preparations for battle, and refinements of the original operations plan. In the execution phase of the mission, the engineer battalion commander must make timely decisions based upon the rapidly changing situation. He will participate in multiple cycles of monitoring, planning, and directing as he and his engineer battalion react to change in mission, enemy, terrain, troops, and time available (METT-T).

The military decision-making process (MDMP) outlined in the 1993 publication of FM 101-5, Command and Control for Commanders and Staff "Draft," is the basis of the processes described in this function analysis. 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, was 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 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. The MDMP performed under time constraints has been addressed for each task. Although these procedures can be used under any planning circumstances, they most commonly would be used by the battalion commander and staff when time for planning is short (such as when faced with the need to issue a fragmentary order (FRAGO) during the battle). As will be seen, the portrayal of the performance of the MDMP under time constraints does not omit steps, but instead recommends procedures to reduce the time required to conduct planning.

This analysis also reflects current and emerging Army doctrine based on FM 71-3, The Armored and Mechanized Infantry Brigade and its portrayal of the decision-making process. The MDMP outlined in the 1993 publication of FM 101-5 "Draft" is the basis of the processes described in this function analysis. Planning associated with the development of a FRAGO is discussed in both BF 19, Direct and Lead the Battalion During Preparation for the Battle, and BF 20, Direct and Lead the Battalion During Execution of the Battle.

This analysis reflects and focuses on current and emerging Army doctrine as described in FM 5-71-3, Brigade Engineer Operations (Armored), and how it relates to the decision-making process outlined in Draft FM 101-5, Command and Control for Commanders and Staff.

The engineer battalion commander must ensure that his staff and subordinate/supporting commanders provide him with information that allows him to update his "running" estimate of the situation in the context of time-distance relationships and the capability to achieve the endstates envisioned as necessary to accomplish the engineer battalion mission. He must focus on this desired endstate in spite of the intense tempo of the battle. He must winnow out information that may clutter his thought processes.

Based on experience and intuition, the engineer battalion commander assigns missions, prioritizes and allocates resources, selects the critical times and places to act, and decides when and how to make adjustments during the battle. Normally, during the battle he will use the MDMP in a time-constrained environment.

He plans for and rehearses actions for the eventuality that his tactical command post (TAC CP) or he become casualties or are out of contact, so that the engineer battalion will continue the engineer mission without interruption or loss of momentum. He and the engineer battalion staff ensure that the engineer battalion can quickly transition from performing engineer missions in the present battle to performing missions in the next phase of the maneuver brigade's operations.

This FA includes the leading and motivation of soldiers and units, both vital components of battle command. The difference between BF 20 and BFs 18 and 19 is the importance of time, or more accurately the lack of it, because of the rapidly changing situation coupled with the need to act faster than the enemy. The engineer battalion commander must be able to swiftly assess the situation; make quick, sound decisions; and rapidly disseminate those decisions to generate speed and efficiency relative to the tempo of the combat. He must be able to receive, evaluate, and learn from information received. He must communicate to those who assist him the information to be used in the planning process that modifies or changes his previous orders for the tasking of subordinate/supporting commanders. Once deciding on a course of action, he must direct and lead the engineer battalion in the accomplishment of the mission. There is no universally appropriate single sequence of steps that leads to success. Battle command is tactical judgment and effective decision-making combined with leadership. The engineer battalion commander's ability to command and control is extended by the engineer battalion staff using the engineer battalion command posts.

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 Field Manuals (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 subtask or some other element of the ARTEP-MTP; b) multiple subtasks 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 engineer support which sustains the brigade's ability to accomplish its mission within the engineer and brigade commanders' intents.

### **OUTCOMES**

1. Engineer battalion command posts (CPs) maintain continuous communications with higher, adjacent, and subordinate headquarters.
2. The engineer battalion commander, other decision-makers, and the engineer battalion staff receive, evaluate, and process timely and accurate battlefield information during mission execution.
3. Tactically sound recommendations are developed and critical information is communicated by the engineer battalion staff and subordinate leaders.
4. Sound (feasible, suitable, acceptable) decisions are made by the engineer battalion commander and others within the battalion.
5. Affected units and personnel receive relevant direction, changes, and refinements to the plan in time to perform troop leading procedures (TLPs) and execute coordinated and synchronized actions.
6. Subordinate leaders demonstrate an understanding of the critical elements of their missions and mission essential tasks, the engineer battalion mission, and the battalion commander's intent.

## Purpose and Outcomes for Engr Bn BF 20

7. Soldiers are motivated, disciplined, and maintain unit cohesion during the battle.
8. The engineer battalion command, control, communications, and intelligence (C3I) capability is effective, survives, and is prepared for the next 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.

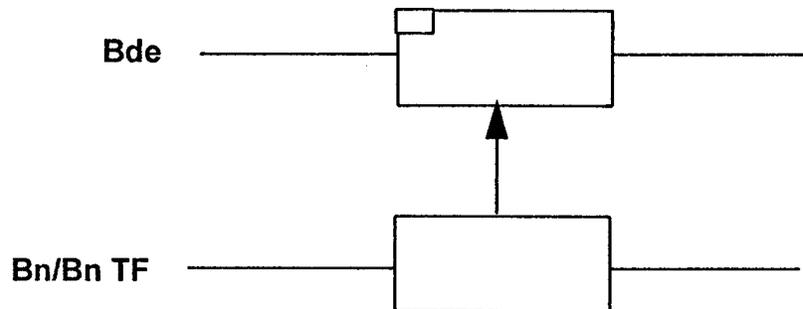


Figure 1. Depiction of a task contributing to the accomplishment of another task.

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

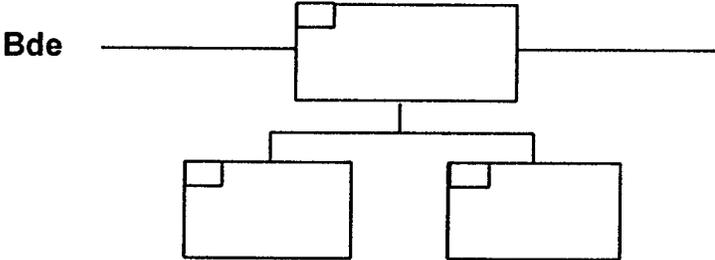


Figure 2. Depiction of the relationship between tasks and subtasks.

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.

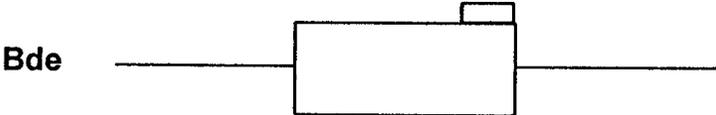
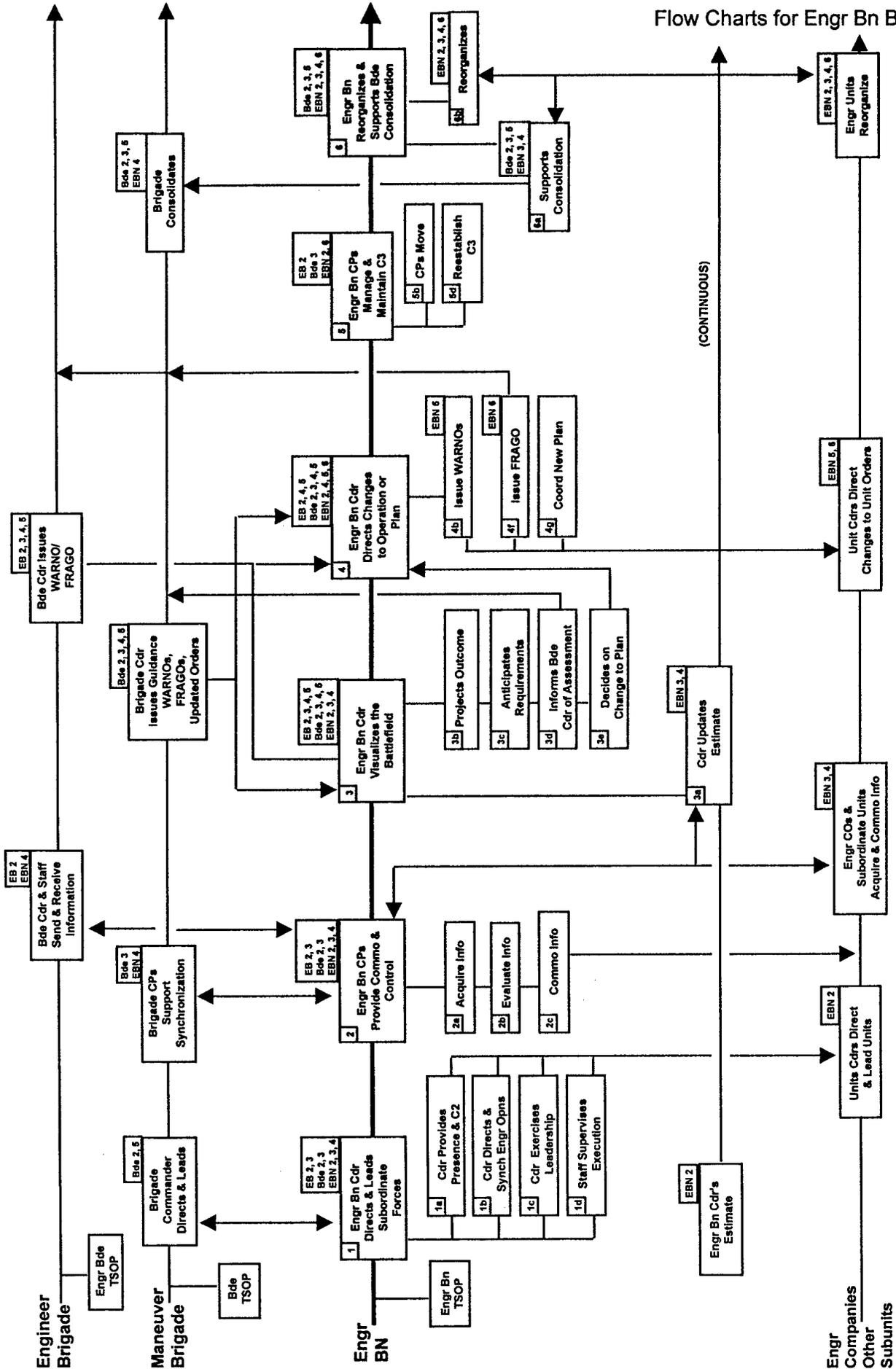


Figure 3. Depiction of placement of the box reflecting information input and output.

**Task Flow Execute**



## TASK LINKAGES TO OTHER BFs/UNITS

This component links the tasks performed as a part of this function with the tasks performed in other BFs 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 BFs/type units for which function analyses (FAs) have not been accomplished. For tasks extracted from published BF FAs, the task number is provided.

### TASKS

### LINKS TO OTHER BFs/UNITS

- |  |   |
|--|---|
| 1. <b>The engineer battalion commander directs and leads subordinate forces.</b>     | Brigade BF 20.<br>- The Bde commander (Cdr) directs and leads subordinate forces.   |
| 2. <b>Engineer battalion command posts provide communications and control.</b>       | Brigade BF 4.<br>- The Bde S2 disseminates information and intelligence.<br><br>Brigade BF 21.<br>- The Bde staff disseminates information and coordinates actions for overcoming obstacles.<br><br>Battalion Task Force (TF) BF 23, Task 31.<br>- Coordinate with maneuver units for integrating/siting obstacles.<br><br>Battalion TF BF 24, Task 28a4<br>- The maneuver Cdr and engineer (Engr) jointly site obstacles and fighting positions. |
| 3. <b>The engineer battalion commander visualizes the battlefield.</b>               | Engineer Brigade BF 20.<br>- The Engr Bde issues warning orders (WARNO).<br><br>Brigade BF 20.<br>- The Bde staff issues WARNOs.  |
| 4. <b>The engineer battalion commander directs changes to the operation or plan.</b> | Engineer Brigade BF 20.<br>- The Engr Bde issues fragmentary orders (FRAGO).<br><br>Brigade BF 20.<br>- The Bde staff issues FRAGOs.  |

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

Brigade BF 20.

- The Bde conducts FRAGO briefing.

6. **The engineer battalion reorganizes and supports brigade consolidation.**

Brigade BF 20.

- Bde CPs displace.

Brigade BF 20.

- The Bde consolidates.

FSB BF 20.

- The forward support battalion (FSB) provides combat service support (CSS) to the Engr Bn during reorganization.

Brigade BF 23.

- The Engr Bn provides countermobility support during consolidation.

Brigade BF 24.

- The Engr Bn provides survivability support during consolidation.

## 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 (TOE) 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

- |   |  |
|---|--|
| <p>1. <b>The engineer battalion commander directs and leads subordinate forces.</b></p>     | <p>Engr Bn Cdr, Engr Bn executive officer (XO), Engr Bn command sergeant major (CSM), Engr Bn S2, Engr Bn S3, Engr Bn S3 section, Engr Bn signal officer (SO), Engr Bn communications (commo) section, Engr Bn S1, Engr Bn S1 section, Engr Bn S4, Engr Bn S4 section, Engr Bn maintenance technician (BMT), Engr Bn medical section leader, Engr Bn headquarters and headquarters company (HHC) Cdr, Engr company (Co) Cdrs, subordinate unit Cdrs, assistant brigade engineer (ABE) section.</p> |
| <p>2. <b>Engineer battalion command posts provide communication and control.</b></p>        | <p>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.</p>   |
| <p>3. <b>The engineer battalion commander visualizes the battlefield.</b></p>               | <p>Engr Bn Cdr, Engr Bn XO, Engr Bn CSM, Engr Bn S2, ABE, Engr Bn S3, Engr Bn SO, Engr Bn S1, Engr Bn S4, Engr Bn BMT.</p>   |
| <p>4. <b>The engineer battalion commander directs changes to the operation or plan.</b></p> | <p>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.</p>  |

5. **Engineer battalion command posts manage and maintain command, control, and communication.**

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, liaison officers (LNOs).
  
6. **The engineer battalion reorganizes and supports brigade consolidation.**

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.

## 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 TACTICAL STANDING OPERATING PROCEDURES (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, and 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 operations order (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; coordinating instructions for transfer to using units.)
  - 2) Transportation. (Identification of requirements, coordinating instructions for pre-positioning of assets.)
  - 3) Arrangements for Class (CL) 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; 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) 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) 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

- Bde - 1**
- i. DISTRIBUTION
- BRIGADE 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 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 IV/V (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 tactical standing operating procedures (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.



- (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.

## Key Inputs and Outputs for Engr Bn BF 20

- 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 field artillery (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.

## Key Inputs and Outputs for Engr Bn BF 20

- (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 MSR 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 U.S. 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 effect 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. SPOTREPs.
- c. Obstacle intelligence (OBSTINTEL) reports.
- d. Logistic reports.

**KEY OUTPUTS**

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

- a. Oral orders and guidance from the battalion commander, XO, and S3.
- 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 engineer battalion SOP.)
  - 2) **Signal.** (Identification of current SOI and repositioning 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) MSR.
- 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. **The engineer battalion commander directs and leads subordinate forces.**
2. **Engineer battalion command posts provide communication and control.**
3. **The engineer battalion commander visualizes the battlefield.**
4. **The engineer battalion commander directs changes to the operation or plan.**
5. **Engineer battalion command posts manage and maintain command, control, and communications.**
6. **The engineer battalion reorganizes and supports brigade consolidation.**

## 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 an 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 Combat Service Support (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. **The engineer battalion commander directs and leads subordinate forces.** [Army Training and Evaluation Program (ARTEP) 5-145- Mission Training Plan (MTP); Field Manual (FM) 5-71-3; FM 71-3].
  - a. The engineer battalion commander provides command presence by positioning himself where he can best lead, observe the enemy and friendly situations, monitor the maneuver brigade's most important engineer event, and command and control the engineer support for the battle. Considerations: [FM 5-71-3, p. 2-1]
    - 1) Positions where he can physically observe and influence the engineer battalion's critical actions.
    - 2) Retains the freedom to move.
    - 3) Avoids personal direct combat.
    - 4) Employs measures to enhance survivability:
      - a) Avoids unnecessary risk.
      - b) Uses available cover and concealment.
      - c) Frequently changes position.
    - 5) Maintains communications capabilities with:
      - a) The supported maneuver brigade and engineer brigade commanders.
      - b) Subordinate commanders.
      - c) Engineer battalion command posts (CPs).
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
    - 2) Avoids focusing on one event to the exclusion of the rest of the engineer operations.

- 3) Changes subordinate unit missions.
- 4) Reprioritizes engineer tasks based on unanticipated events and engineer battle losses.
- 5) Repositions and maintains communications with and control of subordinates.
- 6) Directs engineer units and engineer support activities at decisive points.
- 7) Requests additional assets and resources from maneuver brigade or engineer brigade.
- 8) Employs decision aids to assist his decision-making process (DMP) and to direct battalion operations.
- 9) Integrates and coordinates engineer operations in consideration of the battlefield operation systems (BOS). [FM 5-71-3, p. 1-5]
  - a) Intelligence.
    - (1) Intelligence collection plan is changed as necessary to support the commander's critical information requirements (CCIR). [FM 5-71-3, p. 1-6]
    - (2) Information is analyzed to confirm, contradict, and update the intelligence preparation of the battlefield (IPB). [ARTEP 5-145-MTP, Task 5-1-0027]
    - (3) Engineer reconnaissance elements are positioned and repositioned to collect the battalion CCIR. [ARTEP 5-145-MTP, Task 5-1-0413]
  - b) Maneuver.
    - (1) For the engineer battalion operating as an engineer battalion task force (TF), the commander assesses movement and repositioning criteria to ensure that the mission can be achieved as designated. [FM 5-71-3, pp. 3-10 and 5-9]
      - (a) During movement, the engineer battalion TF reduces exposure to enemy fire.

- (b) Movement and repositioning times are consistent with the engineer battalion TF mission.
  - (c) Compensation is made for distances and terrain factors which impact on displacement and repositioning.
- (2) The engineer battalion commander directs changes to movement schedules when necessary. [FM 5-71-3, p. 2-1]
- c) Mobility/survivability.
- (1) The engineer battalion commander assesses support to overcome obstacles and enhance mobility to the maneuver brigade, and takes action or recommends adjustments as necessary. [FM 5-71-3, Chap 3]
    - (a) Priorities.
    - (b) Task organization of engineer assets.
    - (c) Times at which assets are available to maneuver units.
  - (2) The engineer battalion commander assesses extent of engineer efforts and coordination required to negotiate and clear lanes through friendly obstacles to support the supported brigade's maneuver. [ARTEP 5-145-MTP, Task 5-1-0002, subtasks 2.b. (1) (b) (3) and 3.b.]
  - (3) The engineer battalion commander reviews information gained from engineer reconnaissance of terrain and enemy obstacles to determine impact on the mobility plan and engineer task organization.
  - (4) The engineer battalion commander updates his assessment of the engineer battalion's ability to support or conduct obstacle breaching as designated in the plan based on: [FM 5-71-3, pp. 3-1 and 3-2]
    - (a) Support force's ability to execute effective suppressive fires as planned.

- (b) Updated information on employment of assault force(s).
  - (c) Updated information on employment of the breach force.
  - (d) New information about the status of breaching assets.
- (5) The engineer battalion commander assesses obstacle construction support to the supported brigade commander's scheme of maneuver. [FM 90-7, Chap 2]
- (a) Obstacles are in depth throughout the sector to fix, turn, disrupt, and block the enemy and shape the battlefield.
  - (b) Obstacle construction is consistent with the projected timeline.
  - (c) Obstacle execution, gaps and lane closure signal and trigger support the concept of the operation.
  - (d) Planning is current for scatterable mines (SCATMINE) employment; coordination is made with the fire support officer (FSO), assistant brigade engineer (ABE), air liaison officer (ALO), and aviation liaison officer (AVLO) to determine modifications based on new information. [FM 20-32, Chap 6]
- (6) The engineer battalion commander assesses the status of survivability position preparation to determine whether the positions will be ready, based on: [FM 5-71-3, p. 4-6]
- (a) Maintenance status of engineer equipment.
  - (b) Actual construction time consistent with planned timelines.
  - (c) Weather and soil conditions.
  - (d) Changes in priority or extent of work by supported commanders.

- (e) Position siting by supported commanders.
- d) Fire support.
  - (1) The maneuver brigade commander, the engineer battalion commander as brigade engineer, and the brigade FSO assess and adjust the fire support plan to support breaching operations and to integrate obstacles and fires. [FM 5-71-3, p. 1-7]
  - (2) Artillery-delivered mine employment is coordinated. [FM 5-71-3, p. 1-8]
  - (3) Protective positions for fire support assets are prepared as required.
- e) Air defense.
  - (1) Engineer battalion operations, such as breaching and obstacle emplacement, are protected from the enemy air threat. [FM 5-71-3, p. 1-8]
  - (2) Class IV/V obstacle material sites receive protection. [FM 5-71-3, p. 1-8]
  - (3) Protective positions for AD assets are prepared as required.
- f) Combat service support (CSS).
  - (1) The engineer battalion commander assesses transportation operations to ensure compliance with his guidance and intent. [FM 5-71-3, p. 6-3]
    - (a) Required supplies and personnel are delivered to subordinate units as required. Designated and approved main supply routes (MSRs) and alternate supply routes (ASRs) are used. Assets are used to back-haul equipment or supplies in accordance with battalion priorities.
    - (b) Engineer equipment is transported to meet requirements. If not, the engineer battalion commander:

- 1 Determines need to request additional assets to supplement the engineer battalion.
  - 2 Assesses need to change the employment of engineer battalion support platoon transportation assets.
  - 3 Identifies new priorities for the engineer battalion support platoon.
  - 4 Requests additional equipment support from division engineer (DIVEN) through the supported brigade.
- (c) Effects of weather or enemy action on MSR and ASR are assessed; action is taken to mitigate the effects.
- (2) The engineer battalion commander assesses supply operations. [FM 5-71-3, pp. 6-7 through 6-9; FN - NTC Engr OC]
- (a) Emergency resupply activities are executed with uploaded, pre-configured Class III, Class IV, Class V push packages, and marking material.
  - (b) Priorities for resupply are changed based on new conditions or information.
  - (c) Class IV/V is on hand or programmed for delivery in time to support obstacle material operations.
- (3) The engineer battalion commander assesses personnel operations for compliance with his guidance and intent. [FM 5-71-3, pp. 6-12 and 6-13]
- (a) Morale and welfare support is provided as conditions permit.
  - (b) Replacement operations are performed rapidly in accordance with the commander's guidance and priorities.

- 1 Personnel are inspected, issued equipment, and trained to ensure they are prepared for combat.
  - 2 Personnel are linked-up with units and are oriented about the battalion, situation, and mission.
- (c) Subordinate unit personnel status is reviewed to assess the capability to perform assigned tasks and missions.
- 1 Unit strength is sufficient to accomplish assigned missions and tasks.
  - 2 Critical military occupational skill (MOS) and skills shortages are distributed to ensure that units can accomplish assigned missions and tasks.
- (4) The engineer battalion commander assesses battalion maintenance operations. [FM 5-71-3, pp. 6-9 through 6-12]
- (a) Units are brought to fully mission-capable (FMC) status according to commander's repair priority guidance.
  - (b) Maintenance, cannibalization, and controlled substitution and exchange actions are effective.
  - (c) Preventive maintenance checks and services (PMCS) are conducted during lulls in the battle.
  - (d) Maintenance support to assigned, attached, direct support (DS), and operational control (OPCON) units is conducted in accordance with the commander's guidance.
- (5) The engineer battalion commander assesses battalion medical operations for compliance with his guidance and intent. [FM 5-71-3, pp. 6-13 and 6-14; FN - NTC Engr OC]

- (a) Appraises fitness of soldiers. Directs activities performed by subordinate leaders to prevent, reduce, and combat battlefield stress to maintain personnel strength for the mission.
  - (b) Ensures that changes to the employment of engineer battalion medics and medical treatment and evacuation plans are made based on updated information.
    - 1 Medical personnel, supplies, and equipment are available and positioned to support engineer operations.
    - 2 Casualty tracking systems are effective; coordination between the S1, engineer units, and units providing medical evacuation is conducted.
  - (c) Information from FSB Co C (medical) concerning availability of assets is transmitted to the engineer battalion commander.
- g) Command and control.
- (1) The engineer battalion commander assesses the levels of execution and the situation compared to anticipated requirements/endstates; he directs changes, if needed, to the units or to his staff. [FM 5-71-3, p. 1-8]
  - (2) Information about change to METT-T is directed to the engineer battalion commander, command group, and command posts (CPs) to enable effective and rapid guidance during mission execution and about future operations. [FM 5-71-3, pp. 2-4 through 2-6]
  - (3) Information systems which aid command and control are selected based on updated information. [FM 5-71-3, pp. 2-23 through 2-25]
- c. The engineer battalion commander exercises leadership to maintain unit cohesion and discipline. [FM 5-71-3, p. 1-8]
- 1) Reassures subordinates by a calm manner.

- 2) Acts decisively.
- 3) Gives precise, simple orders.
- 4) Checks that orders are executed.
- 5) Verifies subordinate commanders cross-talk on the engineer battalion command net to:
  - a) Coordinate efforts.
  - b) Provide mutual support.
  - c) Integrate efforts.
  - d) Prevent fratricide.
  - e) Keep updated on the situation.
- 6) Keeps soldiers informed of the situation and makes personal contact with soldiers to increase morale. [FM 5-71-3, p. 1-8]
- 7) Observes subordinates for indications of shortfalls in performance and manner of performance.
- 8) Monitors subordinates and self for leadership degradation due to physical and mental stress of battle. [ARTEP 5-145-MTP, Task 5-2-1023; LL - CALL Newsletter No. 90-8, p. 25]
  - a) The engineer battalion commander monitors his own physical and mental state and gets rest.
  - b) The engineer battalion XO monitors the engineer battalion commander's physical and mental states and recommends rest periods.
  - c) The engineer battalion commander ensures that subordinate commanders are rested and prepared for battle.
- 9) Recognizes achievement and effort.

- 10) The engineer battalion CSM assists in maintaining unit discipline and morale. [FM 5-71-3, p. 2-2; LL - CALL: noncommissioned officer (NCO) Lessons Learned]
- d. Engineer battalion staff members supervise subordinate elements' execution of tasks within the purview of their responsibilities and authority as established by the engineer battalion commander. [FM 5-71-3, p. 2-23]
  - 1) Standing operating procedures (SOP).
  - 2) Designated by the engineer battalion commander for the mission.
2. **Engineer battalion command posts provide communication and control.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]
  - a. The engineer battalion staff acquires information.
    - 1) The engineer battalion staff obtains information relative to the commander's CCIR and the current situation: [ARTEP 5-145 MTP, 5-1-0002]
      - a) The status and locations of subordinate units.
      - b) Changes to mission, enemy, terrain, troops, and time available (METT-T).
      - c) Updates on the maneuver brigade situation from the assistant brigade engineer (ABE).
      - d) New guidance or missions from the supported maneuver brigade commander.
    - 2) The engineer battalion XO manages the flow of information in the engineer battalion CP and establishes a system to keep the engineer battalion commander informed. [FM 5-71-3, p. 2-1]
      - a) Routine information is communicated to the engineer battalion commander per battalion SOP. [ARTEP 5-145 MTP, Task 5-1-0026]
      - b) CCIR information is obtained from engineer battalion subordinate leaders and staff officers according to their area of responsibility; actions: [ARTEP 5-145-MTP, Tasks 5-1-0026 and 5-1-0413]

- (1) Monitor and modify battalion activities as necessary.
  - (2) Verify and, as appropriate, modify coordination between battalion and adjacent units.
  - (3) Support the commander's intent concerning mission execution.
- 3) The engineer battalion S2 identifies significant changes to the intelligence preparation of the battlefield (IPB). [FM 5-71-3, p. 2-2]
- a) Receives information from division engineer, ABE, and battalion staff:
    - (1) TerraBase updates from division engineer.
    - (2) Intelligence summaries (INTSUMs) and other information from ABE and higher headquarters.
    - (3) Operations security (OPSEC) reports from the engineer battalion S3, operations section, and subordinate units which contribute to analysis of battalion security posture.
    - (4) Information on current situation learned by eavesdropping on maneuver brigade and adjacent unit command and operations and intelligence (O&I) nets.
  - b) Receives information from subordinate units:
    - (1) Information from debriefing patrols and other reconnaissance (R&S) forces performing engineer battalion directed information collection activities; e.g., obstacle intelligence (OBSTINTEL).
    - (2) Spot reports, e.g., size, activity, location, unit, time, and equipment (SALUTE) from engineer battalion elements.
  - c) Receives IPB information from engineer battalion or maneuver brigade special staff officers and LNOs acquired through their "parent" units.
- 4) The engineer battalion S3 and operations section obtain information:

- a) Changes from the maneuver brigade commander to guidance and mission concept and requirements for information.
- b) Maneuver brigade operations: [FM 5-71-3, pp. 2-2, 2-3, 2-5 and 2-6]
  - (1) Reports from maneuver brigade subordinate units (e.g., maneuver task forces [TFs], R&S forces, security elements):
    - (a) Enemy contact:
      - 1 Ground.
      - 2 Fires.
      - 3 Other.
    - (b) Current strength, combat power, and capabilities.
  - (2) Requests for additional resources from subordinate units.
  - (3) Recommendations from maneuver and other brigade subordinate commanders on changes to their plans based on their current status and projected status.
  - (4) Adherence to timelines.
    - (a) Status of survivability production.
      - 1 Delivery of CL IV and CL V.
      - 2 Availability of special equipment.
      - 3 Time and effort to complete tasks.
    - (b) Status of obstacle production.
      - 1 Delivery of CL IV and CL V obstacle materials.
      - 2 Availability of special equipment.
      - 3 Time and effort to complete tasks.

- 4 Back-haul of obstacle materials.
    - (c) Status of mobility operations
      - 1 Availability of special equipment.
      - 2 Time and effort to complete tasks.
  - (5) Equipment status.
  - (6) Information from eavesdropping on: [FM 5-71-3, p. 2-26]
    - (a) Supported maneuver brigade command nets.
      - 1 Orders from brigade or other commanders.
      - 2 Situation reports by maneuver battalion TF or other brigade units to brigade CPs.
    - (b) Maneuver battalion TF command nets.
- c) Engineer specific missions: [FM 5-71-3, pp. 2-1 and 2-2; FN - NTC Engr OC]
  - (1) Countermobility status:
    - (a) Obstacle construction starting and completion times from task force engineers.
    - (b) Status on delivery of CL IV and V materials or breaching materials from task forces' engineers, engineer battalion S4, and engineer battalion support platoon leader.
    - (c) Updates on adherence to obstacle construction timelines from engineers.
    - (d) Updates on family of scatterable mines (FASCAM) preparations and employment from the maneuver brigade FSO, ABE, and task forces' engineers.

- (e) Updates on the location, obstacle intent, and method of construction of obstacle groups from task forces' engineers.
- (f) Status of work in obstacle belts.
- (2) Survivability status:
  - (a) Position construction starting and completion times from task forces' engineers and other maneuver brigade subordinate units.
  - (b) Updates on adherence to survivability position construction timelines from task forces' engineers and other subordinate maneuver brigade units.
- (3) Mobility status:
  - (a) Updates on availability of engineer materials, such as gravel and concrete, from engineer companies and task forces' engineers.
  - (b) Updates on availability of engineer systems (operational, non-operational) from engineer companies and task forces' engineers.
  - (c) Updates on availability of mobility equipment organic to supported brigade maneuver units (e.g., plows, rollers, breach kits) from task force engineers.
- d) Information from other staff officers. [FM 5-71-3, pp. 2-2 and 2-3]
  - (1) Information from the engineer battalion S2 or maneuver brigade S2 which confirms or denies the engineer estimate requirements to achieve the maneuver brigade or engineer battalion commanders' intents.
  - (2) Equipment and personnel updates from the engineer battalion rear CP.
  - (3) Updates from the engineer battalion signal officer (SO) or maneuver brigade signal officer on communications links and systems.

- (4) Reports from engineer reconnaissance units and scouts on terrain and enemy obstacles.
  - (5) Changes to maneuver task force and subordinate units' plans.
- e) Information necessary to track the DST.
- 5) The engineer battalion nuclear, biological, and chemical (NBC) NCO obtains NBC information: [FM 5-71-3, pp. 2-3 and 2-4]
- a) Changes from the engineer battalion commander to guidance and mission concept; requirements for information.
  - b) NBC warning and reporting system (NBCWRS) updates from maneuver brigade.
  - c) Status and location updates for NBC equipment and supplies from subordinate units and the engineer battalion S4.
  - d) Status and location updates of decontamination assets from the engineer battalion S4 and decontamination unit leaders.
  - e) NBC monitoring and surveillance reports from subordinate units.
  - f) Information from the S2 which confirms or refutes estimate of NBC requirements.
  - g) Changes to engineer companies' and subordinate units' plans in terms of projected locations, decontamination requirements, and timelines.
- 6) The engineer battalion signal officer (Bn SO) and communications section obtain information. [FM 5-71-3, p. 2-3]
- a) Changes from the engineer battalion commander to guidance and mission concept; requirements for information.
  - b) Status of communications links from engineer battalion CPs to maneuver brigade CPs.
  - c) Updates from subordinate units on communications status.

- (1) Status of communications links from engineer battalion CPs.
  - (2) Equipment (secure and non-secure).
  - (3) Signal operating instructions (SOIs).
  - (4) Availability of subordinate unit communications personnel.
- d) Intelligence information from the division signal battalion headquarters.
- e) Information from the engineer battalion S2.
- (1) Which confirms or refutes estimate communications requirements.
  - (2) Updates on enemy electronic and communication capabilities.
- f) Information from the engineer battalion XO or S3 about changes to proposed engineer battalion CP locations and projected timelines.
- g) Changes to engineer companies' and subordinate units' plans in terms of projected locations and timelines.
- 7) The engineer battalion S4 and S4 section obtain information. [FM 5-71-3, Chap 6]
- a) Status reports from subordinate units on resupply operations.
  - b) Status from the engineer battalion field trains/rear CP on:
    - (1) Reconstitution of basic loads.
    - (2) Stock piling of classes of supplies to support emergency resupply and the mission.
  - c) Medical, maintenance, transportation, and supply updates from forward support battalion (FSB) special project officer and maneuver brigade S4.
  - d) Updates on transportation assets and movement schedules from:

- (1) Engineer battalion support platoon leader for ground assets.
  - (2) S3 for aviation assets.
- 8) The engineer battalion S1 and S1 section obtain information. [FM 5-71-3, Chap 6]
  - a) Status reports from subordinate units for:
    - (1) Evacuation of casualties.
    - (2) Religious support.
    - (3) Personnel actions support (e.g., replacements, awards, promotions).
  - b) Enemy prisoners of war (EPW) processing and evacuation information from subordinate units and maneuver brigade military police.
- 9) The engineer battalion maintenance technician (BMT) obtains information on the status and positioning of maintenance assets. [FM 5-71-3, Chap 6]
  - a) Unit maintenance collection points (UMCP).
    - (1) Engineer battalion.
    - (2) Maneuver Bn TFs.
  - b) Recovery assets.
    - (1) Engineer battalion.
    - (2) Other brigade units.
  - c) Heavy equipment transporters (HETs) for equipment transfer.
- 10) The engineer battalion medical section sergeant obtains information on positioning, activity, and readiness of medical assets. [FM 5-71-3, Chap 6]
  - a) Forward aid stations.
  - b) Main aid stations.

- c) Ambulances and ambulance exchange points (AXPs).
  - (1) Status of capability to receive casualties.
  - (2) Activity.
  
- 11) The engineer battalion rear CP obtains information on: [FM 5-71-3, Chap 6]
  - a) Changes from the engineer battalion commander to guidance, mission concept, and requirements for information.
  - b) Changes to the enemy situation.
  - c) Information from maneuver, fire support, Army aviation, and other units directed to support rear area combat operations (RACO) operations. [FM 5-71-3, p. 6-6]
  - d) Task organization and status of combat service support (CSS) elements.
    - (1) Engineer battalion subordinate units.
    - (2) The engineer battalion combat trains command post (CTCP)/rear CP.
      - (a) Aid station(s).
      - (b) Push packages.
      - (c) Engineer battalion support platoon decontamination equipment.
      - (d) Unit maintenance collection point (UMCP).
    - (3) The engineer battalion field trains command post (FTCP)/rear CP integration with the maneuver brigade support area (BSA).
  - e) Changes to engineer companies' and subordinate units' plans in terms of projected locations and timelines.

- b. The engineer battalion staff evaluates acquired information and engineer status, updates essential products, and maintains status.
  - 1) The engineer battalion S2:
    - a) Evaluates intelligence information.
    - b) Tracks status of reconnaissance assets. [FN - NTC Engr OC]
      - (1) Engineer.
      - (2) Scouts.
    - c) Tracks the enemy. [FM 5-71-3, p. 2-2]
      - (1) OBSTINTEL and other engineer information.
      - (2) Locations (confirmed and suspected) of enemy obstacles.
      - (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) Enemy strength and capabilities.
      - (5) Adherence to, or deviation from, postulated enemy course of action (COA).
    - d) The engineer battalion S2 updates products:
      - (1) Situation template (SIT TEMP).
      - (2) Event template.
      - (3) Modified combined obstacle overlay (MCOO).
  - 2) The engineer battalion S3 and operations section:

- a) Evaluate information and determine any necessary modifications to identify: [FM 5-71-3, pp. 2-8 through 2-13; FN - NTC Engr OC]
  - (1) Information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.
  - (2) Changes to guidance, direction, and information concerning priorities and timelines.
    - (a) Deviations from timelines in minefield construction.
    - (b) Impact on achieving designated obstacle group effects.
  - (3) Impact of changes to the supported brigade maneuver plan on brigade's subordinate units' maneuver plans.
- b) Compare desired engineer battalion endstates with what is possible based on current scheme of engineer operations, situation, and trends.
  - (1) Maneuver units.
  - (2) Fire support.
  - (3) Engineer support.
  - (4) CSS.
- c) The engineer battalion S3 and operations section update products.
  - (1) Status of engineer equipment.
  - (2) Obstacle graphics.
  - (3) SIT TEMP.
  - (4) MCOO.
  - (5) Event template.
  - (6) Fire support overlay.

- (7) Engineer execution matrix (or synchronization matrix if Bn is an engineer Bn TF).
  - (8) DST.
- 3) The engineer battalion NBC section:
- a) Evaluates information.
  - b) Updates products. [FM 5-71-3, pp. 2-3 through 2-4]
    - (1) Updated 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.
- 4) The engineer battalion SO and communications section:
- a) Evaluate information.
  - b) Update communications products. [FM 5-71-3, p. 2-3]
    - (1) Updated 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.
- 5) The engineer battalion S4 and HHC commander.
- a) Evaluate information. [FM 5-71-3, Chap 6]
    - (1) Identify information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.
    - (2) Appraise answers to intelligence queries requested by CSS officers which could affect initial CSS plan.

- b) Update transportation information and status. [FM 5-71-3, Chap 6]
  - (1) Transportation portion of updated CSS estimate (may or may not be in written form).
  - (2) Schedules and priorities.
  - (3) Status of supplies, equipment, and materials requiring transport.
  - (4) Availability of ground transport assets.
  - (5) Availability of air transportation assets (from engineer battalion S3).
  - (6) Logistic package (LOGPAC) convoys' organization, loads, times, and schedules.
  - (7) Transportation recovery plan and back-haul plan.
  - (8) MSR and ASR traffic and route conditions.
  - (9) Transportation priorities directed by the engineer battalion commander.
- c) Compare desired engineer battalion endstate with current supply and transportation status.
- d) Appraise impact of adjusted subordinate units' plans on engineer battalion CSS plans.
- 6) The engineer battalion S4 updates supply information and status. [FM 5-71-3, Chap 6]
  - a) Supply portion of updated CSS 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 and V) loads and push packages.

- d) Supply priorities as directed by the engineer battalion commander.
  - e) Establishment and fill of stockpiles and caches.
- 7) The engineer battalion S4 and HHC commander update RACO information. [ARTEP 5-145-MTP, Task 5-1-0039]
- a) Threat (levels I, II, and III, from engineer battalion S2).
  - b) 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.
      - (a) Targets.
      - (b) Observers.
    - (3) Communications capabilities.
- 8) The engineer battalion S1:
- a) Evaluates information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current personnel status.
    - (2) Identifies information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.
    - (3) Appraises answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
    - (4) Appraises impact of adjusted plans from subordinate units on engineer battalion CSS plan.
  - b) Updates personnel information. [FM 5-71-3, Chap 6]

- (1) Personnel portion of updated CSS estimate (may or may not be in written form).
  - (2) Personnel status of subordinate and supported units.
  - (3) Casualty feeder reports.
  - (4) Reception and processing of replacements.
  - (5) Forecast of replacements.
  - (6) Personnel actions (awards, decorations, promotions, legal action).
  - (7) EPW processing and evacuation.
  - (8) Soldier morale and welfare activities.
  - (9) Personnel priorities as directed by the engineer battalion commander.
- 9) The engineer BMT.
- a) Evaluates information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current maintenance status.
    - (2) Identifies information which confirms or refutes IPB information which may affect achieving the commander's intent.
    - (3) Appraises answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
    - (4) Appraises impact of adjusted subordinate units' plans on engineer battalion CSS plans.
  - b) Updates maintenance information. [FM 5-71-3, Chap 6]
    - (1) Maintenance portion of updated CSS estimates (may or may not be in written form).
    - (2) Number and type of systems on hand and operational.

- (a) Combat.
  - (b) Combat support (CS).
  - (c) CSS.
    - 1 Recovery.
    - 2 Maintenance support teams (MSTs).
    - 3 Corps maintenance teams (CMTs).
  - (3) Systems non-mission capable (NMC) and repairable.
  - (4) Timelines for repair and return of vehicles and equipment.
  - (5) On-hand CL IX, authorized stockage list (ASL), and prescribed load list (PLL) stockage levels.
  - (6) Maintenance activities performed by CMTs and MSTs, including the location of the maintenance activities.
  - (7) Maintenance priorities and guidelines as directed by the engineer battalion commander.
- 10) The engineer battalion medical section sergeant:
- a) Evaluates medical information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current medical treatment and evacuation status.
    - (2) Identifies information which confirms or refutes IPB information which may affect achieving the commander's intent.
    - (3) Appraises impact of adjusted subordinate units' plans on engineer battalion medical treatment and evacuation plans.
  - b) Updates medical information. [FM 5-71-3, pp. 6-13 and 6-14]
    - (1) Medical portion of updated CSS estimates (may or may not be in written form).

- (2) Casualty evacuation records.
  - (3) CL VIII stock availability and resupply activities.
  - (4) Availability and effectiveness of medical assets.
  - (5) Disposition and capability of engineer battalion medics TFs' and the brigade's medical support, forward aid station (FAS), main aid station (MAS), and medical/ambulance support from the FSB medical company.
  - (6) Medical priorities as directed by the engineer battalion commander.
- 11) Engineer battalion CPs maintain status:
- a) Engineer battalion command group/tactical command post (TAC CP) maintains/updates mission essential products: [FM 5-71-3, p. 2-5]
    - (1) Information which supports the CCIR.
    - (2) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
    - (3) Operations and intelligence map.
      - (a) Friendly situation.
      - (b) Enemy situation.
      - (c) Fire support overlay.
      - (d) SIT TEMP overlay.
      - (e) Event template overlay.
      - (f) Modified combined obstacle overlay (MCOO).
      - (g) Obstacle graphics.
    - (4) DST.

- (5) Synchronization matrix (applicable to employment as an engineer Bn TF).
  - (6) Engineer execution matrix.
- b) The engineer battalion main CP maintains and updates mission essential information: [FM 5-71-3, p. 2-5]
- (1) Operations and intelligence map.
    - (a) Operations overlay (maneuver brigade, maneuver TFs, and adjacent units).
    - (b) Enemy situation.
    - (c) Fire support overlay.
    - (d) SIT TEMP overlay.
    - (e) Event template.
    - (f) Modified combined obstacle overlay.
    - (g) NBC overlay.
    - (h) CSS overlay.
    - (i) Obstacle graphics.
  - (2) CSS overlays and information per engineer battalion SOP.
  - (3) Intelligence information from maneuver brigade and engineer brigade.
  - (4) Status of preparation activities to ensure compliance with stated mission timelines.
  - (5) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
  - (6) Status of engineer task organization.
  - (7) Obstacle and survivability position construction and progress as compared to timelines.

- (8) Utilization of engineer assets and materials as compared to timelines.
  - (9) DST.
  - (10) Engineer execution matrix.
  - (11) Plans map (with overlays for future operations).
  - (12) Synchronization matrix (applicable to employment as an engineer Bn TF).
  - (13) Journals/logs:
    - (a) Operations.
    - (b) Intelligence.
- c) The engineer battalion rear CP maintains and updates mission essential information and products: [FM 5-71-3, p. 2-6]
- (1) Current operations and intelligence map.
    - (a) Operations overlay (maneuver brigade, maneuver TFs, and adjacent units).
    - (b) Enemy situation.
    - (c) Rear operations, security, and threat overlay.
    - (d) Fire support overlay.
    - (e) SIT TEMP overlay.
    - (f) Event template overlay.
    - (g) Modified combined obstacle overlay.
    - (h) Obstacle graphics.
  - (2) DST.
  - (3) Engineer execution matrix.

- (4) CSS situation map and overlays.
    - (a) MSR and ASR.
    - (b) CSS locations, current and projected.
    - (c) Decontamination sites.
  - (5) Synchronization matrix (applicable to employment as an engineer Bn TF).
  - (6) CSS staff journal.
  - (7) Current and projected personnel and equipment status.
    - (a) Personnel strength.
    - (b) Operational equipment strength.
    - (c) Status of supplies.
    - (d) Replacement personnel status/location.
    - (e) Damaged and NMC vehicles and equipment.
      - 1 Recovery status.
      - 2 Repair status.
      - 3 Replacement status.
  - (8) Status on location and evacuation of EPW and their equipment.
  - (9) Status on location and evacuation of displaced persons.
- c. The engineer battalion commander and staff communicate information.
- 1) The engineer battalion commander communicates information.
    - a) The engineer battalion commander reports 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) Maneuver brigade S3.
  - (3) Maneuver brigade XO.
  - (4) Engineer brigade commander.
  - (5) Assistant division engineer.
  - (6) Maneuver brigade subordinate commanders and leaders.
  - (7) Maneuver brigade staff officers who need the information.
- b) The engineer battalion commander reports information concerning: [FM 5-71-3, pp. 2-23 through 2-26]
- (1) The status and location of the engineer battalion and its subordinate units.
  - (2) The status of task completion and mission accomplishment.
  - (3) Enemy contact.
  - (4) Problems which concern mission accomplishment.
- 2) All engineer battalion CPs and staff disseminate information. [FM 5-71-3, pp. 2-1 through 2-6).
- a) Provide briefings to the engineer battalion commander on the status of mission preparedness and execution.
  - b) Each engineer battalion 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 staff officers during shift changes on the situation: [FM 5-71-3, pp. B-1 through B-5]
    - (1) Enemy activities.
    - (2) Status of subordinate units.
    - (3) On-going actions which must be monitored and tracked.
    - (4) Timelines and suspenses which must be met.
    - (5) Planning for future missions.
- 3) The engineer battalion S2.
- a) The 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) Engineer battalion commander.
    - (2) Engineer battalion S3.
    - (3) Engineer battalion XO.
    - (4) ABE.
    - (5) Maneuver brigade S2.
    - (6) Companies under engineer battalion control.
    - (7) Engineer battalion rear CP.
  - b) The engineer battalion S2 reports information concerning: [FM 5-71-3, p. 2-2]
    - (1) Updates to the engineer battlefield assessment (EBA).
    - (2) Updates to the SIT TEMP.

- (3) Updates to the event template.
- 4) The engineer battalion S3 and operations section.
  - a) Use the DST to communicate recommendations to the commander.
  - b) 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, subtask f.; FM 5-71-3, p. 2-15]
    - (1) Engineer battalion commander.
    - (2) ABE.
    - (3) Engineer battalion XO.
    - (4) Engineer companies and other subordinate units.
    - (5) Engineer battalion rear CP.
    - (6) Maneuver brigade main CP.
  - c) The 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; FN-NTC Engr OCs]
    - (1) Obstacle type, location, and emplacement status to include ability to achieve designated effects of obstacle groups in brigade designated belts.
    - (2) Mobility plans (maneuver brigade, division, and other units).
    - (3) Terrain management issues with the maneuver brigade XO.
- 5) The engineer battalion NBC NCO.
  - a) 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) Brigade CMLO.
- b) Reports engineer battalion NBC situation and analysis of CCIR, information requirements (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 and engineer brigade chemical officers.
  - (2) Engineer battalion subordinate commanders and leaders.
  - (3) Supporting NBC units (e.g., decontamination, reconnaissance).
  - (4) Engineer battalion staff officers who need the information.
- c) Coordinates with the maneuver brigade CMLO and supporting decontamination units to confirm hasty and deliberate decontamination plans and operations. [FM 5-71-3, pp. 2-3 through 2-4]
- d) Confirms NBC reconnaissance plans and operations, with: [FM 5-71-3, pp. 2-3 through 2-4]
- (1) Maneuver brigade CMLO.
  - (2) Engineer company commanders.
  - (3) Supporting NBC reconnaissance units.
- e) Disseminates: [FM 5-71-3, pp. 2-3 through 2-4]
- (1) Chemical activity reports.
  - (2) Updated decontamination plans.
- 6) The engineer Bn SO and communications section.

- a) Report 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) The engineer battalion XO.
    - (4) Maneuver brigade SO.
    - (5) Division signal battalion commander.
    - (6) Engineer battalion subordinate commanders and leaders.
    - (7) Engineer battalion staff officers who need the information.
  - b) Coordinate with the engineer battalion S3, adjacent units, and division signal battalion headquarters. [FM 5-71-3, p. 2-3]
    - (1) Confirm allocation, locations, and capabilities of signal assets.
    - (2) Acquire signal equipment to supplement the engineer battalion CPs and subordinate units which require special communications equipment.
    - (3) Deconflict terrain requirements.
- 7) The engineer battalion rear CP CSS officers:
- a) 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) 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) The engineer battalion subordinate commanders and leaders.
  - (2) Maneuver brigade rear CP.
  - (3) FSB staff.
  - (4) Engineer battalion rear CP.
  - (5) Engineer battalion staff officers who need the information.
  
- c) Perform coordination with maneuver brigade staff, engineer battalion staff, and engineer battalion units: [FM 5-71-3, Chap 6]
  - (1) Identify additional requests for support.
    - (a) Transportation assets.
    - (b) Medical augmentation.
    - (c) Maintenance support for vehicles and weapon systems and for recovery of damaged vehicles or return of repaired vehicles.
  - (2) Coordinate the transportation of supplies and cargo through engineer battalion units.
  - (3) Coordinate routine, emergency, and critical resupply operations (e.g., delivery times, types, and quantities of supplies required).
  - (4) Coordinate receiving replacements.
  - (5) Coordinate for security and protection of CSS units operating forward.
  - (6) Request additional support for engineer battalion.
    - (a) Transportation assets.

- (b) Medical augmentation and support.
  - (c) Support of resupply operations.
  - (d) Intermediate DS/intermediate general support (GS) maintenance support for vehicles and weapon systems and for recovery of damaged vehicles or return of repaired vehicles.
- d) Engineer battalion S4 coordinates with the engineer battalion S3 and engineer battalion units to deconflict terrain requirements and projected locations for:
    - (1) Engineer battalion CSS elements.
    - (2) Division and higher CSS units.
  - e) Engineer battalion S4 coordinates the transportation of engineer battalion supplies and cargo through adjacent units.
  - f) Engineer battalion S4 coordinates routine, emergency, and critical resupply of the engineer battalion (e.g., delivery times, types, and quantities of supplies required).
  - g) Engineer battalion S1 processes engineer battalion replacements.
  - h) Engineer battalion S1 tracks evacuation of engineer battalion personnel and casualties.
  - i) Engineer battalion S1 processes awards, decorations, promotions, and legal actions of engineer battalion personnel.
  - j) Engineer battalion CSS officers provide information to the engineer battalion S2 to support engineer battalion IPB/EBA. [FM 5-71-3, pp. 2-16 and 2-17]
3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]
- a. The engineer battalion commander updates his estimate based on his assessment of the current situation. Considerations include: (Also see BF 19, Task 3a) [FM 5-71-3, p. 2-7]
    - 1) Mission.

- a) The Bde and division Cdrs' intents.
  - b) The Bde concept of the operation.
  - c) The engineer battalion mission in terms of:
    - (1) Present concept of operation.
    - (2) Comparison of the present plan to the current situation.
- 2) Characteristics of the area of operations.
    - a) Weather.
    - b) Terrain.
  - 3) Enemy situation.
  - 4) Friendly situation.
  - 5) Engineer capability relative to the enemy and relative to requirements.
- b. The engineer battalion commander projects the outcome of the engineer support to the current battle based on his evaluation of the current plan and the engineer battalion's situation. Considerations include: [FM 5-71-3, p. 1-8].
- 1) Intelligence.
    - a) IPB consisting of the enemy situation and capability with threat expected when latest plan was developed.
    - b) Capability of engineer reconnaissance elements to collect required information. [ARTEP 5-145-MTP, Task 5-1-0413]
    - c) Capability of the engineer battalion to acquire requested information from other sources. [AN]
  - 2) Maneuver.
    - a) Movement and repositioning criteria support the mission. [FM 5-71-3, pp. 3-10 and 5-9]

- (1) Reconnaissance, marking, and preparation of routes for use by subordinate units are complete or being completed in accordance with the plan. Routes or times routes are used do not conflict with movement of other elements.
  - (2) Movement can be performed without exposing the engineer task force to enemy fire during disengagement and displacement.
  - (3) Movement and repositioning times can be achieved.
  - (4) Compensation is made for distances and terrain factors which impact on displacement and repositioning.
- b) For an engineer task force, movement does not conflict with other elements.
- c) For an engineer task force, subordinate units execute branches and sequels; achieve battalion commander's intent. [FM 5-71-3, p. 1-7]
- 3) Mobility/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 engineer battalion as the brigade engineer, and FSO adjust the fire support plan to support breaching operations.
    - (4) Engineer task organization allows the maneuver brigade to maintain mobility.
    - (5) Forces have required mobility support during repositioning.
    - (6) Friendly obstacles will not interfere with maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2.b. (1) (b) (3) and Task 5-1-0002/3.b.]

- (7) Lanes support maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2.b. (1) (b) (3) and Task 5-1-0002/3.b.]
- (8) The engineer battalion can perform obstacle breaching as designated in the plan. [FM 5-71-3 pp. 3-1 and 3-2]
  - (a) The support force's ability to execute effective suppressive fires.
  - (b) The assault force's capability to accomplish its mission.
  - (c) The breach force can reduce the enemy obstacles.
  - (d) The availability of breaching assets supports planned breaching operations.
- b) Countermobility activities can be 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) Obstacles support the maneuver brigade commander's scheme of maneuver. [FM 90-7, Chap 2]
    - (a) Obstacles are in depth throughout the sector to fix, turn, disrupt, and block the enemy and shape the battlefield.
    - (b) Obstacle groups are emplaced to accomplish the function specified by the brigade belt.
    - (c) Obstacle gap and lanes closure signals and triggers are established.
    - (d) SCATMINE adjustments plans are coordinated and can be implemented to achieve the planned effects. [FM 20-32, Chap 6]

- (e) Work in brigade designated obstacle belts is being accomplished in accordance with designated timelines.
  - c) Survivability and fighting position construction taskings are completed. [FM 5-71-3, p. 4-6]
    - (1) Construction times are consistent with the planning timeline.
    - (2) Weather and soil conditions permit efficient repositioning of earth moving assets.
    - (3) Priorities for position construction are adhered to.
    - (4) Protective obstacles provide close-in protection.
  - d) Engineer battalion OPSEC, security operations, and subordinate unit local force protection operations are assessed and needed changes directed so that: [ARTEP 5-145-MTP, Task 5-2-0913]
    - (1) The engineer battalion is protected as it executes the mission.
    - (2) The enemy is denied information that provides indications of the engineer battalion commander's concept of the operation (e.g., engineer disposition and activities).
  - e) Engineer operations support transition to future operations/actions. [AN]
- 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 plan adjustments are 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 sites receive protection. [FM 5-71-3, p. 1-8]
- 6) Command and control.
  - a) Mission execution requirements are met. [FM 5-71-3, p. 1-8]
  - b) Positioning of the battalion commander, command group, and CPs permits provision of effective and rapid guidance during mission execution and for future operations. [FM 5-71-3, pp. 2-4 through 2-6]
  - c) Information systems aid command and control. [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]
- 7) CSS.
  - a) Transportation operations are executed as planned. [FM 5-71-3, p. 6-3]
    - (1) Required supplies, equipment, and personnel will be delivered to subordinate units on designated and approved MSRs and ASRs; assets are used to back-haul based on battalion priorities.
    - (2) Materials and equipment will be transported in accordance with mission requirements.
      - (a) Requirements for additional assets have been determined.
      - (b) Missions to and operations of the engineer battalion support platoon transportation assets are consistent with plans.
      - (c) New priorities for the engineer battalion support platoon have been identified.

- (3) Impact on MSRs and ASRs by weather or enemy action have been mitigated.
- 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 engineer battalion units are resupplied as required.
  - (2) Emergency resupply activities meet requirements.
  - (3) Priorities for resupply are implemented and achieve desired results.
  - (4) CL IV/V obstacle material is available in required amounts at required locations and times.
    - (a) Additional Volcano reloads.
    - (b) Additional mine clearing line charge (MICLIC) reloads.
  - (5) Armored vehicle launched bridges (AVLBs).
- c) Personnel operations are conducted as planned. [FM 5-71-3, pp. 6-12 and 6-13]
- (1) Morale and welfare support satisfies requirements.
  - (2) Replacement operations ensure that new personnel are received and assigned rapidly in accordance with the commander's guidance and priorities.
    - (a) Personnel are inspected, issued equipment, and trained (if time is available) to ensure that they are prepared for combat.
    - (b) Personnel are linked-up with units and are oriented on the battalion and unit situation.
  - (3) Engineer battalion subordinate units have trained personnel required to perform assigned tasks and mission.

- (a) Units have sufficient personnel to accomplish assigned missions and tasks.
  - (b) Critical MOS and skills are distributed 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) Engineer battalion units are brought to FMC status according to commander's repair priority guidance.
  - (2) Maintenance, cannibalization, and controlled substitution and exchange operations are effective.
  - (3) Preventive maintenance checks and services (PMCS) and periodic services are conducted on all vehicles and equipment.
  - (4) Maintenance support is provided to assigned, attached, DS, and OPCON units.
- e) Engineer battalion medical operations comply with 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) Changes to distribution of engineer battalion medics and adjustments to treatment and medical evacuation plans result in required support.
    - (a) Medical personnel, supplies, and equipment are available and positioned as needed.
    - (b) Treatment, evacuation, and casualty tracking systems are effective.
- c. The engineer battalion commander anticipates future requirements and actions based on his projection of the outcome of the engineer support to the current mission. [FM 5-71-3, p. 1-8]

- 1) The engineer battalion commander bases anticipated future requirements and actions on: [FM 5-71-3, pp. 2-1 through 2-6]
  - a) Reports received from subordinate units.
  - b) Reports received from the engineer battalion staff.
  - c) Personal observation of the battle.
  - d) Direction and guidance from the maneuver brigade.
  
- 2) The engineer battalion commander develops information to assist him in determining future requirements and actions by: [FM 5-71-3 pp. 2-1 and 2-19]
  - a) Receiving information from the maneuver and engineer brigades' commanders, their subordinate commanders, and the battalion staff.
  - b) Updating his CCIR.
  - c) Describing effects desired on the enemy.
  - d) Assessing risk.
  
- 3) The engineer battalion commander defines his requirements and actions based on battlefield operating system factors. (Also see Engr Bn BF 19, Task 3c) [FM 5-71-3, pp. 1-5 through 1-9]
  - a) Intelligence.
  - b) Maneuver.
  - c) Mobility/survivability.
  - d) Fire support.
  - e) Air defense.
  - f) Combat service support.
  - g) Command and control.

- d. The engineer battalion commander informs the supported maneuver brigade commander of the results of his assessment. [FM 5-71-3, p. 2-1]
  - 1) The engineer battalion commander's projection of engineer support to the current battle indicates the brigade commander's intent cannot be achieved.
  - 2) The engineer battalion must receive additional assets to achieve the brigade commander's intent.
  - 3) The engineer battalion can accomplish its mission.
  
- e. The engineer battalion commander decides whether the last order promulgated needs to be changed. [ARTEP 5-145-MTP, Task 5-1-0002/4 through 7]
  - 1) The engineer battalion commander analyzes the plan and battalion situation, makes a decision, and initiates actions accordingly.
    - a) When the plan can be conducted without any adjustments or modifications, the battalion commander continues to direct mission execution.
    - b) When only minor modifications are necessary, the engineer battalion commander issues, or directs to be issued, FRAGOs to modify the plan.
    - c) The engineer battalion commander initiates a decision-making process when the plan is no longer valid and cannot be corrected by FRAGOs.
  - 2) The engineer battalion staff assists the battalion commander in his analysis of the plan by providing information. [ARTEP 5-145-MTP, Task 5-1-0002/2]
    - a) Each staff officer reviews updated estimates and provides information based on queries.
    - b) Each staff officer provides input on previous COAs which could be used as the new plan without detailed COA development.
  - 3) The engineer battalion commander initiates development of a new plan based on: [FM 5-71-3, p. 2-8]

- a) COAs previously developed which can be modified and developed as the new plan versus developing an entirely new plan.
  - b) Time available to develop, coordinate, and implement a new plan.
  - c) Engineer battalion subordinate units' capabilities to react (plan, prepare, execute) to their requirements under the new plan and task organization.
  - d) The engineer battalion staff's ability to continue to monitor and direct current battalion activities while meeting new planning and monitoring requirements.
- 4) The engineer battalion commander determines how to modify the military decision-making process (MDMP) based on complexity, potential probable confusion on the battlefield, and time available. [FM 101-5, Chap 4]
- a) The engineer battalion commander determines staff availability, the magnitude of change to the plan, and the amount of time available before execution.
  - b) The engineer battalion commander decides where to conduct the decision-making process and actions required to produce and disseminate the FRAGO.
4. **The engineer battalion commander directs changes to the operation or plan.**  
[ARTEP 5-145-MTP, Task 05-1-0018, FM 5-71-3 Chap 2]
- a. The engineer battalion commander and/or staff issue WARNOs which contain:  
[FM 5-71-3 Chap 2]
    - 1) Enemy and friendly situations.
    - 2) The brigade and division missions.
    - 3) The brigade and division commanders' intents.
    - 4) The engineer battalion commander's intent.
    - 5) Changes to the task organization.
    - 6) Earliest time of movement for subordinate units.

- 7) Orders for preliminary action, such as assigning engineer tasks, moving to linkup points.
  - 8) Administrative and logistic information.
  - 9) Time and place for orders group assembly.
- b. The engineer battalion commander develops and implements a new concept, or modifies and implements a pre-planned branch of an existing plan. [FM 5-71-3, p. 2-8]
- 1) The engineer battalion commander determines staff availability, the magnitude of change to the plan, and the amount of time available before execution.
  - 2) The engineer battalion commander makes a decision whether to continue operations or have the battalion take a tactical pause.
  - 3) The engineer battalion commander uses the MDMP in a time-constrained environment to develop a new scheme of engineer operations.
- c. The engineer battalion commander, with staff assistance if time allows, conducts the MDMP in a time-constrained environment to modify a branch or sequel or to develop a new scheme of engineer operations. (See engineer BF 19 for detailed explanation of the MDMP in a time-constrained environment.) [FM 5-71-3, p. 2-15]
- 1) When planning changes to current orders or planning for a new mission during the execution phase of the current battle, the engineer battalion commander must:
    - a) Consider using the MDMP products developed during the current mission as reference points from which modifications are made.
      - (1) Weather analysis.
      - (2) Terrain analysis.
      - (3) Current “running” staff estimates.
        - (a) Brigade capabilities.
        - (b) Constraints.

- (4) PIR, EEFI, and friendly forces information requirements (FFIR) requested by the engineer battalion commander.
  - b) With his battalion staff, simultaneously monitor, plan, and direct all aspects of battalion operations (e.g., execution of the current mission, development of changes to the current plan).
  - c) Anticipate the outcome of the current fight and begin considering future requirements and actions.
  - d) Recognize similarities and differences between the initial plan and new requirements.
  - e) Assess friendly force posture, enemy probable actions and postures, and battle space.
  - f) Modify existing branches and sequels to meet new requirements.
  - g) Consider key personnel and unit availability.
  - h) Compute the amount of time available for planning, preparation to include rehearsal, and movement.
  - i) Consider the extent of the reconnaissance effort necessary to obtain critical information.
- 2) The commander completes an update of his estimate:
  - a) Mission: who, what, where, when, why; higher commanders' intents?
  - b) Enemy: what is the enemy's COA, his strength, location, disposition, activity, equipment, and capability?
  - c) Terrain and weather: observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach (OCOKA).
  - d) Troops: the commander analyzes the engineer battalion's and engineer companies' status in terms of capability relative to what he believes necessary to accomplish the mission.
- (1) Capabilities, strengths, and weaknesses of subordinate commanders and units.

- (2) Engineer systems and equipment.
  - (3) Disposition.
  - (4) Supplies.
  - e) Time: the engineer battalion commander determines the time available for planning, preparing, and executing the operation.
- 3) The engineer battalion commander conducts a quick mission analysis by:
- a) Analyzing the brigade and division commanders' intents.
  - b) Considering the current situation and information.
  - c) Determining the engineer battalion's mission and required endstate to accomplish the mission.
  - d) Whether the engineer battalion has the assets and resources to execute the new scheme of engineer operations.
  - e) Analyzing the maneuver brigade commander's COA.
  - f) Comparing the desired endstate for the engineer battalion with the anticipated maneuver brigade endstate.
- 4) The commander may request information from the staff to support his COA development.
- a) BOS specific information from selected staff members.
  - b) Information available in products developed during the initial mission MDMP.
  - c) Input on previous COAs which could be used as the new plan without detailed COA development.
- 5) 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 develops and explicitly expresses:

- (1) His intent and desired endstate.
  - (2) Scheme of engineer operations (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) If time is available, engineer battalion staff:
- (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.
- 6) The engineer battalion commander performs a suitability-feasibility-acceptability analysis of the new plan. The commander performs the analysis 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 engineers' capability (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 other, on-going actions is acceptable.
  - (d) Subordinate units have required capabilities.
  - (e) Task organization can be altered as required.
- c) Acceptability factors, which include:
  - (1) Achieves the desired endstate.
  - (2) Mission success is not at significant risk of failure.
  - (3) Hazards to soldiers, equipment, and supplies are within acceptable limits.
- 7) The engineer battalion commander quickly compares COAs (if more than one).
- 8) The engineer battalion commander selects a COA and announces his decision to key engineer battalion staff members.
- 9) Conditions most likely to cause mission failure and accidents (including fratricide) are mitigated.

- a) Engineer battalion units have been tasked within their capabilities.
  - b) Procedural and positive risk-reduction control and safety measures have been implemented.
- 10) 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 directs preparation of a FRAGO. [ARTEP 5-145-MTP, Task 5-1-0002/6.]
- 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) Decision support template (DST).
    - c) Engineer execution matrix.
    - d) MCOO.
    - e) Situation and event templates.
  - 2) The engineer battalion commander may direct the engineer battalion staff to prepare the FRAGO. [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: [ARTEP 5-145-MTP, Task 5-1-0018, subtask 4.d.(2)(a)]
  - a) Graphics and control measures for the operation.
  - b) DST and engineer execution matrix.
  - c) Obstacle overlay.
  - d) Communications plan.
  - e) CSS.
- e. 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, pp. 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 conducts confirmation briefings with subordinate commanders to ensure they understand the changes to plans and orders. [FM 5-71-3, p. 2-23]

- f. The engineer battalion XO at the main CP coordinates the new plan internally and with higher and adjacent units. [FM 5-71-3, p. 2-5]
  - 1) The XO must inform subordinate units of outdated/superseded orders and products that have been superseded by the FRAGO.
  - 2) The XO, in coordination with ABE, must analyze current FRAGO in light of current maneuver brigade, engineer brigade, adjacent units' operations orders (OPORDs) to preclude conflict.
  - 3) The XO supervises the battalion staff actions necessary to assist the engineer battalion commander to synchronize current engineer operations.
  - 4) The engineer battalion staff understands the battalion commander's concept and takes action necessary to coordinate and integrate the FRAGO. (See engineer BF 20, Task 2a, b, and c.)
  
- 5. **Engineer battalion command posts manage and maintain command, control, and communications.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3]
  - a. Engineer battalion CPs manage means of communicating information.
    - 1) The engineer battalion XO is the "information manager" for the staff. [FM 5-71-3, p. 2-1; ARTEP 5-145-MTP, Task 5-1-0026/1, 2, and 3]
      - a) Facilitates the flow of information and communication from 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.
    - 2) The engineer battalion commander or XO employs a battle captain to manage the operations of the main CP and the operations section. The battle captain: [FM 5-71-3, p. 2-5 and p. B-3; LL - CALL, News from the Front]
      - a) Coordinates and integrates staff activities.
      - b) Initiates staff action as directed by the commander, XO, and S3.
      - c) Ensures through shift change briefings that all critical information concerning the engineer battalion situation, on-going actions, and future requirements is passed when shifts change.

- d) Collects mission information from other staff members (internal and external) which impact on the engineer plan.
  - e) Collects information on and initiates planning for future operations.
  - f) Identifies critical information:
    - (1) Significant changes to friendly situation.
    - (2) Significant changes to enemy situation.
    - (3) CCIR.
- 3) The engineer battalion XO, or battle captain, directs staff "huddles": [FM 5-71-3, pp. 2-1 through 2-2, and p. 2-19]
- a) Ensures that each staff officer disseminates information which is relevant to the CCIR.
  - b) Appraises completeness of information.
  - c) Identifies information gaps which require additional staff work.
  - d) Identifies and directs required actions to meet the demands of the situation.
- 4) Engineer battalion CPs maintain communications (frequency modulated (FM) radio and multi-channel, wire, messenger) with subordinate units, adjacent units, supported, supporting, and higher headquarters. [ARTEP 5-145-MTP, Task 5-4-0028]
- a) The engineer battalion SO ensures that battalion communications systems and links (e.g., retransmission) are operational and support the commander, staff, and subordinate leaders.
  - b) The engineer battalion XO manages battalion communications, including positioning of command and control elements.
  - c) The engineer battalion SO controls SOI issue and use.
  - d) The engineer battalion SO coordinates retransmission capabilities for the battalion.

- e) The engineer battalion SO directs the communications section's efforts on inspecting and testing battalion communications equipment and systems.
- 5) 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 and 2-6, and brigade BF 21]
- a) Provide responses to specific questions asked of LNO.
  - b) Provide status on unit locations, activities, capabilities, status, and intentions.
  - c) Perform coordination to resolve problems.
    - (1) Inability to reach/meet with specific people or staff positions.
    - (2) Receipt of information which invalidates or should change estimates and plans.
- 6) All engineer battalion CPs eavesdrop on higher and adjacent unit command and O&I nets for information. [FM 5-71-3, p. 2-26]
- 7) The engineer battalion S3 at the TAC CP manages communications: [FM 5-71-3, pp. 2-5 and 2-25]
- a) Facilitates control and coordination for the commander through communication with adjacent and supporting elements.
  - b) Passes processed information and keeps the commander updated on new information through concise consolidated updates by eavesdropping on:
    - (1) Maneuver brigade command and operations and intelligence (O&I) nets.
    - (2) Engineer battalion administrative and logistic (A/L) net.
    - (3) Adjacent unit command and O&I nets.
    - (4) Engineer battalion subordinate unit command nets.

- (5) Engineer brigade command and O&I nets.
- c) Operates and monitors communications nets.
  - (1) Engineer battalion command.
  - (2) Maneuver brigade O&I.
  - (3) Maneuver brigade command.
- 8) The engineer battalion XO, as the battalion second-in-command, directs the main CP operations and controls engineer actions that the commander cannot control. [FM 5-71-3, p. 2-5]
  - a) The engineer battalion XO supervises net control station (NCS) actions for the command net.
    - (1) Communicates to subordinates the commander cannot reach.
    - (2) Disseminates critical new information quickly to the engineer battalion commander, staff, and subordinate/supporting headquarters.
  - b) The engineer battalion XO and main CP staff manage communications networks in support of counter-reconnaissance and R&S operations in order to maintain reporting linkages for critical sources of information.
  - c) The battalion XO and main CP staff operate and monitor communications nets.
    - (1) Engineer battalion command.
    - (2) Maneuver brigade command.
    - (3) Engineer battalion A/L.
    - (4) Maneuver brigade O&I.
  - d) The engineer battalion NBC NCO manages the NBCWRS for the battalion through coordination and communication with external headquarters (engineer brigade, maneuver brigade, and adjacent units). [FM 5-71-3, pp. 2-3 and 2-4]

- 9) The engineer battalion rear CP.
  - a) The engineer battalion S4, with assistance from the S1 and HHC commander, coordinates line of communications (LOC) operations on engineer battalion, maneuver TFs, and maneuver brigade MSRs and ASRs. [FM 5-71-3, p. 2-4]
  - b) The engineer battalion HHC commander directs rear CP operations. [FM 5-71-3, p. 2-6]
    - (1) Manages the engineer battalion A/L net; maintains communications with subordinate and supporting units and headquarters.
    - (2) Monitors the tactical situation and maintains communications to ensure that it is prepared to assume the duties of the battalion main CP.
    - (3) Operates on and monitors communications nets.
      - (a) Engineer battalion command.
      - (b) Engineer battalion A/L.
      - (c) Maneuver brigade A/L.
    - (4) The HHC commander is prepared to switch to cover the same nets as the engineer battalion main CP in the event the main CP is incapacitated.
  - c) The engineer battalion HHC commander directs field trains operations. [FM 5-71-3, pp. 6-2 and 6-4]
    - (1) Maintains communications through physical liaison with the maneuver brigade rear CP and the FSB CP.
    - (2) Operates on and monitors communications nets.
      - (a) Engineer battalion command.
      - (b) Engineer battalion A/L.

- b. Engineer battalion CPs move to maintain survivability and communications. [FM 5-71-3, pp. 2-4 through 2-6]
  - 1) CP officer-in-charge (OIC) organizes two echelons.
  - 2) The first echelon moves to the new CP site.
    - a) First echelon uses a covered and concealed route.
    - b) First echelon arrives at new site and establishes communications with all engineer battalion elements and higher headquarters.
  - 3) CP at new location starts operations.
    - a) Communications are established.
    - b) Maps and overlays are updated.
    - c) Operations journal is updated with significant events.
    - d) Sections and personnel in the CP are updated on critical events that occurred while the CP was moving.
    - e) CP identifies itself as operational and reassumes its command and control functions.
  - 4) Once CP is established at new site, the second echelon breaks down its equipment and moves to the new CP site.
- c. Command and control of the engineer battalion are maintained during the displacement of a CP. [FM 5-71-3, pp. 2-5 and 2-6]
  - 1) When the engineer battalion command group and tactical (TAC) CP move, the main CP assumes the command group and TAC CP functions.
  - 2) When the main CP moves, the TAC CP assumes the main CP functions.
  - 3) When the rear CP moves, the main CP assumes the rear CP functions.
- d. The engineer battalion reestablishes command, control, and communications (C3) operations in the event of a CP's destruction or loss of contact. [FM 5-71-3, pp. 2-4 through 2-6; NTC Lessons Learned CALL Bulletin No. 4]

- 1) Engineer battalion subordinate, maneuver brigade, and engineer brigade commanders are informed of loss and re-establishment of an engineer battalion CP. [FM 5-71-3, pp. 2-23 through 2-26]
  - a) Frequencies being used by the re-established engineer battalion command post.
  - b) Location of the new battalion CP and key leaders.
  - c) Identity of the engineer battalion commander (if command group is lost) or officer-in-charge of CP (if CP is lost).
  
- 2) When the engineer battalion command group and TAC CP are out of action, the main CP assumes command group and TAC CP functions. [FM 5-71-3, p. 2-5]
  - a) Synchronize the engineer battalion's assets in support of the close battle.
  - b) Control close operations.
  - c) Reconstitute engineer battalion command group.
    - (1) Obtain replacement of essential equipment (e.g., use what the battalion has on hand, and/or request replacements from maneuver brigade or engineer brigade on a high priority basis).
    - (2) Obtain replacements for key personnel losses to the staff (e.g., S3).
      - (a) Key personnel functions are continued without a break in the engineer battalion operations tempo.
        - 1 Command and control of the engineer battalion are maintained.
        - 2 Communications are maintained with higher headquarters.
      - (b) As time permits, permanent replacements for key personnel are obtained.

- 3) When the engineer battalion main CP is rendered combat ineffective, surviving staff members move to alternate main CP (either the ABE section or the rear CP) and resume main CP functions: [FM 5-71-3, pp. 2-5 through 2-6]
  - a) Reestablish the engineer battalion net control station.
  - b) Monitor the tactical situation.
  - c) Manage engineer assets.
  - d) Serve as the alternate TAC CP or command group.
  - e) Keep higher headquarters and adjacent units informed of the situation.
- 4) When the engineer battalion rear CP is out of action, the main CP assumes the rear CP functions: [FM 5-71-3, pp. 2-5 and 2-6]
  - a) Plan and coordinate sustainment for tactical operations.
  - b) Control rear operations.
- e. Succession of command. [FM 5-71-3, p. D-17]
  - 1) When the engineer battalion commander is lost, command is assumed by a subordinate:
    - a) Who is in position to direct the battle immediately.
    - b) Who has been designated in advance.
  - 2) The engineer battalion XO repositions as soon as possible to take command.
6. **The engineer battalion reorganizes and supports maneuver brigade consolidation.**  
[ARTEP 5-145-MTP; FM 5-71-3]
  - a. The engineer battalion supports brigade consolidation with engineer operations.  
[FM 5-71-3, Chap 3]
    - 1) Engineer companies are tasked to provide countermobility support to task forces as they consolidate.

- 2) Engineer companies are tasked to provide mobility support to task forces as they consolidate.
  - 3) Engineer companies are tasked to provide survivability support to task forces as they consolidate.
- b. The engineer battalion reorganizes. [FM 5-71-3, Chap 6]
- 1) Link up points for resupply and for evacuation of personnel and equipment are provided by the rear CP.
  - 2) FRAGOs are issued implementing the engineer battalion reorganization and support to maneuver brigade consolidation.
  - 3) Key leader positions are filled through transfer of personnel.
- c. The engineer battalion commander assesses status and capability of the engineer battalion and makes changes to battalion priorities. [FM 5-71-3, p. 1-8]
- 1) Intelligence collection.
  - 2) Engineer operations.
  - 3) Personnel replacement.
  - 4) Supply.
  - 5) Medical support.
  - 6) Maintenance support.
- d. All engineer battalion elements report personnel and equipment status. [ARTEP 5-145-MTP, Task 5-1-0026/1 and 2]
- e. The engineer battalion XO at the main CP reports to maneuver brigade and engineer brigade. [FM 5-71-3, p. 2-25]
- 1) Location.
  - 2) Status.
    - a) Engineer equipment.
    - b) Class IV/V obstacle materials.

- c) Personnel.
- f. The engineer battalion rear CP coordinates and executes actions to: [FM 5-71-3, p. 2-6; FN-NTC Engr OCs]
- 1) Replace key leaders and critical personnel and reestablish the chain of command.
  - 2) Treat and evacuate all casualties.
  - 3) Recover/repair/evacuate all inoperative equipment.
  - 4) Resupply and cross-level CL II, III, and V to minimum basic loads to all engineer vehicles.
    - a) Engineer companies also cross-level CL III and V to minimum basic loads to all engineer vehicles.
    - b) Basic loads of CL III, V, and IX are replenished through LOGPACs.
  - 5) Evacuate all EPWs, captured documents, and equipment.
  - 6) Redistribute personnel and equipment as needed.
  - 7) Account for all personnel.
  - 8) Process replacements.
  - 9) Weapons system replacement operations (WSRO) with engineer brigade S4:
    - a) Armored combat earthmover (ACE).
    - b) Armored vehicle launched bridge (AVLB).
    - c) Small emplacement excavator (SEE).
    - d) Volcano.
    - e) Mine clearing line charge (MICLIC).
    - f) D7 Dozers.

- g. The engineer battalion main CP coordinates and monitors actions to: [FM 5-71-3, p. 2-5]
- 1) Reconfigure task organization for the next mission.
  - 2) Return attachments to parent units.
  - 3) Receive engineer battalion elements detached from other units.
  - 4) Reconfigure companies.
- h. The engineer battalion commander confirms that the engineer battalion is prepared to continue the mission. Confirmation criteria include: [AN]
- 1) All engineer battalion elements report successful completion of reorganization and consolidation.
  - 2) The engineer battalion XO reports that all engineer battalion C3 systems and CPs are fully operational.
  - 3) The engineer battalion S2 reports that all intelligence systems are fully operational.
  - 4) The engineer battalion S3 reports status of all engineer systems in terms of fully mission capable, or estimates of repair time for those that are not.
  - 5) The engineer battalion S1 reports that key leaders and critical personnel have been replaced and the battalion strength is adequate to continue successful mission accomplishment.
  - 6) The engineer battalion S4 reports status of recovery/repair/evacuation of equipment and the extent that the maintenance and supply systems will support future operations.

## 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 CPs maintain continuous communications with higher, adjacent, and subordinate headquarters.

### Task Elements

1. **The engineer battalion commander directs and leads subordinate forces.** [Army Training and Evaluation Program (ARTEP) 5-145- Mission Training Plan (MTP); Field Manual (FM) 5-71-3; FM 71-3].
  - a. The engineer battalion commander provides command presence by positioning himself where he can best lead, observe the enemy and friendly situations, monitor the maneuver brigade's most important engineer event, and command and control the engineer support for the battle. Considerations: [FM 5-71-3, p. 2-1]
    - 1) Positions where he can physically observe and influence the engineer battalion's critical actions.
    - 5) Maintains communications capabilities with:
      - a) The supported maneuver brigade and engineer brigade commanders.
      - b) Subordinate commanders.
      - c) Engineer battalion command posts (CPs).
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 5) Repositions and maintains communications with and control of subordinates.

- 9) Integrates and coordinates engineer operations in consideration of the battlefield operating systems (BOS). [FM 5-71-3, p. 1-5]
  - g) Command and control.
    - (3) Information systems which aid command and control are selected based on updated information. [FM 5-71-3, pp. 2-23 through 2-25]
5. **Engineer battalion command posts manage and maintain command, control, and communications.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3]
  - a. Engineer battalion CPs manage means of communicating information.
    - 1) The engineer battalion XO is the "information manager" for the staff. [FM 5-71-3, p. 2-1; ARTEP 5-145-MTP, Task 5-1-0026/1, 2, and 3]
      - a) Facilitates the flow of information and communication from staff members and subordinate units.
    - 4) Engineer battalion CPs maintain communications (FM radio and multi-channel, wire, messenger) with subordinate units, adjacent units, supported, supporting, and higher headquarters. [ARTEP 5-145-MTP, Task 5-4-0028]
      - a) The engineer battalion SO ensures that battalion communications systems and links (e.g., retransmission) are operational and support the commander, staff, and subordinate leaders.
      - b) The engineer battalion XO manages battalion communications, including positioning of command and control elements.
      - c) The engineer battalion SO controls SOI issue and use.
      - d) The engineer battalion SO coordinates retransmission capabilities for the battalion.
      - e) The engineer battalion SO directs the communications section's efforts on inspecting and testing battalion communications equipment and systems.
    - 5) 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 and 2-6; brigade BF 21]

- 6) All engineer battalion CPs eavesdrop on higher and adjacent unit command and O&I nets for information. [FM 5-71-3, p. 2-26]
- 7) The engineer battalion S3 at the TAC CP manages communications: [FM 5-71-3, pp. 2-5 and 2-25]
  - c) Operates and monitors communications nets.
    - (1) Engineer battalion command.
    - (2) Maneuver brigade O&I.
    - (3) Maneuver brigade command.
- 8) The engineer battalion XO, as the battalion second-in-command, directs the main CP operations and controls engineer actions that the commander cannot control. [FM 5-71-3, p. 2-5]
  - a) The engineer battalion XO supervises net control station (NCS) actions for the command net.
    - (1) Communicates to subordinates the commander cannot reach.
  - b) The engineer battalion XO and main CP staff manage communications networks in support of counter-reconnaissance and R&S operations in order to maintain reporting linkages for critical sources of information.
  - c) The battalion XO and main CP staff operate and monitor communications nets.
    - (1) Engineer battalion command.
    - (2) Maneuver brigade command.
    - (3) Engineer battalion A/L.
    - (4) Maneuver brigade O&I.

- d) The engineer battalion NBC NCO manages the NBCWRS for the battalion through coordination and communication with external headquarters (engineer brigade, maneuver brigade, and adjacent units). [FM 5-71-3, pp. 2-3 and 2-4]
  
- 9) The engineer battalion rear CP.
  - b) The engineer battalion HHC commander directs rear CP operations. [FM 5-71-3, p. 2-6]
    - (1) Manages the engineer battalion A/L net; maintains communications with subordinate and supporting units and headquarters.
    - (2) Monitors the tactical situation and maintains communications to ensure that it is prepared to assume the duties of the battalion main CP.
    - (3) Operates on and monitors communications nets.
      - (a) Engineer battalion command.
      - (b) Engineer battalion A/L.
      - (c) Maneuver brigade A/L
    - (4) The HHC commander is prepared to switch to cover the same nets as the engineer battalion main CP in the event the main CP is incapacitated.
  - c) The engineer battalion HHC commander directs field trains operations. [FM 5-71-3, pp. 6-2 and 6-4]
    - (1) Maintains communications through physical liaison with the maneuver brigade rear CP and the FSB CP.
    - (2) Operates on and monitors communications nets.
      - (a) Engineer battalion command.
      - (b) Engineer battalion A/L.
  
- b. Engineer battalion CPs move to maintain survivability and communications. [FM 5-71-3, pp. 2-4 through 2-6]

- c. Command and control of the engineer battalion are maintained during the displacement of a CP. [FM 5-71-3, pp. 2-5 and 2-6]

## Outcome 2

The engineer battalion commander, other decision-makers, and the engineer battalion staff receive, evaluate, and process timely and accurate battlefield information during mission execution.

### Task Elements

1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3].
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
2. **Engineer battalion command posts provide communication and control.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]
  - a. The engineer battalion staff acquires information.
    - 1) The engineer battalion staff obtains information relative to the commander's CCIR and the current situation: [ARTEP 5-145 MTP, Task 5-1-0002]
      - a) The status and locations of subordinate units.
      - b) Changes to mission, enemy, terrain, troops, and time available (METT-T).
      - c) Updates on the maneuver brigade situation from the assistant brigade engineer (ABE).
      - d) New guidance or missions from the supported maneuver brigade commander.

- 2) The engineer battalion XO manages the flow of information in the engineer battalion CP and establishes a system to keep the engineer battalion commander informed. [FM 5-71-3, p. 2-1]
  - a) Routine information is communicated to the engineer battalion commander per battalion SOP. [ARTEP 5-145 MTP, Task 5-1-0026]
  - b) CCIR information is obtained from engineer battalion subordinate leaders and staff officers according to their area of responsibility; actions: [ARTEP 5-145-MTP, Tasks 5-1-0026 and 5-1-0413]
    - (1) Monitor and modify battalion activities as necessary.
    - (2) Verify and, as appropriate, modify coordination between battalion and adjacent units.
    - (3) Support the commander's intent concerning mission execution.
- 3) The engineer battalion S2 identifies significant changes to the intelligence preparation of the battlefield (IPB). [FM 5-71-3, p. 2-2]
  - a) Receives information from division engineer, ABE, and battalion staff:
    - (1) TerraBase updates from division engineer.
    - (2) Intelligence summaries (INTSUMs) and other information from ABE and higher headquarters.
    - (3) Operations security (OPSEC) reports from the engineer battalion S3, operations section, and subordinate units which contribute to analysis of battalion security posture.
    - (4) Information on current situation learned by eavesdropping on maneuver brigade and adjacent unit command and operations and intelligence (O&I) nets.
  - b) Receives information from subordinate units:
    - (1) Information from debriefing patrols and other reconnaissance and surveillance (R&S) forces performing

## Tasks Organized by Outcomes for Engr Bn BF 20

engineer battalion directed information collection activities; e.g., obstacle intelligence (OBSTINTEL).

- (2) Spot reports, e.g., size, activity, location, unit, time, and equipment (SALUTE) from engineer battalion elements.
- c) Receives IPB information from engineer battalion or maneuver brigade special staff officers and LNOs acquired through their “parent” units.
- 4) The engineer battalion S3 and operations section obtain information:
  - a) Changes from the maneuver brigade commander to guidance and mission concept and requirements for information.
  - b) Maneuver brigade operations: [FM 5-71-3, pp. 2-2, 2-3, 2-5 and 2-6]
    - (1) Reports from maneuver brigade subordinate units (e.g., maneuver task forces [TFs], R&S forces, security elements):
      - (a) Enemy contact:
        - 1 Ground.
        - 2 Fires.
        - 3 Other.
      - (b) Current strength, combat power, and capabilities.
    - (2) Requests for additional resources from subordinate units.
    - (3) Recommendations from maneuver and other brigade subordinate commanders on changes to their plans based on their current status and projected status.
    - (4) Adherence to timelines.
      - (a) Status of survivability production.
        - 1 Delivery of CL IV and CL V.

Tasks Organized by Outcomes for Engr Bn BF 20

- 2 Availability of special equipment.
    - 3 Time and effort to complete tasks.
  - (b) Status of obstacle production.
    - 1 Delivery of CL IV and CL V obstacle materials.
    - 2 Availability of special equipment.
    - 3 Time and effort to complete tasks.
    - 4 Back-haul of obstacle materials.
  - (c) Status of mobility operations.
    - 1 Availability of special equipment.
    - 2 Time and effort to complete tasks.
- (5) Equipment status.
- (6) Information from eavesdropping on: [FM 5-71-3, p. 2-26]
  - (a) Supported maneuver brigade command nets.
    - 1 Orders from brigade or other commanders.
    - 2 Situation reports by maneuver battalion TF or other brigade units to brigade CPs.
  - (b) Maneuver battalion TF command nets.
- c) Engineer specific missions: [FM 5-71-3, pp. 2-1 and 2-2; FN - NTC Engr OC]
  - (1) Countermobility status:
    - (a) Obstacle construction starting and completion times from task force engineers.
    - (b) Status on delivery of CL IV and V materials or breaching materials from task forces' engineers,

## Tasks Organized by Outcomes for Engr Bn BF 20

engineer battalion S4, and engineer battalion support platoon leader.

- (c) Updates on adherence to obstacle construction timelines from engineers.
  - (d) Updates on family of scatterable mines (FASCAM) preparations and employment from the maneuver brigade FSO, ABE, and task forces' engineers.
  - (e) Updates on the location, obstacle intent, and method of construction of obstacle groups from task forces' engineers.
  - (f) Status of work in obstacle belts.
- (2) Survivability status:
- (a) Position construction starting and completion times from task forces' engineers and other maneuver brigade subordinate units.
  - (b) Updates on adherence to survivability position construction timelines from task forces' engineers and other subordinate maneuver brigade units.
- (3) Mobility status:
- (a) Updates on availability of engineer materials, such as gravel and concrete, from engineer companies and task forces' engineers.
  - (b) Updates on availability of engineer systems (operational, non-operational) from engineer companies and task forces' engineers.
  - (c) Updates on availability of mobility equipment organic to supported brigade maneuver units (e.g., plows, rollers, breach kits) from task force engineers.
- d) Information from other staff officers. [FM 5-71-3, pp. 2-2 and 2-3]

## Tasks Organized by Outcomes for Engr Bn BF 20

- (1) Information from the engineer battalion S2 or maneuver brigade S2 which confirms or denies the engineer estimate requirements to achieve the maneuver brigade or engineer battalion commanders' intents.
  - (2) Equipment and personnel updates from the engineer battalion rear CP.
  - (3) Updates from the engineer battalion signal officer (SO) or maneuver brigade signal officer on communications links and systems.
  - (4) Reports from engineer reconnaissance units and scouts on terrain and enemy obstacles.
  - (5) Changes to maneuver task force and subordinate units' plans.
- e) Information necessary to track the DST.
- 5) The engineer battalion nuclear, biological, and chemical (NBC) NCO obtains NBC information: [FM 5-71-3, pp. 2-3 and 2-4]
- a) Changes from the engineer battalion commander to guidance and mission concept; requirements for information.
  - b) NBC warning and reporting system (NBCWRS) updates from maneuver brigade.
  - c) Status and location updates for NBC equipment and supplies from subordinate units and the engineer battalion S4.
  - d) Status and location updates of decontamination assets from the engineer battalion S4 and decontamination unit leaders.
  - e) NBC monitoring and surveillance reports from subordinate units.
  - f) Information from the S2 which confirms or refutes estimate of NBC requirements.
  - g) Changes to engineer companies' and subordinate units' plans in terms of projected locations, decontamination requirements, and timelines.

- 6) The engineer battalion signal officer (Bn SO) and communications section obtain information. [FM 5-71-3, p. 2-3]
  - a) Changes from the engineer battalion commander to guidance and mission concept; requirements for information.
  - b) Status of communications links from engineer battalion CPs to maneuver brigade CPs.
  - c) Updates from subordinate units on communications status.
    - (1) Status of communications links from engineer battalion CPs.
    - (2) Equipment (secure and non-secure).
    - (3) Signal operating instructions (SOIs).
    - (4) Availability of subordinate unit communications personnel.
  - d) Intelligence information from the division signal battalion headquarters.
  - e) Information from the engineer battalion S2.
    - (1) Which confirms or refutes estimate communications requirements.
    - (2) Updates on enemy electronic and communication capabilities.
  - f) Information from the engineer battalion XO or S3 about changes to proposed engineer battalion CP locations and projected timelines.
  - g) Changes to engineer companies' and subordinate units' plans in terms of projected locations and timelines.
- 7) The engineer battalion S4 and S4 section obtain information. [FM 5-71-3, Chap 6]
  - a) Status reports from subordinate units on resupply operations.
  - b) Status from the engineer battalion field trains/rear CP on:

- (1) Reconstitution of basic loads.
- (2) Stock piling of classes of supplies to support emergency resupply and the mission.
- c) Medical, maintenance, transportation, and supply updates from forward support battalion (FSB) special project officer and maneuver brigade S4.
- d) Updates on transportation assets and movement schedules from:
  - (1) Engineer battalion support platoon leader for ground assets.
  - (2) S3 for aviation assets.
- 8) The engineer battalion S1 and S1 section obtain information. [FM 5-71-3, Chap 6]
  - a) Status reports from subordinate units for:
    - (1) Evacuation of casualties.
    - (2) Religious support.
    - (3) Personnel actions support (e.g., replacements, awards, promotions).
  - b) Enemy prisoners of war (EPW) processing and evacuation information from subordinate units and maneuver brigade military police.
- 9) The engineer battalion maintenance technician (BMT) obtains information on the status and positioning of maintenance assets. [FM 5-71-3, Chap 6]
  - a) Unit maintenance collection points (UMCP).
    - (1) Engineer battalion.
    - (2) Maneuver Bn TFs.
  - b) Recovery assets.
    - (1) Engineer battalion.

- (2) Other brigade units.
  - c) Heavy equipment transporters (HETs) for equipment transfer.
- 10) The engineer battalion medical section sergeant obtains information on positioning, activity, and readiness of medical assets. [FM 5-71-3, Chap 6]
- a) Forward aid stations.
  - b) Main aid stations.
  - c) Ambulances and ambulance exchange points (AXPs).
    - (1) Status of capability to receive casualties.
    - (2) Activity.
- 11) The engineer battalion rear CP obtains information on: [FM 5-71-3, Chap 6]
- a) Changes from the engineer battalion commander to guidance, mission concept, and requirements for information.
  - b) Changes to the enemy situation.
  - c) Information from maneuver, fire support, Army aviation, and other units directed to support rear area combat operations (RACO) operations. [FM 5-71-3, p. 6-6]
  - d) Task organization and status of combat service support (CSS) elements.
    - (1) Engineer battalion subordinate units.
    - (2) The engineer battalion combat trains command post (CTCP)/rear CP.
      - (a) Aid station(s).
      - (b) Push packages.
      - (c) Engineer battalion support platoon decontamination equipment.

- (d) UMCP.
- (3) The engineer battalion field trains command post (FTCP)/rear CP integration with the maneuver brigade support area (BSA).
- e) Changes to engineer companies' and subordinate units' plans in terms of projected locations and timelines.
- b. The engineer battalion staff evaluates acquired information and engineer status, updates essential products, and maintains status.
  - 1) The engineer battalion S2:
    - a) Evaluates intelligence information.
    - b) Tracks status of reconnaissance assets. [FN - NTC Engr OC]
      - (1) Engineer.
      - (2) Scouts.
    - c) Tracks the enemy. [FM 5-71-3, p. 2-2]
      - (1) OBSTINTEL and other engineer information.
      - (2) Locations (confirmed and suspected) of enemy obstacles.
      - (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) Enemy strength and capabilities.
      - (5) Adherence to, or deviation from, postulated enemy course of action (ECOAs).
    - d) The engineer battalion S2 updates products:

- (1) Situation template.
  - (2) Event template.
  - (3) Modified combined obstacle overlay (MCOO).
- 2) The engineer battalion S3 and operations section:
- a) Evaluate information and determine any necessary modifications to identify: [FM 5-71-3, pp. 2-8 through 2-13; FN - NTC Engr OC]
    - (1) Information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.
    - (2) Changes to guidance, direction, and information concerning priorities and timelines.
      - (a) Deviations from timelines in minefield construction.
      - (b) Impact on achieving designated obstacle group effects.
    - (3) Impact of changes to the supported brigade maneuver plan on brigade's subordinate units' maneuver plans.
  - b) Compare desired engineer battalion endstates with what is possible based on current scheme of engineer operations, situation, and trends.
    - (1) Maneuver units.
    - (2) Fire support.
    - (3) Engineer support.
    - (4) CSS.
  - c) The engineer battalion S3 and operations section update products.
    - (1) Status of engineer equipment.
    - (2) Obstacle graphics.

- (3) Situation template.
  - (4) MCOO.
  - (5) Event template.
  - (6) Fire support overlay.
  - (7) Engineer execution matrix.
  - (8) DST.
- 3) The engineer battalion NBC section:
- a) Evaluates information.
  - b) Updates products. [FM 5-71-3, pp. 2-3 through 2-4]
    - (1) Update NBC estimate (may or may not be in written form) and mission-oriented protective posture (MOPP) analysis.
    - (2) Enemy NBC capabilities.
    - (3) NBC equipment and supplies inventories.
    - (4) NBC overlays and graphics.
- 4) The engineer battalion SO and communications section:
- a) Evaluate information.
  - b) Update communications products. [FM 5-71-3, p. 2-3]
    - (1) Updated 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.
- 5) The engineer battalion S4 and HHC commander.

- a) Evaluate information. [FM 5-71-3, Chap 6]
  - (1) Identify information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.
  - (2) Appraise answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
  
- b) Update transportation information and status. [FM 5-71-3, Chap 6]
  - (1) Transportation portion of updated CSS estimate (may or may not be in written form).
  - (2) Schedules and priorities.
  - (3) Status of supplies, equipment, and materials requiring transport.
  - (4) Availability of ground transport assets.
  - (5) Availability of air transportation assets (from engineer battalion S3).
  - (6) Logistic package (LOGPAC) convoys' organization, loads, times, and schedules.
  - (7) Transportation recovery plan and back-haul plan.
  - (8) MSR and ASR traffic and route conditions.
  - (9) Transportation priorities directed by the engineer battalion commander.
  
- c) Compare desired engineer battalion endstate with current supply and transportation status.
  
- d) Appraise impact of adjusted subordinate units' plans on engineer battalion CSS plans.
  
- 6) The engineer battalion S4 updates supply information and status. [FM 5-71-3, Chap 6]

## Tasks Organized by Outcomes for Engr Bn BF 20

- a) Supply portion of updated CSS 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 and V) loads and push packages.
  - d) Supply priorities as directed by the engineer battalion commander.
  - e) Establishment and fill of stockpiles and caches.
- 7) The engineer battalion S4 and HHC commander update RACO information. [ARTEP 5-145-MTP, Task 5-1-0039]
- a) Threat (levels I, II, and III, from engineer battalion S2).
  - b) 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.
      - (a) Targets.
      - (b) Observers.
    - (3) Communications capabilities.
- 8) The engineer battalion S1:
- a) Evaluates information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current personnel status.
    - (2) Identifies information which confirms or refutes IPB information which may affect achieving the engineer battalion commander's intent.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (3) Appraises answers to intelligence queries requested by CSS officers which could affect initial CSS plan.
- (4) Appraises impact of adjusted plans from subordinate units on engineer battalion CSS plan.
- b) Updates personnel information. [FM 5-71-3, Chap 6]
  - (1) Personnel portion of updated CSS estimate (may or may not be in written form).
  - (2) Personnel status of subordinate and supported units.
  - (3) Casualty feeder reports.
  - (4) Reception and processing of replacements.
  - (5) Forecast of replacements.
  - (6) Personnel actions (awards, decorations, promotions, legal action).
  - (7) EPW processing and evacuation.
  - (8) Soldier morale and welfare activities.
  - (9) Personnel priorities as directed by the engineer battalion commander.
- 9) The engineer BMT.
  - a) Evaluates information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current maintenance status.
    - (2) Identifies information which confirms or refutes IPB information which may affect achieving the commander's intent.
    - (3) Appraises answers to intelligence queries requested by CSS officers which could affect initial CSS plan.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (4) Appraises impact of adjusted subordinate units' plans on engineer battalion CSS plan.
- b) Updates maintenance information. [FM 5-71-3, Chap 6]
  - (1) Maintenance portion of updated CSS estimates (may or may not be in written form).
  - (2) Number and type of systems on hand and operational.
    - (a) Combat.
    - (b) Combat support (CS).
    - (c) CSS.
      - 1 Recovery.
      - 2 Maintenance support teams (MSTs).
      - 3 Corps maintenance teams (CMTs).
  - (3) Systems non-mission capable (NMC) and repairable.
  - (4) Timelines for repair and return of vehicles and equipment.
  - (5) On-hand CL IX, authorized stockage list (ASL), and prescribed load list (PLL) stockage levels.
  - (6) Maintenance activities performed by CMTs and MSTs, including the location of the maintenance activities.
  - (7) Maintenance priorities and guidelines as directed by the engineer battalion commander.
- 10) The engineer battalion medical section sergeant:
  - a) Evaluates medical information. [FM 5-71-3, Chap 6]
    - (1) Compares desired engineer battalion endstate with current medical treatment and evacuation status.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (2) Identifies information which confirms or refutes IPB information which may affect achieving the commander's intent.
  - (3) Appraises impact of adjusted subordinate units' plans on engineer battalion medical treatment and evacuation plans.
- b) Updates medical information. [FM 5-71-3, pp. 6-13 and 6-14]
- (1) Medical portion of updated CSS estimates (may or may not be in written form).
  - (2) Casualty evacuation records.
  - (3) CL VIII stock availability and resupply activities.
  - (4) Availability and effectiveness of medical assets.
  - (5) Disposition and capability of engineer battalion medics TFs' and the brigade's medical support, FAS, MAS, and medical/ambulance support from the FSB medical company.
  - (6) Medical priorities as directed by the engineer battalion commander.
- 11) Engineer battalion CPs maintain status:
- a) Engineer battalion command group/tactical command post (TAC CP) maintains/updates mission essential products: [FM 5-71-3, p. 2-5]
    - (1) Information which supports the CCIR.
    - (2) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
    - (3) Operations and intelligence map.
      - (a) Friendly situation.
      - (b) Enemy situation.
      - (c) Fire support overlay.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (d) Situation template overlay.
  - (e) Event template overlay.
  - (f) Modified combined obstacle overlay (MCOO).
  - (g) Obstacle graphics.
- (4) DST.
  - (5) Synchronization matrix.
  - (6) Engineer execution matrix.
- b) The engineer battalion main CP maintains and updates mission essential information: [FM 5-71-3, p. 2-5]
- (1) Operations and intelligence map.
    - (a) Operations overlay (maneuver brigade, maneuver TFs, and adjacent units).
    - (b) Enemy situation.
    - (c) Fire support overlay.
    - (d) Situation template overlay.
    - (e) Event template.
    - (f) Modified combined obstacle overlay.
    - (g) NBC overlay.
    - (h) CSS overlay.
    - (i) Obstacle graphics.
  - (2) CSS overlays and information per engineer battalion SOP.
  - (3) Intelligence information from maneuver brigade and engineer brigade.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (4) Status of preparation activities to ensure compliance with stated mission timelines.
  - (5) Current and projected engineer equipment status of subordinate units (e.g., green-amber-red).
  - (6) Status of engineer task organization.
  - (7) Obstacle and survivability position construction and progress as compared to timelines.
  - (8) Utilization of engineer assets and materials as compared to timelines.
  - (9) DST.
  - (10) Engineer execution matrix.
  - (11) Plans map (with overlays for future operations).
  - (12) Synchronization matrix.
  - (13) Journals/logs:
    - (a) Operations.
    - (b) Intelligence.
- c) The engineer battalion rear CP maintains and updates mission essential information and products: [FM 5-71-3, p. 2-6]
- (1) Current operations and intelligence map.
    - (a) Operations overlay (maneuver brigade, maneuver TFs, and adjacent units).
    - (b) Enemy situation.
    - (c) Rear operations, security, and threat overlay.
    - (d) Fire support overlay.
    - (e) Situation template overlay.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (f) Event template overlay.
- (g) Modified combined obstacle overlay.
- (h) Obstacle graphics.
- (2) DST.
- (3) Engineer execution matrix.
- (4) CSS situation map and overlays.
  - (a) MSR and ASR.
  - (b) CSS locations, current and projected.
  - (c) Decontamination sites.
- (5) Synchronization matrix.
- (6) CSS staff journal.
- (7) Current and projected personnel and equipment status.
  - (a) Personnel strength.
  - (b) Operational equipment strength.
  - (c) Status of supplies.
  - (d) Replacement personnel status/location.
  - (e) Damaged and NMC vehicles and equipment.
    - 1 Recovery status.
    - 2 Repair status.
    - 3 Replacement status.
- (8) Status on location and evacuation of EPW and their equipment.
- (9) Status on location and evacuation of displaced persons.

### Outcome 3

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

#### Task Elements

1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145- MTP; FM 5-71-3, FM 71-3].
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
    - 3) Changes subordinate unit missions.
    - 4) Reprioritizes engineer tasks based on unanticipated events and engineer battle losses.
    - 6) Directs engineer units and engineer support activities at decisive points.
    - 7) Requests additional assets and resources from maneuver brigade or engineer brigade.
    - 9) Integrates and coordinates engineer operations in consideration of the BOS. [FM 5-71-3, p. 1-5]
  - c) Mobility/survivability.
    - (1) The engineer battalion commander assesses support to overcome obstacles and enhance mobility to the maneuver brigade, and takes action or recommends adjustments as necessary. [FM 5-71-3, Chap 3]
      - (a) Priorities.
      - (b) Task organization of engineer assets.
      - (c) Times at which assets are available to maneuver units.

d) Fire support.

- (1) The maneuver brigade commander, the engineer battalion commander as brigade engineer, and the brigade fire support officer (FSO) assess and adjust the fire support plan to support breaching operations and to integrate obstacles and fires. [FM 5-71-3, p. 1-7]
- (2) Artillery-delivered mine employment is coordinated. [FM 5-71-3, p. 1-8]
- (3) Protective positions for fire support assets are prepared as required.

g) Command and control.

- (1) The engineer battalion commander assesses the stage of execution compared to anticipated requirements and directs changes, if needed, to the units or to his staff. [FM 5-71-3, p. 1-8]
- (2) Information about change to METT-T is directed to the engineer battalion commander, command group, and command posts (CPs) to enable effective and rapid guidance during mission execution and about future operations. [FM 5-71-3, pp. 2-4 through 2-6]
- (3) Information systems which aid command and control are selected based on updated information. [FM 5-71-3, pp. 2-23 through 2-25]

2. **Engineer battalion command posts provide communication and control.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]

c. The engineer battalion commander and staff communicate information.

1) The engineer battalion commander communicates information.

- a) The engineer battalion commander reports 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]

## Tasks Organized by Outcomes for Engr Bn BF 20

- (1) Maneuver brigade commander.
  - (2) Maneuver brigade S3.
  - (3) Maneuver brigade XO.
  - (4) Engineer brigade commander.
  - (5) Assistant division engineer.
  - (6) Maneuver brigade subordinate commanders and leaders.
  - (7) Maneuver brigade staff officers who need the information.
- b) The engineer battalion commander reports information concerning: [FM 5-71-3, pp. 2-23 through 2-26]
- (1) The status and location of the engineer battalion and its subordinate units.
  - (2) The status of task completion and mission accomplishment.
  - (3) Enemy contact.
  - (4) Problems which concern mission accomplishment.
- 2) All engineer battalion CPs and staff disseminate information. [FM 5-71-3, pp. 2-1 through 2-6).
- a) Provide briefings to the engineer battalion commander on the status of mission preparedness and execution.
  - b) Each engineer battalion 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 staff officers during shift changes on the situation: [FM 5-71-3, pp. B-1 through B-5]
  - (1) Enemy activities.
  - (2) Status of subordinate units.
  - (3) On-going actions which must be monitored and tracked.
  - (4) Timelines and suspenses which must be met.
  - (5) Planning for future missions.
- 3) The engineer battalion S2.
  - a) The 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) Engineer battalion commander.
    - (2) Engineer battalion S3.
    - (3) Engineer battalion XO.
    - (4) ABE.
    - (5) Maneuver brigade S2.
    - (6) Companies under engineer battalion control.
    - (7) Engineer battalion rear CP.
  - b) The engineer battalion S2 reports information concerning: [FM 5-71-3, p. 2-2]
    - (1) Updates to the engineer battlefield assessment (EBA).
    - (2) Updates to the situation template.
    - (3) Updates to the event template.
- 4) The engineer battalion S3 and operations section.

- a) Use the DST to communicate recommendations to the commander.
  - b) 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, subtask f; FM 5-71-3, p. 2-15]
    - (1) Engineer battalion commander.
    - (2) ABE.
    - (3) Engineer battalion XO.
    - (4) Engineer companies and other subordinate units.
    - (5) Engineer battalion rear CP.
    - (6) Maneuver brigade main CP.
  - c) The 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; FN-NTC Engr OCs]
    - (1) Obstacle type, location, and emplacement status to include ability to achieve designated effects of obstacle groups in brigade designated belts.
    - (2) Mobility plans (maneuver brigade, division, and other units).
    - (3) Terrain management issues with the maneuver brigade XO.
- 5) The engineer battalion NBC NCO.
- a) 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) Brigade CMLO.
- b) 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 and engineer brigade chemical officers.
  - (2) Engineer battalion subordinate commanders and leaders.
  - (3) Supporting NBC units (e.g., decontamination, reconnaissance).
  - (4) Engineer battalion staff officers who need the information.
- c) Coordinates with the maneuver brigade CMLO and supporting decontamination units to confirm hasty and deliberate decontamination plans and operations. [FM 5-71-3, pp. 2-3 through 2-4]
- d) Confirms NBC reconnaissance plans and operations, with: [FM 5-71-3, pp. 2-3 through 2-4]
  - (1) Maneuver brigade CMLO.
  - (2) Engineer company commanders.
  - (3) Supporting NBC reconnaissance units.
- e) Disseminates: [FM 5-71-3, pp. 2-3 through 2-4]
  - (1) Chemical activity reports.
  - (2) Updated decontamination plans.
- 6) The engineer Bn SO and communications section.
  - a) Report 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) The engineer battalion XO.
  - (4) Maneuver brigade SO.
  - (5) Division signal battalion commander.
  - (6) Engineer battalion subordinate commanders and leaders.
  - (7) Engineer battalion staff officers who need the information.
- b) Coordinate with the engineer battalion S3, adjacent units, and division signal battalion headquarters. [FM 5-71-3, p. 2-3]
- (1) Confirm allocation, locations, and capabilities of signal assets.
  - (2) Acquire signal equipment to supplement the engineer battalion CPs and subordinate units which require special communications equipment.
  - (3) Deconflict terrain requirements.
- 7) The engineer battalion rear CP CSS officers:
- a) 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) 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) The engineer battalion subordinate commanders and leaders.

- (2) Maneuver brigade rear CP.
  - (3) FSB staff.
  - (4) Engineer battalion rear CP.
  - (5) Engineer battalion staff officers who need the information.
- c) Perform coordination with maneuver brigade staff, engineer battalion staff, and engineer battalion units: [FM 5-71-3, Chap 6]
- (1) Identify additional requests for support.
    - (a) Transportation assets.
    - (b) Medical augmentation.
    - (c) Maintenance support for vehicles and weapon systems and for recovery of damaged vehicles or return of repaired vehicles.
  - (2) Coordinate the transportation of supplies and cargo through engineer battalion units.
  - (3) Coordinate routine, emergency, and critical resupply operations (e.g., delivery times, types, and quantities of supplies required).
  - (4) Coordinate receiving replacements.
  - (5) Coordinate for security and protection of CSS units operating forward.
  - (6) Request additional support for engineer battalion.
    - (a) Transportation assets.
    - (b) Medical augmentation and support.
    - (c) Support of resupply operations.
    - (d) Intermediate DS/intermediate general support (GS) maintenance support for vehicles and weapon

systems and for recovery of damaged vehicles or return of repaired vehicles.

**3. The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]

- e. The engineer battalion commander decides whether the last order promulgated needs to be changed. [ARTEP 5-145-MTP, Task 5-1-0002/4 through 7]
  - 2) The engineer battalion staff assists the battalion commander in his analysis of the plan by providing information. [ARTEP 5-145-MTP, Task 5-1-0002/2]
    - a) Each staff officer reviews updated estimates and provides information based on queries.
    - b) Each staff officer provides input on previous COAs which could be used as the new plan without detailed COA development.
  - 3) The engineer battalion commander initiates development of a new plan based on: [FM 5-71-3, p. 2-8]
    - d) The engineer battalion staff's ability to continue to monitor and direct current battalion activities while meeting new planning and monitoring requirements.

**4. The engineer battalion commander directs changes to the operation or plan.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3 Chap 2]

- c. The engineer battalion commander, with staff assistance if time allows, conducts the MDMP in a time-constrained environment to modify a branch or sequel or to develop a new scheme of engineer operations. (See engineer BF 19 for detailed explanation of the MDMP in a time-constrained environment subtasks.) [FM 5-71-3, p. 2-15]
  - 1) When planning changes to current orders or planning for a new mission during the execution phase of the current battle, the engineer battalion commander must:
    - a) Consider using the MDMP products developed during the current mission as reference points from which modifications are made.
      - (1) Weather analysis.

- (2) Terrain analysis.
- (3) Current “running” staff estimates.
  - (a) Brigade capabilities.
  - (b) Constraints.
- (4) PIR, EEFI, and friendly forces information requirements (FFIR) requested by the engineer battalion commander.
- h) Compute the amount of time available for planning, preparation to include rehearsal, and movement.
- i) Consider the extent of the reconnaissance effort necessary to obtain critical information.
- 4) The commander may request information from the staff to support his COA development.
  - a) BOS specific information from selected staff members.
  - b) Information available in products developed during the initial mission MDMP.
  - c) Input on previous COAs which could be used as the new plan without detailed COA development.
- 5. **Engineer battalion command posts manage and maintain command, control, and communications.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3]
  - a. Engineer battalion CPs manage means of communicating information.
    - 1) The engineer battalion XO is the “information manager” for the staff. [FM 5-71-3, p. 2-1; ARTEP 5-145-MTP, Task 5-1-0026/1, 2, and 3]
    - b) Outlines and monitors the performance and responsibilities of the staff in processing mission information, preparation status, and the commander’s information requirements.
  - 2) The engineer battalion commander or XO employs a battle captain to manage the operations of the main CP and the operations section. The battle captain: [FM 5-71-3, p. 2-5 and p. B-3; LL - CALL, News from the Front]

- a) Coordinates and integrates staff activities.
  - b) Initiates staff action as directed by the commander, XO, and S3.
  - c) Ensures through shift change briefings that all critical information concerning the engineer battalion situation, on-going actions, and future requirements is passed when shifts change.
  - d) Collects mission information from other staff members (internal and external) which impacts on the engineer plan.
  - e) Collects information on and initiates planning for future operations.
  - f) Identifies critical information:
    - (1) Significant changes to friendly situation.
    - (2) Significant changes to enemy situation.
    - (3) CCIR.
- 3) The engineer battalion XO, or battle captain, directs staff “huddles”: [FM 5-71-3, pp. 2-1 through 2-2, and p. 2-19]
- a) Ensures that each staff officer disseminates information which is relevant to the CCIR.
  - b) Appraises completeness of information.
  - c) Identifies information gaps which require additional staff work.
  - d) Identifies and directs required actions to meet the demands of the situation.
- 5) 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 and 2-6; brigade BF 21]
- a) Provide responses to specific questions asked of LNO.

- b) Provide status on unit locations, activities, capabilities, status, and intentions.
  - c) Perform coordination to resolve problems.
    - (1) Inability to reach/meet with specific people or staff positions.
    - (2) Receipt of information which invalidates or should change estimates and plans.
- 7) The engineer battalion S3 at the TAC CP manages communications: [FM 5-71-3, pp. 2-5 and 2-25]
- a) Facilitates control and coordination for the commander through communication with adjacent and supporting elements.
  - b) Passes processed information and keeps the commander updated on new information through concise consolidated updates by eavesdropping on:
    - (1) Maneuver brigade command and operations and intelligence (O&I) nets.
    - (2) Engineer battalion administrative and logistic (A/L) net.
    - (3) Adjacent unit command and O&I nets.
    - (4) Engineer battalion subordinate unit command nets.
    - (5) Engineer brigade command and O&I nets.
- 8) The engineer battalion XO, as the battalion second-in-command, directs the main CP operations and controls engineer actions that the commander cannot control. [FM 5-71-3, p. 2-5]
- a) The engineer battalion XO supervises net control station (NCS) actions for the command net.
    - (2) Disseminates critical new information quickly to the engineer battalion commander, staff, and subordinate/supporting headquarters.
- 9) The engineer battalion rear CP.

- a) The engineer battalion S4, with assistance from the S1 and HHC commander, coordinates line of communications (LOC) operations on engineer battalion, maneuver TFs, and maneuver brigade MSRs and ASRs. [FM 5-71-3, p. 2-4]
6. **The engineer battalion reorganizes and supports maneuver brigade consolidation.**  
[ARTEP 5-145-MTP; FM 5-71-3]
- d. All engineer battalion elements report personnel and equipment status. [ARTEP 5-145-MTP, Task 5-1-0026/1 and 2]
  - e. The engineer battalion XO at the main CP reports to maneuver brigade and engineer brigade. [FM 5-71-3, p. 2-25]
    - 1) Location.
    - 2) Status.
      - a) Engineer equipment.
      - b) Class IV/V obstacle materials.
      - c) Personnel.

#### **Outcome 4**

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

#### **Task Elements**

1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3].
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 2) Avoids focusing on one event to the exclusion of the rest of the engineer operations.
    - 8) Employs decision aids to assist his decision-making process (DMP) and to direct battalion operations.

- 9) Integrates and coordinates engineer operations in consideration of the battlefield operating system (BOS). [FM 5-71-3, p. 1-5]
  - a) Intelligence.
    - (1) Intelligence collection plan is changed as necessary to support the commander's critical information requirements (CCIR). [FM 5-71-3, p. 1-6]
    - (2) Information is analyzed to confirm, contradict, and update the intelligence preparation of the battlefield (IPB). [ARTEP 5-145-MTP, Task 5-1-0027]
    - (3) Engineer reconnaissance elements are positioned and repositioned to collect the battalion CCIR. [ARTEP 5-145-MTP, Task 5-1-0413]
  - b) Maneuver.
    - (1) For the engineer battalion operating as an engineer battalion task force (TF), the commander assesses movement and repositioning criteria to ensure that the mission can be achieved as designated. [FM 5-71-3, pp. 3-10 and 5-9]
      - (a) During movement, the engineer battalion TF reduces exposure to enemy fire.
      - (b) Movement and repositioning times are consistent with the engineer battalion TF mission.
      - (c) Compensation is made for distances and terrain factors which impact on displacement and repositioning.
    - (2) The engineer battalion commander directs changes to movement schedules when necessary. [FM 5-71-3, p. 2-1]
  - c) Mobility/survivability.
    - (1) The engineer battalion commander assesses support to overcome obstacles and enhance mobility to the maneuver brigade, and takes action or recommends adjustments as necessary. [FM 5-71-3, Chap 3]

- (a) Priorities.
  - (b) Task organization of engineer assets.
  - (c) Times at which assets are available to maneuver units.
- (2) The engineer battalion commander assesses extent of engineer efforts and coordination required to negotiate and clear lanes through friendly obstacles to support the supported brigade's maneuver. [ARTEP 5-145-MTP, Task 5-1-0002, subtasks 2.b. (1) (b) (3) and 3.b.]
- (3) The engineer battalion commander reviews information gained from engineer reconnaissance of terrain and enemy obstacles to determine impact on the mobility plan and engineer task organization.
- (4) The engineer battalion commander updates his assessment of the engineer battalion's ability to support or conduct obstacle breaching as designated in the plan based on: [FM 5-71-3, pp. 3-1 and 3-2]
- (a) Support force's ability to execute effective suppressive fires as planned.
  - (b) Updated information on employment of assault force(s).
  - (c) Updated information on employment of the breach force.
  - (d) New information about the status of breaching assets.
- (5) The engineer battalion commander assesses obstacle construction support to the supported brigade commander's scheme of maneuver. [FM 90-7, Chap 2]
- (a) Obstacles are in depth throughout the sector to fix, turn, disrupt, and block the enemy and shape the battlefield.

- (b) Obstacle construction is consistent with the projected timeline.
  - (c) Obstacle execution, gaps and lane closure signal and trigger support the concept of the operation.
  - (d) Planning is current for scatterable mines (SCATMINE) employment; coordination is made with the FSO, assistant brigade engineer (ABE), air liaison officer (ALO), and aviation liaison officer (AVLO) to determine modifications based on new information. [FM 20-32, Chap 6]
- (6) The engineer battalion commander assesses the status of survivability position preparation to determine whether the positions will be ready, based on: [FM 5-71-3, p. 4-6]
- (a) Maintenance status of engineer equipment.
  - (b) Actual construction time consistent with planned timelines.
  - (c) Weather and soil conditions.
  - (d) Changes in priority or extent of work by supported commanders.
  - (e) Position siting by supported commanders.
- e) Air defense.
- (1) Engineer battalion operations, such as breaching and obstacle emplacement, are protected from the enemy air threat. [FM 5-71-3, p. 1-8]
  - (2) Class IV/V obstacle material sites receive protection. [FM 5-71-3, p. 1-8]
  - (3) Protective positions for AD assets are prepared as required.
- f) Combat service support (CSS).

- (1) The engineer battalion commander assesses transportation operations to ensure compliance with his guidance and intent. [FM 5-71-3, p. 6-3]
  - (a) Required supplies and personnel are delivered to subordinate units as required. Designated and approved main supply routes (MSRs) and alternate supply routes (ASRs) are used. Assets are used to back-haul equipment or supplies in accordance with battalion priorities.
  - (b) Engineer equipment is transported to meet requirements. If not, the engineer battalion commander:
    - 1 Determines need to request additional assets to supplement the engineer battalion.
    - 2 Assesses need to change the employment of engineer battalion support platoon transportation assets.
    - 3 Identifies new priorities for the engineer battalion support platoon.
    - 4 Requests additional equipment support from division engineer (DIVEN) through the supported brigade.
  - (c) Effects of weather or enemy action on MSR and ASR are assessed; action is taken to mitigate the effects.
- (2) The engineer battalion commander assesses supply operations. [FM 5-71-3, pp. 6-7 through 6-9; FN - NTC Engr OC]
  - (a) Emergency resupply activities are executed with uploaded, pre-configured Class III, Class IV, Class V push packages, and marking material.
  - (b) Priorities for resupply are changed based on new conditions or information.

- (c) Class IV/V is on hand or programmed for delivery in time to support obstacle material operations.
- (3) The engineer battalion commander assesses personnel operations for compliance with his guidance and intent. [FM 5-71-3, pp. 6-12 and 6-13]
- (a) Morale and welfare support is provided as conditions permit.
  - (b) Replacement operations are performed rapidly in accordance with the commander's guidance and priorities.
    - 1 Personnel are inspected, issued equipment, and trained to ensure they are prepared for combat.
    - 2 Personnel are linked-up with units and are oriented about the battalion, situation, and mission.
  - (c) Subordinate unit personnel status is reviewed to assess the capability to perform assigned tasks and missions.
    - 1 Unit strength is sufficient to accomplish assigned missions and tasks.
    - 2 Critical military occupational skill (MOS) and skills shortages are distributed to ensure that units can accomplish assigned missions and tasks.
- (4) The engineer battalion commander assesses battalion maintenance operations. [FM 5-71-3, pp. 6-9 through 6-12]
- (a) Units are brought to fully mission-capable (FMC) status according to commander's repair priority guidance.
  - (b) Maintenance, cannibalization, and controlled substitution and exchange actions are effective.

- (c) Preventive maintenance checks and services (PMCS) are conducted during lulls in the battle.
  - (d) Maintenance support to assigned, attached, direct support (DS), and operational control (OPCON) units is conducted in accordance with the commander's guidance.
- (5) The engineer battalion commander assesses battalion medical operations for compliance with his guidance and intent. [FM 5-71-3, pp. 6-13 and 6-14; FN - NTC Engr OC]
- (a) Appraises fitness of soldiers. Directs activities performed by subordinate leaders to prevent, reduce, and combat battlefield stress to maintain personnel strength for the mission.
  - (b) Ensures that changes to the employment of engineer battalion medics and medical treatment and evacuation plans are made based on updated information.
    - 1 Medical personnel, supplies, and equipment are available and positioned to support engineer operations.
    - 2 Casualty tracking systems are effective; coordination between the S1, engineer units, and units providing medical evacuation is conducted.
  - (c) Information from FSB Co C (medical) concerning availability of assets is transmitted to the engineer battalion commander.
- g) Command and control.
- (1) The engineer battalion commander assesses the levels of execution and the situation compared to anticipated requirements/endstates; he directs changes, if needed, to the units or to his staff. [FM 5-71-3, p. 1-8]

- (2) Information about change to METT-T is directed to the engineer battalion commander, command group, and command posts (CPs) to enable effective and rapid guidance during mission execution and about future operations. [FM 5-71-3, pp. 2-4 through 2-6]
3. **The engineer battalion commander visualizes the battlefield.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]
  - a. The engineer battalion commander updates his estimate based on his assessment of the current situation. Considerations include: (Also see BF 19, Task 3a) [FM 5-71-3, p. 2-7]
    - 1) Mission.
      - a) The Bde and division Cdrs' intents.
      - b) The Bde concept of the operation.
      - c) The engineer battalion mission in terms of:
        - (1) Present concept of operation.
        - (2) Comparison of the present plan to the current situation.
    - 2) Characteristics of the area of operations.
      - a) Weather.
      - b) Terrain.
    - 3) Enemy situation.
    - 4) Friendly situation.
    - 5) Engineer capability relative to the enemy and relative to requirements.
  - b. The engineer battalion commander projects the outcome of the engineer support to the current battle based on his evaluation of the current plan and the engineer battalion's situation. Considerations include: [FM 5-71-3, p. 1-8].
    - 1) Intelligence.

- a) IPB consisting of the enemy situation and capability with threat expected when latest plan was developed.
  - b) Capability of engineer reconnaissance elements to collect required information. [ARTEP 5-145-MTP, Task 5-1-0413]
  - c) Capability of the engineer battalion to acquire requested information from other sources. [AN]
- 2) Maneuver.
- a) Movement and repositioning criteria support the mission. [FM 5-71-3, pp. 3-10 and 5-9]
    - (1) Reconnaissance, marking, and preparation of routes for use by subordinate units are complete or being completed in accordance with the plan. Routes or times routes are used do not conflict with movement of other elements.
    - (2) Movement can be performed without exposing the engineer task force to enemy fire during disengagement and displacement.
    - (3) Movement and repositioning times can be achieved.
    - (4) Compensation is made for distances and terrain factors which impact on displacement and repositioning.
  - b) For an engineer task force, movement does not conflict with other elements.
  - c) For an engineer task force, subordinate units execute branches and sequels; achieve battalion commander's intent. [FM 5-71-3, p. 1-7]
- 3) Mobility/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.

## Tasks Organized by Outcomes for Engr Bn BF 20

- (3) The maneuver brigade commander, the engineer battalion as the brigade engineer, and FSO adjust the fire support plan to support breaching operations.
  - (4) Engineer task organization allows the maneuver brigade to maintain mobility.
  - (5) Forces have required mobility support during repositioning.
  - (6) Friendly obstacles will not interfere with maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2.b. (1) (b) (3) and Task 5-1-0002/3.b.]
  - (7) Lanes support maneuver brigade mobility. [ARTEP 5-145-MTP, Task 5-1-0002/2.b. (1) (b) (3) and Task 5-1-0002/3.b.]
  - (8) The engineer battalion can perform obstacle breaching as designated in the plan. [FM 5-71-3 pp. 3-1 and 3-2]
    - (a) The support force's ability to execute effective suppressive fires.
    - (b) The assault force's capability to accomplish its mission.
    - (c) The breach force can reduce the enemy obstacles.
    - (d) The availability of breaching assets supports planned breaching operations.
- b) Countermobility activities can be 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) Obstacles support the maneuver brigade commander's scheme of maneuver. [FM 90-7, Chap 2]

## Tasks Organized by Outcomes for Engr Bn BF 20

- (a) Obstacles are in depth throughout the sector to fix, turn, disrupt, and block the enemy and shape the battlefield.
  - (b) Obstacle groups are emplaced to accomplish the function specified by the brigade belt.
  - (c) Obstacle gap and lanes closure signals and triggers are established.
  - (d) SCATMINE adjustments plans are coordinated and can be implemented to achieve the planned effects. [FM 20-32, Chap 6]
  - (e) Work in brigade designated obstacle belts is being accomplished in accordance with designated timelines.
- c) Survivability and fighting position construction taskings are completed. [FM 5-71-3, p. 4-6]
- (1) Construction times are consistent with the planning timeline.
  - (2) Weather and soil conditions permit efficient repositioning of earth moving assets.
  - (3) Priorities for position construction are adhered to.
  - (4) Protective obstacles provide close-in protection.
- d) Engineer battalion OPSEC, security operations, and subordinate unit local force protection operations are assessed and needed changes directed so that: [ARTEP 5-145 MTP, Task 5-2-0913]
- (1) The engineer battalion is protected as it executes the mission.
  - (2) The enemy is denied information that provides indications of the engineer battalion commander's concept of the operation (e.g., engineer disposition and activities).
- e) Engineer operations support transition to future operations/actions. [AN]

- 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 plan adjustments are 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 sites receive protection. [FM 5-71-3, p. 1-8]
- 6) Command and control.
  - a) Mission execution requirements are met. [FM 5-71-3, p. 1-8]
  - b) Positioning of the battalion commander, command group, and CPs permits provision of effective and rapid guidance during mission execution and for future operations. [FM 5-71-3, pp. 2-4 through 2-6]
  - c) Information systems aid command and control. [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]
- 7) CSS.
  - a) Transportation operations are executed as planned. [FM 5-71-3, p. 6-3]
    - (1) Required supplies, equipment, and personnel will be delivered to subordinate units on designated and approved MSR and ASR; assets are used to back-haul based on battalion priorities.

- (2) Materials and equipment will be transported in accordance with mission requirements.
    - (a) Requirements for additional assets have been determined.
    - (b) Missions to and operations of the engineer battalion support platoon transportation assets are consistent with plans.
    - (c) New priorities for the engineer battalion support platoon have been identified.
  - (3) Impact on MSRs and ASRs by weather or enemy action have been mitigated.
- 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 engineer battalion units are resupplied as required.
  - (2) Emergency resupply activities meet requirements.
  - (3) Priorities for resupply are implemented and achieve desired results.
  - (4) CL IV/V obstacle material is available in required amounts at required locations and times.
    - (a) Additional Volcano reloads.
    - (b) Additional MICLIC reloads.
  - (5) AVLBs.
- c) Personnel operations are conducted as planned. [FM 5-71-3, pp. 6-12 and 6-13]
- (1) Morale and welfare support satisfies requirements.

- (2) Replacement operations ensure that new personnel are received and assigned rapidly in accordance with the commander's guidance and priorities.
  - (a) Personnel are inspected, issued equipment, and trained (if time is available) to ensure that they are prepared for combat.
  - (b) Personnel are linked-up with units and are oriented on the battalion and unit situation.
- (3) Engineer battalion subordinate units have trained personnel required to perform assigned tasks and mission.
  - (a) Units have sufficient personnel to accomplish assigned missions and tasks.
  - (b) Critical MOS and skills are distributed 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) Engineer battalion units are brought to FMC status according to commander's repair priority guidance.
  - (2) Maintenance, cannibalization, and controlled substitution and exchange operations are effective.
  - (3) PMCS and periodic services are conducted on all vehicles and equipment.
  - (4) Maintenance support is provided to assigned, attached, DS, and OPCON units.
- e) Engineer battalion medical operations comply with 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) Changes to distribution of engineer battalion medics and adjustments to treatment and medical evacuation plans result in required support.
    - (a) Medical personnel, supplies, and equipment are available and positioned as needed.
    - (b) Treatment, evacuation, and casualty tracking systems are effective.
- c. The engineer battalion commander anticipates future requirements and actions based on his projection of the outcome of the engineer support to the current mission. [FM 5-71-3, p. 1-8]
  - 1) The engineer battalion commander bases anticipated future requirements and actions on: [FM 5-71-3, pp. 2-1 through 2-6]
    - a) Reports received from subordinate units.
    - b) Reports received from the engineer battalion staff.
    - c) Personal observation of the battle.
    - d) Direction and guidance from the maneuver brigade.
  - 2) The engineer battalion commander develops information to assist him in determining future requirements and actions by: [FM 5-71-3, pp. 2-1 and 2-19]
    - a) Receiving information from the maneuver and engineer brigades' commanders, his subordinate commanders, and the battalion staff.
    - b) Updating his CCIR.
    - c) Describing effects desired on the enemy.
    - d) Assessing risk.
  - 3) The engineer battalion commander defines his requirements and actions based on battlefield operating system factors. (Also see Engr Bn BF 19, Task 3c) [FM 5-71-3, pp. 1-5 through 1-9]
    - a) Intelligence.

- b) Maneuver.
  - c) Mobility/survivability.
  - d) Fire support.
  - e) Air defense.
  - f) Combat service support.
  - g) Command and control.
- d. The engineer battalion commander informs the supported maneuver brigade commander of the results of his assessment. [FM 5-71-3, p. 2-1]
- 1) The engineer battalion commander's projection of engineer support to the current battle indicates the brigade commander's intent cannot be achieved.
  - 2) The engineer battalion must receive additional assets to achieve the brigade commander's intent.
  - 3) The engineer battalion can accomplish its mission.
- e. The engineer battalion commander decides whether the last order promulgated needs to be changed. [ARTEP 5-145-MTP, Task 5-1-0002/4 through 7]
- 1) The engineer battalion commander analyzes the plan and battalion situation, makes a decision, and initiates actions accordingly.
    - a) When the plan can be conducted without any adjustments or modifications, the battalion commander continues to direct mission execution.
    - b) When only minor modifications are necessary, the engineer battalion commander issues, or directs to be issued, FRAGOs to modify the plan.
    - c) The engineer battalion commander initiates a decision-making process when the plan is no longer valid and cannot be corrected by FRAGOs.

- 2) The engineer battalion staff assists the battalion commander in his analysis of the plan by providing information. [ARTEP 5-145-MTP, Task 5-1-0002/2]
    - a) Each staff officer reviews updated estimates and provides information based on queries.
    - b) Each staff officer provides input on previous COAs which could be used as the new plan without detailed COA development.
  - 3) The engineer battalion commander initiates development of a new plan based on: [FM 5-71-3, p. 2-8]
    - a) COAs previously developed which can be modified and developed as the new plan versus developing an entirely new plan.
    - b) Time available to develop, coordinate, and implement a new plan.
    - c) Engineer battalion subordinate units' capabilities to react (plan, prepare, execute) to their requirements under the new plan and task organization.
    - d) The engineer battalion staff's ability to continue to monitor and direct current battalion activities while meeting new planning and monitoring requirements.
  - 4) The engineer battalion commander determines how to modify the military decision-making process (MDMP) based on complexity, potential probable confusion on the battlefield, and time available. [FM 101-5, Chap 4]
    - a) The engineer battalion commander determines staff availability, the magnitude of change to the plan, and the amount of time available before execution.
    - b) The engineer battalion commander decides where to conduct the decision-making process and actions required to produce and disseminate the FRAGO.
4. **The engineer battalion commander directs changes to the operation or plan.**  
[ARTEP 5-145-MTP, Task 05-1-0018, FM 5-71-3 Chap 2]

- b. The engineer battalion commander develops and implements a new concept, or modifies and implements a pre-planned branch of an existing plan. [FM 5-71-3, p. 2-8]
  - 1) The engineer battalion commander determines staff availability, the magnitude of change to the plan, and the amount of time available before execution.
  - 2) The engineer battalion commander makes a decision whether to continue operations or have the battalion take a tactical pause.
  - 3) The engineer battalion commander uses the MDMP in a time-constrained environment to develop a new scheme of engineer operations.
  
- c. The engineer battalion commander, with staff assistance if time allows, conducts the MDMP in a time-constrained environment to modify a branch or sequel or to develop a new scheme of engineer operations. (See engineer BF 19 for detailed explanation of the MDMP in a time-constrained environment.) [FM 5-71-3, p. 2-15]
  - 1) When planning changes to current orders or planning for a new mission during the execution phase of the current battle, the engineer battalion commander must:
    - a) Consider using the MDMP products developed during the current mission as reference points from which modifications are made.
      - (1) Weather analysis.
      - (2) Terrain analysis.
      - (3) Current “running” staff estimates.
        - (a) Brigade capabilities.
        - (b) Constraints.
      - (4) PIR, EEFI, and friendly forces information requirements (FFIR) requested by the engineer battalion commander.
    - b) With his battalion staff, simultaneously monitor, plan, and direct all aspects of battalion operations (e.g., execution of the current mission, development of changes to the current plan).

- c) Anticipate the outcome of the current fight and begin considering future requirements and actions.
  - d) Recognize similarities and differences between the initial plan and new requirements.
  - e) Assess friendly force posture, enemy probable actions and postures, and battle space.
  - f) Modify existing branches and sequels to meet new requirements.
  - g) Consider personnel and unit availability.
  - h) Compute the amount of time available for planning, preparation to include rehearsal, and movement.
  - i) Consider the extent of the reconnaissance effort necessary to obtain critical information.
- 2) The commander completes an update of his estimate:
- a) Mission: who, what, where, when, why; higher commanders' intents?
  - b) Enemy: what is the enemy's COA, his strength, location, disposition, activity, equipment, and capability?
  - c) Terrain and weather: observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach (OCOKA).
  - d) Troops: the commander analyzes the engineer battalion's and engineer companies' status in terms of capability relative to what he believes necessary to accomplish the mission.
    - (1) Capabilities, strengths, and weaknesses of subordinate commanders and units.
    - (2) Engineer systems and equipment.
    - (3) Disposition.
    - (4) Supplies.

- e) Time: the engineer battalion commander determines the time available for planning, preparing, and executing the operation.
- 3) The engineer battalion commander conducts a quick mission analysis by:
- a) Analyzing the brigade and division commanders' intents.
  - b) Considering the current situation and information.
  - c) Determining the engineer battalion's mission and required endstate to accomplish the mission.
  - d) Whether the engineer battalion has the assets and resources to execute the new scheme of engineer operations.
  - e) Analyzing the maneuver brigade commander's COA.
  - f) Comparing the desired endstate for the engineer battalion with the anticipated maneuver brigade endstate.
- 4) The commander may request information from the staff to support his COA development.
- a) BOS specific information from selected staff members.
  - b) Information available in products developed during the initial mission MDMP.
  - c) Input on previous COAs which could be used as the new plan without detailed COA development.
- 5) 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 develops and explicitly expresses:
    - (1) His 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) If time is available, engineer battalion staff:
- (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.
- 6) The engineer battalion commander performs a suitability-feasibility-acceptability analysis of the new plan. The commander performs the analysis 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 engineers' capability (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 other, on-going actions is acceptable.
  - (d) Subordinate units have required capabilities.
  - (e) Task organization can be altered as required.
- c) Acceptability factors, which include:
  - (1) Achieves the desired endstate.
  - (2) Mission success is not at significant risk of failure.
  - (3) Hazards to soldiers, equipment, and supplies are within acceptable limits.
- 7) The engineer battalion commander quickly compares COAs (if more than one).
- 8) The engineer battalion commander selects a COA and announces his decision to key engineer battalion staff members.
- 9) Conditions most likely to cause mission failure and accidents (including fratricide) are mitigated.
  - a) Engineer battalion units have been tasked within their capabilities.
  - b) Procedural and positive risk-reduction control and safety measures have been implemented.
- 10) 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.
- f. The engineer battalion XO at the main CP coordinates the new plan internally and with higher and adjacent units. [FM 5-71-3, p. 2-5]
  - 4) The engineer battalion staff understands the battalion commander's concept and takes action necessary to coordinate and integrate the FRAGO. (See engineer BF 20, Task 2a, b, and c.)
- 6. **The engineer battalion reorganizes and supports maneuver brigade consolidation.** [ARTEP 5-145-MTP; FM 5-71-3]
  - c. The engineer battalion commander assesses status and capability of the engineer battalion and makes changes to battalion priorities. [FM 5-71-3, p. 1-8]
    - 1) Intelligence collection.
    - 2) Engineer operations.
    - 3) Personnel replacement.
    - 4) Supply.
    - 5) Medical support.
    - 6) Maintenance support.

### **Outcome 5**

Affected units and personnel receive relevant direction, changes, and refinements to the plan in time to perform troop leading procedures and execute coordinated and synchronized actions.

### **Task Elements**

- 1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]

- 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
- 3) Changes subordinate unit missions.
- 4) Reprioritizes engineer tasks based on unanticipated events and engineer battle losses.
- 6) Directs engineer units and engineer support activities at decisive points.
- 9) Integrates and coordinates engineer operations in consideration of the battlefield operation systems (BOS). [FM 5-71-3, p. 1-5]
  - b) Maneuver.
    - (2) The engineer battalion commander directs changes to movement schedules when necessary. [FM 5-71-3, p. 2-1]
  - f) Combat service support (CSS).
    - (1) The engineer battalion commander assesses transportation operations to ensure compliance with his guidance and intent. [FM 5-71-3, p. 6-3]
      - (b) Engineer equipment is transported to meet requirements. If not, the engineer battalion commander:
        - 4 Requests additional equipment support from division engineer (DIVEN) through the supported brigade.
  - g) Command and control.
    - (1) The engineer battalion commander assesses the levels of execution and the situation compared to anticipated requirements/endstates; he directs changes, if needed, to the units or to his staff. [FM 5-71-3, p. 1-8]
    - (2) Information about change to METT-T is directed to the engineer battalion commander, command group, and command posts (CPs) to enable effective and rapid

guidance during mission execution and about future operations. [FM 5-71-3, pp. 2-4 through 2-6]

- (3) Information systems which aid command and control are selected based on updated information. [FM 5-71-3, pp. 2-23 through 2-25]
- d. Engineer battalion staff members supervise subordinate elements' execution of tasks within the purview of their responsibilities and authority as established by the engineer battalion commander. [FM 5-71-3, p. 2-23]
  - 1) Standing operating procedures (SOP).
  - 2) Designated by the engineer battalion commander for the mission.
2. **Engineer battalion command posts provide communication and control.** [ARTEP 5-145-MTP, FM 5-71-3, FM 71-3]
  - c. The engineer battalion commander and staff communicate information.
    - 4) The engineer battalion S3 and operations section.
      - c) The 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; FN-NTC Engr OCs]
    - 5) The engineer battalion NBC NCO.
      - c) Coordinates with the maneuver brigade CMLO and supporting decontamination units to confirm hasty and deliberate decontamination plans and operations. [FM 5-71-3, pp. 2-3 through 2-4]
    - 6) The engineer Bn SO and communications section.
      - b) Coordinate with the engineer battalion S3, adjacent units, and division signal battalion headquarters. [FM 5-71-3, p. 2-3]
    - 7) The engineer battalion rear CP CSS officers:
      - c) Perform coordination with maneuver brigade staff, engineer battalion staff, and engineer battalion units. [FM 5-71-3, Chap 6]

- d) Engineer battalion S4 coordinates with the engineer battalion S3 and engineer battalion units to deconflict terrain requirements and projected locations.
- e) Engineer battalion S4 coordinates the transportation of engineer battalion supplies and cargo through adjacent units.
- f) Engineer battalion S4 coordinates routine, emergency, and critical resupply of the engineer battalion (e.g., delivery times, types, and quantities of supplies required).
- g) Engineer battalion S1 processes engineer battalion replacements.
- h) Engineer battalion S1 tracks evacuation of engineer battalion personnel and casualties.
- i) Engineer battalion S1 processes awards, decorations, promotions, and legal actions of engineer battalion personnel.
- j) Engineer battalion CSS officers provide information to the engineer battalion S2 to support engineer battalion IPB/EBA. [FM 5-71-3, pp. 2-16 and 2-17]

4. **The engineer battalion commander directs changes to the operation or plan.**  
[ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3 Chap 2]

- a. The engineer battalion commander and/or staff issue WARNOs which contain:  
[FM 5-71-3 Chap 2]
  - 1) Enemy and friendly situations.
  - 2) The brigade and division missions.
  - 3) The brigade and division commanders' intents.
  - 4) The engineer battalion commander's intent.
  - 5) Changes to the task organization.
  - 6) Earliest time of movement for subordinate units.
  - 7) Orders for preliminary action, such as assigning engineer tasks, moving to linkup points.

- 8) Administrative and logistic information.
  - 9) Time and place for orders group assembly.
- d. The engineer battalion commander directs preparation of a FRAGO. [ARTEP 5-145-MTP, Task 5-1-0002/6]
- 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) The engineer battalion commander may direct the engineer battalion staff to prepare the FRAGO. [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: [ARTEP 5-145-MTP, Task 5-1-0018, subtask 4.d.(2)(a)]

- a) Graphics and control measures for the operation.
  - b) DST and engineer execution matrix.
  - c) Obstacle overlay.
  - d) Communications plan.
  - e) CSS.
- e. 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, pp. 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.
- f. The engineer battalion XO at the main CP coordinates the new plan internally and with higher and adjacent units. [FM 5-71-3, p. 2-5]
- 1) The XO must inform subordinate units of outdated/superseded orders and products that have been superseded by the FRAGO.
  - 2) The XO, in coordination with ABE, must analyze current FRAGO in light of current maneuver brigade, engineer brigade, adjacent units' operations orders (OPORDs) to preclude conflict.
  - 3) The XO supervises the battalion staff actions necessary to assist the engineer battalion commander to synchronize current engineer operations.

6. **The engineer battalion reorganizes and supports maneuver brigade consolidation.**  
[ARTEP 5-145-MTP; FM 5-71-3]
  - a. The engineer battalion supports brigade consolidation with engineer operations.  
[FM 5-71-3, Chap 3]
    - 1) Engineer companies are tasked to provide countermobility support to task forces as they consolidate.
    - 2) Engineer companies are tasked to provide mobility support to task forces as they consolidate.
    - 3) Engineer companies are tasked to provide survivability support to task forces as they consolidate.
  - b. The engineer battalion reorganizes. [FM 5-71-3, Chap 6]
    - 1) Link up points for resupply and for evacuation of personnel and equipment are provided by the rear CP.
    - 2) FRAGOs are issued implementing the engineer battalion reorganization and support to maneuver brigade consolidation.
    - 3) Key leader positions are filled through transfer of personnel.
  - f. The engineer battalion rear CP coordinates and executes actions to: [FM 5-71-3, p. 2-6; FN-NTC Engr OCs]
    - 1) Replace key leaders and critical personnel and reestablish the chain of command.
    - 2) Treat and evacuate all casualties.
    - 3) Recover/repair/evacuate all inoperative equipment.
    - 4) Resupply and cross-level CL II, III, and V to minimum basic loads to all engineer vehicles.
      - a) Engineer companies also cross-level CL III and V to minimum basic loads to all engineer vehicles.
      - b) Basic loads of CL III, V, and IX are replenished through LOGPACs.

- 5) Evacuate all EPWs, captured documents, and equipment.
- 6) Redistribute personnel and equipment as needed.
- 7) Account for all personnel.
- 8) Process replacements.
- 9) Weapons system replacement operations (WSRO) with engineer brigade S4:
  - a) Armored combat earthmover (ACE).
  - b) Armored vehicle launched bridge (AVLB).
  - c) Small emplacement excavator (SEE).
  - d) Volcano.
  - e) Mine clearing line charge (MICLIC).
  - f) D7 Dozers.
- g. The engineer battalion main CP coordinates and monitors actions to: [FM 5-71-3, p. 2-5]
  - 1) Reconfigure task organization for the next mission.
  - 2) Return attachments to parent units.
  - 3) Receive engineer battalion elements detached from other units.
  - 4) Reconfigure companies.

### **Outcome 6**

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

### **Task Elements**

1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3].

- b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]
    - 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
  - d. Engineer battalion staff members supervise subordinate elements' execution of tasks within the purview of their responsibilities and authority as established by the engineer battalion commander. [FM 5-71-3, p. 2-23]
    - 2) Designated by the engineer battalion commander for the mission.
4. **The engineer battalion commander directs changes to the operation or plan.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3 Chap 2]
- e. 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 conducts confirmation briefings with subordinate commanders to ensure they understand the changes to plans and orders. [FM 5-71-3, p. 2-23]

### Outcome 7

Soldiers are motivated, disciplined, and maintain unit cohesion during the battle.

### Task Element

- 1. **The engineer battalion commander directs and leads subordinate forces** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3].
  - a. The engineer battalion commander provides command presence by positioning himself where he can best lead, observe the enemy and friendly situations, monitor the maneuver brigade's most important engineer event, and command and control the engineer support for the battle. Considerations: [FM 5-71-3, p. 2-1]
    - 1) Positions where he can physically observe and influence the engineer battalion's critical actions.
  - b. The engineer battalion commander directs engineer operations. [FM 5-71-3, pp. 2-1 and 2-8]

- 1) Directs the battalion executive officer (XO), S3, command sergeant major (CSM), or another subordinate to positions to observe, control, and report on critical events where the commander cannot be present.
- c. The engineer battalion commander exercises leadership to maintain unit cohesion and discipline. [FM 5-71-3, p. 1-8]
- 1) Reassures subordinates by a calm manner.
  - 2) Acts decisively.
  - 3) Gives precise, simple orders.
  - 4) Checks that orders are executed.
  - 5) Verifies subordinate commanders cross-talk on the engineer battalion command net to:
    - a) Coordinate efforts.
    - b) Provide mutual support.
    - c) Integrate efforts.
    - d) Prevent fratricide.
    - e) Keep updated on the situation.
  - 6) Keeps soldiers informed of the situation and makes personal contact with soldiers to increase morale. [FM 5-71-3, p. 1-8]
  - 7) Observes subordinates for indications of shortfalls in performance and manner of performance.
  - 8) Monitors subordinates and self for leadership degradation due to physical and mental stress of battle. [ARTEP 5-145-MTP, Task 5-2-1023; LL - CALL Newsletter No. 90-8, p. 25]
    - a) The engineer battalion commander monitors his own physical and mental state and gets rest.

- b) The engineer battalion XO monitors the engineer battalion commander's physical and mental states and recommends rest periods.
  - c) The engineer battalion commander ensures that subordinate commanders are rested and prepared for battle.
  - 9) Recognizes achievement and effort.
  - 10) The engineer battalion CSM assists in maintaining unit discipline and morale. [FM 5-71-3, p. 2-2; LL - CALL: NCO Lessons Learned]
  - d. Engineer battalion staff members supervise subordinate elements' execution of tasks within the purview of their responsibilities and authority as established by the engineer battalion commander. [FM 5-71-3, p. 2-23]
    - 1) Standing operating procedures (SOP).
    - 2) Designated by the engineer battalion commander for the mission.
- 2. Engineer battalion command posts provide communication and control. [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3]**
- b. The engineer battalion staff evaluates acquired information and engineer status, updates essential products, and maintains status.
    - 8) The engineer battalion S1:
      - b) Updates personnel information. [FM 5-71-3, Chap 6]
        - (4) Reception and processing of replacements.
        - (6) Personnel actions (awards, decorations, promotions, legal action).
        - (8) Soldier morale and welfare activities.
  - c. The engineer battalion commander and staff communicate information.
    - 7) The engineer battalion rear CP CSS officers:
      - g) Engineer battalion S1 processes engineer battalion replacements.

- h) Engineer battalion S1 tracks evacuation of engineer battalion personnel and casualties.
- i) Engineer battalion S1 processes awards, decorations, promotions, and legal actions of engineer battalion personnel.

### **Outcome 8**

The engineer battalion command, control, communications, and intelligence (C3I) capability is effective, survives, and is prepared for the next mission.

### **Task Elements**

1. **The engineer battalion commander directs and leads subordinate forces.** [ARTEP 5-145-MTP; FM 5-71-3; FM 71-3].
  - a. The engineer battalion commander provides command presence by positioning himself where he can best lead, observe the enemy and friendly situations, monitor the maneuver brigade's most important engineer event, and command and control the engineer support for the battle. Considerations: [FM 5-71-3, p. 2-1]
    - 1) Positions where he can physically observe and influence the engineer battalion's critical actions.
    - 2) Retains the freedom to move.
    - 3) Avoids personal direct combat.
    - 4) Employs measures to enhance survivability:
      - a) Avoids unnecessary risk.
      - b) Uses available cover and concealment.
      - c) Frequently changes position.
    - 5) Maintains communications capabilities with:
      - a) The supported maneuver brigade and engineer brigade commanders.
      - b) Subordinate commanders.

- c) Engineer battalion command posts (CPs).
5. **Engineer battalion command posts manage and maintain command, control, and communications.** [ARTEP 5-145-MTP, Task 05-1-0018; FM 5-71-3]
- a. Engineer battalion CPs manage means of communicating information.
    - 1) The engineer battalion XO is the “information manager” for the staff. [FM 5-71-3, p. 2-1; ARTEP 5-145-MTP, Task 5-1-0026/1, 2, and 3]
      - a) Facilitates the flow of information and communication from staff members and subordinate units.
    - 4) Engineer battalion CPs maintain communications (FM radio and multi-channel, wire, messenger) with subordinate units, adjacent units, supported, supporting, and higher headquarters. [ARTEP 5-145-MTP, Task 5-4-0028]
      - a) The engineer battalion SO ensures that battalion communications systems and links (e.g., retransmission) are operational and support the commander, staff, and subordinate leaders.
      - b) The engineer battalion XO manages battalion communications, including positioning of command and control elements.
      - c) The engineer battalion SO controls SOI issue and use.
      - d) The engineer battalion SO coordinates retransmission capabilities for the battalion.
      - e) The engineer battalion SO directs the communications section’s efforts on inspecting and testing battalion communications equipment and systems.
    - 5) 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 and 2-6; brigade BF 21]
  - b. Engineer battalion CPs move to maintain survivability and communications. [FM 5-71-3, pp. 2-4 through 2-6]
    - 1) CP officer-in-charge (OIC) organizes two echelons.

- 2) The first echelon moves to the new CP site.
    - a) First echelon uses a covered and concealed route.
    - b) First echelon arrives at new site and establishes communications with all engineer battalion elements and higher headquarters.
  - 3) CP at new location starts operations.
    - a) Communications are established.
    - b) Maps and overlays are updated.
    - c) Operations journal is updated with significant events.
    - d) Sections and personnel in the CP are updated on critical events that occurred while the CP was moving.
    - e) CP identifies itself as operational and reassumes its command and control functions.
  - 4) Once CP is established at new site, the second echelon breaks down its equipment and moves to the new CP site.
- c. Command and control of the engineer battalion are maintained during the displacement of a CP. [FM 5-71-3, pp. 2-5 and 2-6]
- 1) When the engineer battalion command group and tactical (TAC) CP move, the main CP assumes the command group and TAC CP functions.
  - 2) When the main CP moves, the TAC CP assumes the main CP functions.
  - 3) When the rear CP moves, the main CP assumes the rear CP functions.
- d. The engineer battalion reestablishes command, control, and communications (C3) operations in the event of a CP's destruction or loss of contact. [FM 5-71-3, pp. 2-4 through 2-6; NTC LL CALL Bulletin No. 4]
- 1) Engineer battalion subordinate, maneuver brigade, and engineer brigade commanders are informed of loss and re-establishment of an engineer battalion CP. [FM 5-71-3, pp. 2-23 through 2-26]
    - a) Frequencies being used by the re-established engineer battalion command post.

- b) Location of the new battalion CP and key leaders.
  - c) Identity of the engineer battalion commander (if command group is lost) or officer-in-charge of CP (if CP is lost).
- 2) When the engineer battalion command group and TAC CP are out of action, the main CP assumes command group and TAC CP functions. [FM 5-71-3, p. 2-5]
- a) Synchronize the engineer battalion's assets in support of the close battle.
  - b) Control close operations.
  - c) Reconstitute engineer battalion command group.
    - (1) Obtain replacement of essential equipment (e.g., use what the battalion has on hand, and/or request replacements from maneuver brigade or engineer brigade on a high priority basis).
    - (2) Obtain replacements for key personnel losses to the staff (e.g., S3).
      - (a) Key personnel functions are continued without a break in the engineer battalion operations tempo.
        - 1 Command and control of the engineer battalion are maintained.
        - 2 Communications are maintained with higher headquarters.
      - (b) As time permits, permanent replacements for key personnel are obtained.
- 3) When the engineer battalion main CP is rendered combat ineffective, surviving staff members move to alternate main CP (either the ABE section or the rear CP) and resume main CP functions: [FM 5-71-3, pp. 2-5 through 2-6]
- a) Reestablish the engineer battalion net control station.

- b) Monitor the tactical situation.
  - c) Manage engineer assets.
  - d) Serve as the alternate TAC CP or command group.
  - e) Keep higher headquarters and adjacent units informed of the situation.
- 4) When the engineer battalion rear CP is out of action, the main CP assumes the rear CP functions: [FM 5-71-3, pp. 2-5 and 2-6]
- a) Plan and coordinate sustainment for tactical operations.
  - b) Control rear operations.
- e. Succession of command. [FM 5-71-3, p. D-17]
- 1) When the engineer battalion commander is lost, command is assumed by a subordinate:
    - a) Who is in position to direct the battle immediately.
    - b) Who has been designated in advance.
  - 2) The engineer battalion XO repositions as soon as possible to take command.
6. **The engineer battalion reorganizes and supports maneuver brigade consolidation.**  
[ARTEP 5-145-MTP; FM 5-71-3]
- h. The engineer battalion commander confirms that the engineer battalion is prepared to continue the mission. Confirmation criteria include: [AN]
- 1) All engineer battalion elements report successful completion of reorganization and consolidation.
  - 2) The engineer battalion XO reports that all engineer battalion C3 systems and CPs are fully operational.
  - 3) The engineer battalion S2 reports that all intelligence systems are fully operational.

## Tasks Organized by Outcomes for Engr Bn BF 20

- 4) The engineer battalion S3 reports status of all engineer systems in terms of fully mission capable, or estimates of repair time for those that are not.
- 5) The engineer battalion S1 reports that key leaders and critical personnel have been replaced and the battalion strength is adequate to continue successful mission accomplishment.
- 6) The engineer battalion S4 reports status of recovery/repair/evacuation of equipment and the extent that the maintenance and supply systems will support future operations.

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

- 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]
- LL - The commander must take his unit out and actually time them performing certain actions to his standard so they understand his intent and he knows exactly how long they need to reach his goal. [CALL Newsletter No 90-8]
- LL - Commanders often seek to maximize their control of the situation under stress. This may result in detailed orders to subordinates that stifle their initiative and reduce the flexibility to respond to contingencies. [CALL Newsletter No. 90-8, p. 25]
- LL - Good communication is always difficult, but stress and fatigue will greatly increase misunderstandings. Just because something is very clear to you, do not assume that it is clear to everyone else. Double-check communication. Use backbriefs and rehearsals. Staff visits and follow-ups also foster good communications and can keep problems from recurring. [CALL Newsletter No. 90-8, p. 25]
- LL - The mental abilities required for effective C2 are those which first and foremost suffer from sleep loss. Sleep loss has been proven to decrease performance on tasks requiring calculations, creativity, anticipation, and planning ahead. While we all can recognize the physical signs of fatigue in us and others, we seldom recognize mental lapses. Do not judge your level of degradation by how well you can still perform physically. Although there is the temptation to remain awake through intense planning sessions and engagements, adequate sleep discipline is fundamental for maintaining the abilities to develop and adjust plans. Three to four hours of uninterrupted sleep each day will maintain mental performance only for five to six days. Less sleep will lead to rapid declines. [CALL Newsletter No. 90-8, p. 25]

- LL - Widespread agreement among the staff is not necessarily a healthy sign. It could mean that the desire to find agreement is overriding critical thinking. In times of stress there will be a natural desire to reduce that stress by increasing group harmony and ignoring problems. Be alert for group think and when you suspect it is occurring, take a devil's advocate position, and actively find the flaws that everyone is missing. [CALL Newsletter No. 90-8, p. 25]
- LL - Do not let stress make the situation appear worse than it is. Be calm and confident during the fight. It is inevitable that you will make mistakes, and some may be costly. Let your mistakes make you a better soldier instead of a worse one. [CALL Newsletter No. 90-8, p. 26]
- LL - The commander must plan and rehearse his own position and movement on the battlefield as carefully as is done for the overall TF plan. He must be forward to personally see critical points in the battle, yet protected in order to survive. [CALL Compendium, Vol. 1]
- LL - Commanders must demand that key leaders discipline themselves to obtain a minimum level of rest. [CALL Bulletin No. 89-1]
- LL - On the battlefield the Command Sergeant Major can position himself where leadership is most needed. [CALL Bulletin No. 89-1]
- LL - The CSM is a vital source of information to the commander and is a key leader in dealing with NCOs. [CALL: NCO Lessons Learned]
- LL - The command sergeant major has a tremendous impact on the soldiers' performance, team cohesion, and unit effectiveness. He looks out for the welfare of the men and can foster a positive command climate. [CALL: NCO Lessons Learned]
- LL - The CSM can greatly assist by:
  - \* Identifying, correcting, and bringing to the commander's attention NCO leadership problems.
  - \* Moving with the commander to assess unit morale and logistics problems. [CALL: NCO Lessons Learned]

**2. Engineer battalion command posts provide communication and control.**

- LL - Employ engineer execution matrices: engineer execution matrices and clear detailed commander's guidance, continually monitored by the TOC/command

group, assures that responsibility stays fixed and receives command emphasis.  
[CALL Newsletter No 88-3]

- LL - Practice SOPs for reporting to ensure that they are workable and effective.  
[CALL Bulletin No. 90-9]
- 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 - Have a designated individual track MCI. [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]
- LL - Commanders do not always have a clear vision of the battlefield because reports are either untimely or staff members do not seek and compile the critical information the commander needs to make his assessment. Battle tracking is an integrated staff effort at the command post. The key person in charge of the shift, the battle captain, must be able to manage the information flow in the command post and integrate all elements to track the battle. Units will succeed in this task if they take the time to establish an SOP for what information is required and how it is received, tracked within the command post, and then distributed. If units establish a battle-tracking system that corresponds with critical information requirements for the commander, chances of mission success will greatly improve. [CTC Bulletin No. 94-1, p. 5]
- LL - Situation assessment is not something you do just during mission analysis. It must be a continuous activity to avoid delays in comprehending important changes and events and to maintain the ability to respond rapidly. A good understanding of the situation is a start point for all staff operations. [CALL Newsletter No. 90-8, p. 24]
- LL - Battles are won and lost on the basis of errors. Commanders and staffs must be on the constant lookout for flaws in concepts, omissions in synchronization, and errors in critical estimates. Follow these guidelines for eliminating errors:
  - \* Reflect on what is being done and why.
  - \* Make a rough first guess for comparison to calculations.

- \* Have others check critical work.
- \* Check for consistency in estimates, concepts, and orders.
- \* Make sure that your message is understood.
- \* Follow good sleep discipline.
- \* Watch for waning concentration and automatic behavior.

[CALL Newsletter No. 90-8, p. 26]

LL - The 24-hours-a-day war demands that TOC personnel be trained in all aspects of the TOC operation. [CALL Bulletin No. 1-86]

LL - TOCs should:

- \* Track the battle. This consists of monitoring current location, activity, and combat power of task force elements; and monitoring the progress of adjacent and supporting units and updating templates.
- \* Analyze data. The TOC must analyze all incoming reports from the company/teams, other task force elements, higher headquarters, adjacent units, and supporting units. After the TOC analyzes these reports, they pass the results to the task force commander and recommend any changes to the present course of action.
- \* Plan for future operations. The significant activity in adjacent and higher units or receipt of the warning order initiates planning. The TOC staff must immediately begin to consider possible courses of actions, probable enemy actions, support requirements, etc. The TOC must also initiate a task force warning order and ensure that the S1-S4 are immediately brought in on the planning.
- \* Disseminate information. The TOC should keep the battalion/task force informed of any action or development that might influence the battle. One technique is to provide an intel summary from analyzed reports off of the O&I net. This summary should be concise and given periodically over the battalion net. This summary could also be used to inform higher headquarters.
- \* The TOC must be able to break-down, move, and set-up quickly and with the minimum disruption to its operation.

- \* The TOC must be able to write and produce overlays in the field under all conditions. [NTC Lessons Learned CALL Bulletin No. 4]

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]

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

LL - To effectively control forces, a commander must “see” the battle; i.e., he must know the positions, activities, and status of both enemy and friendly elements. [NTC Lessons Learned: Commander’s Memorandum]

LL - Situation assessment is not something you do just during mission analysis. It must be a continuous activity to avoid delays in comprehending important changes and events and to maintain the ability to respond rapidly. A good understanding of the situation is a start point for all staff operations. [CALL Newsletter No. 90-8, p. 24]

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

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]

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). [CTC Bulletin No. 93-4, p. 9]

LL - Mission-type orders are more effective in fast-paced modern warfare with all its uncertainties. However, the opposite extreme should be avoided. Commanders

should clearly specify intent and provide sufficient control measures to ensure unity of purpose. [CALL Newsletter No. 90-8, p. 25]

- LL - Send multiple warning orders to maximize subordinate planning and preparation time. [CALL Newsletter No. 93-3, p. 3]
- LL - Determine the necessary information required to complete the commander's METT-T analysis. [CALL Newsletter No. 93-3, p. 4]
- LL - Control of FRAGOs and warning orders. Many units are running into difficulty when the TAC, rear, and the main issue FRAGOs and warning orders, especially when duplicate numbers are issued. [CALL: Corps-Division Lessons Learned]
- LL - Hard copy follow-up on verbal orders/decisions. Many decisions are made in face-to-face discussions between commanders. Sometimes problems arise when these discussions are away from the CP. This causes problems for the staff in synchronizing the various aspects of the operation, as well as in keeping the other players informed. Hard copy backup needs to be generated to assist in this process. [CALL: Corps-Division Lessons Learned]

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

- LL - Plan for (command post) movement during planning. [NTC LL CALL Bulletin No. 4]
- LL - Destruction of (the main CP), while a catastrophic loss, must not prevent the (battalion) from continuing its mission. [NTC LL CALL Bulletin No. 4]
- LL - \* Ensure that the succession of command is specified by SOP or OPORD; identify the primary location on the battlefield of the second in command.
- \* Ensure that the unit knows the priority for command succession.
- \* Ensure that personnel identified in the succession of command are thoroughly familiar with the mission and the commander's intent through use of backbriefs and rehearsals.
- \* Continue to develop junior leaders through effective training. [CTC Bulletin No. 94-1, p. 19]

**6. The engineer battalion reorganizes and supports brigade consolidation.**

## 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.

### TASKS

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

### INDIVIDUAL/COLLECTIVE PROFICIENCIES

#### **Engr Bn Cdr**

[Soldier's training publication (STP) 21-II-military qualification standards (MQS)]

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

#### **Engr Bn CSM**

[FM 5-71-3, Chap 2]

- Perform taskings assigned by the Engr Bn Cdr.
- Organize and lay out Engr Bn assembly area, as necessary.
- Monitor unit morale.
- Ensure that standards are enforced by NCOs of the Bn.

#### **Engr Bn S3**

[STP 21-II-MQS]

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

**Engr Bn S2**

**[STP 21-II-MQS]**

- Communicate effectively as a Cdr 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 DST. [013381.015003]
- Participate in the threat integration process. [01-3381.01-4015]
- 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 Engr information.  
[01-2250.20-1004]
- Provide input to IPB. [01-2250.20-1006]
- Prepare Engr estimates.  
[01-2250.20-1001]

**Engr Bn CMLO**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Section 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 Cdr 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 NSC operation. [01-5704.04-0003]
- Employ communications system of a maneuver Bde or Bn. [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 frequency modulated (FM) voice communications. [01-5704.04-9001]

**Engr Bn S1**

**[STP 21-II-MQS]**

- Communicate effectively as a Cdr 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 Cdr 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 Cdr 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 CLs 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 Cdr 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. [O1-4720.26-0001]

[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 Cdr 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 Cdr 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 Cdr 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, Engr]

- Advise supported units on Engr capabilities and employment. [01-2250.10-1002]
- Advise the Cdr on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct Engr 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 Engr information. [01-2250.20-1004]
- Evaluate Engr intelligence for dissemination. [01-2250.20-1005]
- Plan Engr support for river-crossing operations. [01-2080.20-1001]
- Prepare Engr estimates. [01-2250.20-1001]
- Prepare Engr annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

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

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for nonexplosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the Engr 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 Engr 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 Specialist]**

- 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 Specialist]

- Check the accuracy of the 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 Specialist]

- 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 (CLs 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 (CLs 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 Specialist]

- 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]

**2. Engineer battalion command posts provide communication and control.**

**Engr Bn Cdr**

[STP 21-II-MQS]

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

**Engr Bn CSM**

[FM 5-71-3, Chap 2]

- Performs taskings assigned by the Engr Bn Cdr.
- Organizes and lays out Engr Bn assembly area, as necessary.
- Monitors unit morale.
- Ensures that standards are enforced by NCOs of the Bn.

**Engr Bn S3**

[STP 21-II-MQS,]

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

officer. [03-9001.12-0003]

**ABE**

[STP 21-II-MQS]

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

[ARTEP 71-3MTP]

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

**Engr Bn S2**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 DST. [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 Engr information. [01-2250.20-1004]
- Provide input to IPB. [01-2250.20-1006]
- Prepare Engr estimates. [01-2250.20-1001]

**Engr Bn CMLO**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 operations plan 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 Cdr 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 Bde or Bn. [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 Cdr 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 Cdr 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, issuance, and storage of supplies. [03-5101.00-0287]
- Plan subsistence field operations and advise Cdr 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 CLs 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 Cdr 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 Cdr 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 Cdr 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 Cdr 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. [03-9001.12-003]

**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 Engr capabilities and employment. [01-2250.10-1002]
- Advise the Cdr on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct Engr 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 Engr information. [01-2250.20-1004]
- Evaluate Engr intelligence for dissemination. [01-2250.20-1005]
- Plan Engr support for river-crossing

- operations. [01-2080.20-1001]
- Prepare Engr estimates. [01-2250.20-1001]
- Prepare Engr 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 nonexplosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the Engr 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 Engr 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 Specialist]

- 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 Specialist]

- 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 Specialist]

- 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 (CLs 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 (CLs 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 Specialist]

- 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 Cdr 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 Cdr or staff

officer. [03-9001.12-0003]

**Engr Bn CSM**

[FM 5-71-3, Chap 2]

- Performs taskings assigned by the Engr Bn Cdr.
- Organizes and lays out Engr Bn assembly area, as necessary.
- Monitors unit morale.
- Ensures standards are enforced by NCOs of the Bn.

**Engr Bn S3**

[STP 21-II-MQS]

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

**Engr Bn S2**

[STP 21-II-MQS]

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

**Engr BSO**

[STP 21-II-MQS]

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

**Engr Bn CSM**

[FM 5-71-3, Chap 2]

- Performs taskings assigned by the Engr Bn Cdr.
- Organizes and lays out Engr Bn assembly area, as necessary.
- Monitors unit morale.

- Ensures that standards are enforced by NCOs of the Bn.

**Engr Bn S3**

[STP 21-II-MQS]

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

**ABE**

[STP 21-II-MQS]

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

[STP 5-21-II MQS, Engr]

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

**Engr Bn S2**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Cdr 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 Section and NBC Center]

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

**Engr Bn SO**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Cdr 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 Cdr 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 Cdr 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 Cdr 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 Cdr 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 Cdr 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, Engr]

- Advise supported units on Engr capabilities and employment. [01-2250.10-1002]

- Advise the Cdr on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct Engr 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 Engr information. [01-2250.20-1004]
- Evaluate Engr intelligence for dissemination. [01-2250.20-1005]
- Plan Engr support for river-crossing operations. [01-2080.20-1001]
- Prepare Engr estimates. [01-2250.20-1001]
- Prepare Engr annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

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

- Determine logistical requirements for fighting and protective positions. [051-195-4008]
- Determine logistical requirements for nonexplosive anti-vehicular obstacles. [051-195-4009]
- Determine standard pattern minefield logistical requirements. [051-192-4041]
- Develop/prepare the Engr 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 Engr 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 Specialist]

- 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 Specialist]

- 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 Specialist]

- 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 (CLs 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 (CLs 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 Specialist]

- 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]

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

**Engr Bn Cdr**  
[STP 21-II-MQS]

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

[ARTEP 71-3-MTP]

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

**Engr Bn S2**  
[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Cdr 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 NSC operation.  
[01-5704.04-0003]
- Employ communications system of a maneuver Bde or Bn. [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 FM voice communications. [01-5704.04-9001]

**Engr Bn S1**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 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 Cdr 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. [O3-5101.00-0018]
- Evaluate supply point operations. [O1-5101.00-0194]
- Manage the receipt, issue, and storage of supplies. [O3-5101.00-0287]
- Plan subsistence field operations and advise commander on subsistence operations. [O3-5106.00-0130]
- Prepare command logistics plans, estimates, and orders. [O3-5106.00-0166]
- Trace the flow of requests for and receipt of CL 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. [O3-5105.00-0107]
- Supervise the receipt, storage, and distribution of petroleum products. [O3-5103.00-0081]

[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 Bn CMLO**

[STP 21-II-MQS]

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

**Engr Bn HHC Cdr**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Cdr 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 Cdr 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, Engr]

- Advise supported units on Engr capabilities and employment. [01-2250.10-1002]
- Advise the commander on the use of terrain for combat operations. [01-2250.20-1008]
- Conduct Engr 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 Engr information. [01-2250.20-1004]
- Evaluate Engr intelligence for dissemination. [01-2250.20-1005]
- Plan Engr support for river-crossing operations. [01-2080.20-1001]
- Prepare Engr estimates. [01-2250.20-1001]
- Prepare Engr annexes. [01-2250.20-1002]
- Provide input to IPB. [01-2250.20-1006]

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

- Determine logistical requirements for fighting and protective positions.

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

**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 Specialist]

- 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 Specialist]

- 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 Specialist]

- 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 (CLs 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 (CLs 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 Specialist]

- 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]

6. **The engineer battalion reorganizes and supports brigade consolidation.**

**Engr Bn Cdr**

[STP 21-II-MQS]

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

**Engr Bn CSM**

[FM 5-71-3, Chap 2]

- Performs taskings assigned by the Engr Bn Cdr.
- Organizes and lays out Engr Bn assembly

- area, as necessary.
- Monitors unit morale.
- Ensures standards are enforced by NCOs of the Bn.

**Engr Bn S3**

[STP 21-II-MQS]

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

**Engr Bn S2**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 DST. [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 Engr information. [01-2250.20-1004]
- Provide input to IPB. [01-2250.20-1006]
- Prepare Engr estimates. [01-2250.20-1001]

**Engr Bn CMLO**

[STP 21-II-MQS]

- Communicate effectively as a Cdr 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 Section 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 Cdr 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 NSC operation. [01-5704.04-0003]
- Employ communications system of a maneuver Bde or Bn. [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 Cdr 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 Cdr 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 CL 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]

## Gate Tasks for Engr Bn BF 20

- Communicate effectively as a Cdr 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 Cdr 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 Cdr 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 Cdr 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 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 Specialist]

- 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 Specialist]

- 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 Specialist]

- 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 (CLs 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 (CLs 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 Specialist]

- 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]
- Evaluate subsistence protection and

decontamination procedures.

[101-524-4132]

- Direct personnel in the protection and decontamination of subsistence items in a NBC environment. [101-524-3281]
- 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]

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- 25-101                   Battle Focused Training, September 1990
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## 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.

<b>INTELLIGENCE</b>	(1)	Conduct intelligence planning.
	(2)	Collect information.
	(3)	Process information.
	(4)	Disseminate intelligence.
<b>MANEUVER</b>	(5)	Conduct tactical movement.
	(6)	Engage enemy with direct fire and maneuver.
<b>AIR DEFENSE</b>	(16)	Take active air defense measures.
	(17)	Take passive air defense measures.
<b>FIRE SUPPORT</b>	(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)	<del>Employ chemical weapons.</del> <sup>1</sup>
	(13)	Conduct counter target acquisition operations.
	(14)	Employ naval surface fires.
(15)	Coordinate, synchronize and integrate fire support.	
<b>MOBILITY AND SURVIVABILITY</b>	(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.

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<sup>1</sup> 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, Bradley Fighting Vehicle (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 Jamming<sup>1</sup>** - 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

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<sup>1</sup> 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~~<sup>2</sup> - 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 commanders' 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, 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:

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<sup>2</sup> 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 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, DS, 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 U.S. forces, dependents, U.S. government civilian employees, and private citizens (U.S. 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.

<b>INTELLIGENCE BOS</b>		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

<b>MANEUVER BOS</b>		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 <sup>1</sup>				

<b>FIRE SUPPORT BOS</b>		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				

<sup>1</sup> 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.

<b>FIRE SUPPORT BOS (cont.)</b>		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry
(10)	Conduct Electronic Collection and Jamming <sup>2</sup>						
(11)	Conduct Battlefield Psychological Operations						
(12)	<del>Employ Chemical Weapons<sup>3</sup></del>						
(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	

<b>AIR DEFENSE BOS</b>		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

<b>COMMAND AND CONTROL BOS</b>		Bn TF	Bde	FA Bn	Eng Bn	FS Bn	ADA Btry <sup>4</sup>
(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	

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

<sup>3</sup> 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.

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

<b>MOBILITY AND SURVIVABILITY BOS</b>		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

<b>COMBAT SERVICE SUPPORT BOS</b>		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 (TOE) 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 TOE. 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.

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

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).

### **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. The 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, and FM 25-101, Battle Focused Training, 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:

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

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-JRTC; FN-194 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, 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 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.

<b>Field Manuals (FMs)</b>	
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)
<b>Army Training and Evaluation Program (ARTEPs)</b>	
71-3 MTP	Mission Training Plan for the Heavy Brigade Command Group and Staff, April

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.

<p><b>5. The brigade commander issues initial planning guidance.</b></p> <p>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]</p> <p>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]</p> <p>LL - Sketch the initial concept of the operation for the staff. [CALL Newsletter No. 93-3: The Battalion and Brigade Battle Staff, p. 9]</p>
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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 TOE, 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.

<p><b>Tasks</b></p> <p><b>5. The brigade commander issues initial planning guidance.</b></p> <p><b>Participants</b></p> <p>Bde Cdr, Bde XO, Bde CSM, Bde S2, DS MI Co Cdr, Bde S3, Bde S3-Air, Bde S3 Opns Sgt, CMLO, FSCoord, FSO, Engr Bn Cdr, ABE, ADLO, AVLO, ALO, Bde S1, Bde Chaplain, Bde Surgeon, MP Plt Ldr, Bde S4, BSO, Bde HQ Co Cmdt, Bde S5 (if assigned)</p>
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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.

<b>KEY INPUTS</b>	
<b>D - 4</b>	<p><b>GUIDANCE AND INFORMATION FROM THE DIVISION COMMANDER AND STAFF.</b></p> <ul style="list-style-type: none"> <li>a. Division commanders verbal or written guidance.</li> <li>b. Operational situation reports (OPSITREPs).</li> <li>c. Periodic personnel report (PPREPT).</li> <li>d. Periodic intelligence report (PERINTREP).</li> <li>e. Periodic operation report (PEROPRPT).</li> <li>f. Periodic logistics report (PERLOGRPT).</li> <li>g. Periodic civil affairs report (PERCARPT).</li> <li>h. Engineer reports.</li> <li>i. Field artillery reports.</li> <li>j. Air defense artillery reports.</li> <li>k. Other reports of planning or critical combat information of interest to the brigades.</li> </ul>
<b>KEY OUTPUTS</b>	
<b>Bde - 3</b>	<p><b>BRIGADE WARNING ORDER</b></p> <ul style="list-style-type: none"> <li>a. Mission, intent, and CCIR of brigade commander.</li> <li>b. Graphics.</li> <li>c. Types of fire support munitions available, including CSR and RSR.</li> <li>d. Enemy situation.</li> <li>e. Assets available for collection of information and intelligence.</li> <li>f. Task organization.</li> </ul>

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-8.

**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 FM's 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, CEWI Assets, Engineer, ADA, TACP, TF Combat/Field Trains (BSA))	<b>TF Command Posts, Staff and Slice (Attached units, staff elements, and LNOs)</b> - 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**

The 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**

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**

The ATDL is a repository of digital information related to training. The 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.

2IC	second in command
A2C2	Army airspace command and control
AAR	after-action review
ABCS	Army battle command system
ABE	assistant brigade engineer
ACE	armored combat earthmover
AD	air defense
ADA	air defense artillery
ADC	area damage control
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
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
AVLB	armored vehicle launched bridge
AVLO	aviation liaison officer
AXP	ambulance exchange point
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
C2	command and control
C2W	command and control warfare
C3	command, control, and communications

C3I	command, control, communications, and intelligence
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
CHS	combat health support
CI	counterintelligence
CL	class
CL I	subsistence items
CL II	individual equipment, clothing, tool sets, house keeping supplies
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

CMT	company maintenance team
Co	company
COA	course of action
commo	communications
CP	command post
CS	combat support
CSM	command sergeant major
CSR	controlled supply rate
CSS	combat service support
CTC	combat training center
CTCP	combat trains command post
DF	direction finding
DISCOM	division support command
DIVEN	division engineer
DMP	decision-making process
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
ECO A	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; function analysis
FAS	forward aid station
FASCAM	family of scatterable mines
FCT	firepower control team
FDC	fire direction center
FEA	front end analysis
FFIR	friendly forces information requirements
FM	field manual
FM	frequency modulated
FMC	fully mission capable
FN	field note
FORSCOM	U.S. Army Forces Command
FRAGO	fragmentary order
FSB	forward support battalion

FSCM	fire support coordinating measure
FSE	fire support element
FSEM	fire support execution matrix
FSO	fire support officer
FTCP	field trains command post
GRREG	graves registration
GS	general support
HET	heavy-equipment transporter
HHC	headquarters and headquarters company
HN	host nation
HNS	host nation support
HPTL	high payoff target list
HSS	health service support
IEW	intelligence and electronic warfare
IFF	identification, friend, or foe
INTSUM	intelligence summary
IPB	intelligence preparation of the battlefield
IR	information requirements
ITTBBST	Innovative Tools and Techniques for Brigade and Below Staff Training
LADW	local air defense warning

LAN	local area network
LL	lessons learned
LLTR	low level transit route
LNO	liaison officer
LOC	lines of communication
LOGPAC	logistics package
LP	listening posts
MAS	main aid station
MCI	minimum critical information
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
MICLIC	mine clearing line charge
MOPP	mission-oriented protective posture
MOS	military occupational specialty
MP	military police
MQS	military qualification standards
MSR	main supply route

MST	maintenance support team
MTP	mission training plan
NAI	named area of interest
NBC	nuclear, biological, and chemical
NBCWRS	NBC warning and reporting system
NCO	noncommissioned officer
NCS	net control station
NMC	non-mission capable
NSF	naval surface fires
NTC	National Training Center
OB	order of battle
OBSTINTEL	obstacle intelligence
OC	observer-controller; outcome
OCOKA	observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach
OEG	operational exposure guide
O&I	operations and intelligence
OIC	officer in charge
OP	observation post
OPCON	operational control
OPORD	operations order
OPSEC	operations security

OPSITREP	operational situation report
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
PM	provost marshal
PMCS	preventive maintenance checks and services
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
S1	adjutant/personnel officer, brigade and battalion staff

S2	intelligence officer, brigade and battalion staff
S3	operations and training officer, brigade and battalion staff
S4	supply/logistics officer, brigade and battalion staff
SALT	supporting arms liaison team
SALUTE	size, activity, location, unit, time, equipment
SATS	Standard Army Training System
SCATMINE	scatterable mine
SEE	small emplacement excavator
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
STAARS	standard after action review system
STP	soldier's training publication
SYSCON	systems control

TA	task analysis
TAC CP	tactical command post
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
TLP	troop leading procedures
TOC	tactical operations center
TOE	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
UMCP	unit maintenance collection point

USAARMC	United States Army Armor Center
USAARMS	United States Army Armor School
USAES	United States Army Engineer School
USMC	United States Marine Corps
USN	United States Navy
WARNO	warning order
WCS	weapons control status
WSRO	weapons system replacement operations
XO	executive officer