

## DEVELOPING BASE CAMPS TO SUPPORT MILITARY OPERATIONS WORLDWIDE

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### Abstract

The Departments of Systems and Civil and Mechanical Engineering at the United States Military Academy (USMA) are assisting the Engineering Research and Development Center (ERDC) in identifying the existing difficulties in base camp development and assessment. This paper will report on a two-day workshop held at USMA that involved key individuals experienced in base camp operations. This workshop highlighted the critical need for the Department of Defense (DoD) to simplify the funding processes for base camp development. It further identified the existing need for a DoD level proponent for joint base camp policy and doctrine, and the need for a methodology that allows organizations easy access to base camp planning systems and lessons learned.

### Disclaimer

The views expressed in this article are those of the authors, and/or presenters at the workshop, and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

### Introduction

Base camps are necessary in a wide array of environments including combat locations such as Iraq, and non-combat locations like Sri Lanka as part of tsunami humanitarian relief effort. The United States military routinely develops joint base camps that bring together disparate organizations that include all four Services, foreign armies, civilians, non-governmental organizations (NGOs), and other government agencies. These organizations do not operate together as a normal matter of business, adding to the complexity of developing base camps capable of meeting the necessary life support, force protection, quality of life, and various mission requirements (JFOB, 2004). If base camps are not planned with these differences in mind, or to some common or modular standard that can be easily used and adapted by all base camp occupants, the effectiveness and efficiency of the base camp becomes compromised. Further complicating this problem is that base camps are frequently planned with little preparatory time (Construction, 2004).

With a lack of unified guidance at the Department of Defense level for joint base camp policy and planning, large differences exist in standards from base

camp to base camp. The base camp workshops held at the United States Military Academy are intended to provide a forum to bridge this gap allowing leaders and experts in military and civilian organizations to meet, discuss, and propose solutions to these issues. Solving these problems and developing a resource that provides a common means to share lessons learned, best practices, and planning tools that is exportable to all agencies involved with planning, building and operating base camps is extremely beneficial to the Department of Defense and US Government.

### Background

This is the second consecutive year that USMA has partnered with the Construction Engineering Research Laboratory of ERDC (ERDC-CERL) to hold a workshop on base camp issues for Department of Defense participants. Last year the theme of the two-day workshop was “*Base Camps of Today and Tomorrow*” (3<sup>rd</sup> Base Camp 2005). The intent of that workshop was to identify key base camp issues that could be incorporated into a strategic plan of study, and to garner support for continued work in these areas. The fundamental areas of base camp operations discussed included: initial planning, site selection, environmental issues, structures, energy and force protection (Cushing 2004). This was considered an initial step in defining the requirements for a suite of tools that military planners can use to plan for, and execute, fast deployments of forces in support of the full spectrum of military operations.

The intent of the workshop this year was three-fold: to continue identifying key base camp issues to incorporate into a strategic plan of study, to garner support across all of the branches of military service for continued research, and to present selected “best practices” currently aiding base camp planners and leaders. This workshop provided a forum for several base camp subject matter experts with a variety of leadership experiences to discuss their issues and begin finding solutions in the fundamental areas of soldier health and environmental impact, base camp operating procedures, force protection and planning tools.

### Conduct of the 2<sup>nd</sup> Base Camp Workshop

The theme of the workshop, held on 10-11 May 2005, was *Base Camp Leadership and Best Practices*. The first day was dedicated to a key note speaker, a base camp leadership panel, and best practices presentations in the areas of soldier health and environmental impact, base camp operating procedures, force protection, and planning tools. The second day consisted of a guest speaker lecture, a lessons learned presentation from a unit recently deployed to Afghanistan, and the day ended with four breakout sessions in the same areas as the best practices presentations.

The first day began with a key note address by Brigadier General (BG) Robert A. Pollman, who is currently the commander of the 420<sup>th</sup> Engineer Brigade, 90<sup>th</sup> Reserve Readiness Command. While serving in Iraq, he was dual-hatted as the Multi-National Corps (C-7) Engineer and the 420<sup>th</sup> Engineer Brigade Commander. In his opening remarks, BG Pollman outlined the accomplishments of his brigade, and identified many of the challenges that remain for the Army and Department of Defense. US forces effectively developed master plans for larger base camps, but the planning for use of existing Iraqi bases was not as effective. BG Pollmann emphasized that Engineers responsible for base camp construction need more skills and resources in the contracting and real estate domains. The DoD processes for funding base camp construction for forward deployed forces is difficult for leaders to implement. While BG Pollmann identified many current issues for workshop participants to consider, he emphasized that US forces, civilians, and Iraqis worked together to develop quickly many base camps to secure and support coalition forces under tough environmental conditions (Pollmann 2005).

After BG Pollman's opening remarks, workshop participants were given the opportunity to hear from a base camp leadership panel. The panel consisted of six leaders with recent base camp experience. The members of the leadership panel and responsibilities while deployed in Iraq were:

- BG Robert A. Pollmann, deployed to Iraq as the Commander 420<sup>th</sup> Engineer Brigade, 90<sup>th</sup> Reserve Readiness Command
- Colonel (COL) Lou L. Marich, deployed to Iraq as the 1<sup>st</sup> Armored Division Engineer Brigade Commander.
- COL Michael A. Alexander, deployed to Iraq as the commander of the Contingency Response Unit in support of the US Army Corps of Engineers (USACE) Gulf Regional Division.

- COL Joe E. Chesnut, deployed to Iraq as the Deputy Brigade Commander of the 420<sup>th</sup> Engineer Brigade.
- COL John W. Peabody, deployed to Iraq as the 3<sup>rd</sup> Infantry Division Engineer Brigade Commander.
- COL Jack Robinson, deployed to Iraq as the Chief of Facilities, Multi-National Corps Iraq, 420<sup>th</sup> Engineer Brigade.

Each panel member was given time to introduce themselves and were then asked to answer the following question "*What does the Military need in order to improve planning and operational control methods to support base camps?*" Their remarks and answers to participant's questions set the stage for the Best Practices presentations in the afternoon.

The experienced panel members brought out several key points. Accurate intelligence of existing infrastructure systems is critical to quickly restoring needed utilities to the civilian populace and to supporting base camp development. An example highlighted that intelligence of the Iraqi power grid was incomplete and only Baathist Party loyalists understood the entire system. Another point was that standards for base camps should be defined in time phases to allow for progressive development. Panel members expressed the same concerns over the funding sources for base camps and urged participants to try and synchronize these sources into standard ones across DoD. A success that needs to be used more was reach-back to expertise in the US via tele-engineering. Panel members believed US-based engineers contributed much-needed knowledge and analysis to tough problems deployed engineers faced. Understanding the long-term operational plan for the units stationed at base camps was critical to developing effective and efficient support facilities. These points are some of the key issues raised during the panel discussion.

The Best Practices presentations were broken down into four categories: soldier health and environmental impact, base camp operating procedures, force protection, and planning tools. The following is a list of the categories and their presentations:

Soldier health & environmental impact.

- "Environmental Considerations in Post-Conflict Military Operations and Reconstruction" David Mosher, RAND.
- "The Global Threat Assessment Program (GTAP)" Farhanna Lotlikar, US Army Center for Health Promotion.

- “The Use of the American Society for Testing and Materials Standard Guide for Environmental Health Site Assessment (EHSA) Process for Military Deployments” Dr. Arthur Lee, US Army Center for Health Promotion
- “Disposal of Petroleum Contaminated Soil” Lieutenant Colonel Robert E. Tucker, Director of Combat Developments, US Army Engineer School

Base camp operating procedures.

- “Advanced Commercial Engineering Software In Support of Combat Operations” Captain Bart Kemper, 412<sup>th</sup> Engineer Command (ENCOM)
- “Performing Verification and Validation Measures in Prioritizing Base Camp Construction” Cadet Team, United States Military Academy
- “Engineer Infrastructure Intelligence Reach Back Center (EI2RC) – the USACE ‘Hub’ for Reachback Technical Assistance” Lynn C. Hardegree, Science Applications International Corporation (SAIC)

Force protection.

- “Joint Forward Operations Base (JFOB) Force Protection Handbook” COL Joe E. Chesnut, ERDC
- “Base Camp Protection and Survivability Enhancement” Michael J. Roth, ERDC
- “Ensuring Effective Sensor-based Intrusion Detection at Base Camps” Jim Lacombe, ERDC-CERL

Planning tools.

- “Theater Construction Management System (TCMS/AFCS)” Mr. Christopher Boyd, USACE – TCMS
- “Forward Operating Site (FOS) & Cooperative Security Location (CSL) Cost Modeling” COL Stephen D. Austin, Office of the Secretary of Defense, Program Analysis & Evaluation (OSD – PA&E)
- “GeoBEST” Mr. Jeff Burkhalter, ERDC-CERL
- “Building Base Camps Using the Logistics Civil Augmentation Program (LOGCAP)” Donald Trautner, LOGCAP, Army Field Support Command

Day 2 also began with a key-note speaker. Colonel Lou L. Marich, who was the 1<sup>st</sup> Armored Division Brigade Engineer, briefed the workshop on the accomplishments and challenges that his unit faced while in Iraq. He further discussed his unit’s lessons learned and recommendations for future base camp operations. COL Marich emphasized some of the key points raised during the panel discussion. Contracting and legal specialists are critical to mission success in building base camps. Since many local laborers are used in construction, US forces need to understand local customs and culture. Understanding that the operational plan changes rapidly, base camps need to be developed to the level needed to support the maximum expected population-served. Pre-packaged kits for base camp facilities should be used to the greatest extent possible. Finally, COL Marich again highlighted the issue with multiple, confusing sources of funding required to support base camp construction (Marich 2005).

LTC Jasaitis, the battalion commander of the 65<sup>th</sup> Engineer Battalion, who was recently deployed to Afghanistan spoke next about his unit’s experiences. LTC Jasaitis was responsible for base camp development for many forward operating base camps. Aside from presenting his units’ accomplishments, he presented the challenges in base camp development from a battalion commander’s viewpoint.

Following these guest speakers, workshop participants were asked to participate in one of four breakout sessions to answer the question: “*What does the military need in order to improve planning and operational control methods to support base camps?*” These sessions addressed the same four areas as the best practices presentations the previous day.

### **Breakout Session Results**

This section provides a consolidated list of the issues discussed during the end of Day Two by the breakout session groups in each of the four areas and serves as a focal point for future study and workshops.

In the area of soldier health & environmental impact, there were several key underlying issues identified. First, there exists a need to integrate environmental issues into the overall base camp master plan at higher level planning. Second, there is a critical need for a Department of Defense level proponent to set policy for these issues. This will allow for information-sharing between the Medical, Civil Affairs, Military Intelligence, and Engineer communities, as well as between the different Services. Third, the Department of Defense should detail theater-specific environmental standards in areas such as waste disposal (e.g. black water / grey water issues, separation & disposal of solid waste). Last, base camp

planning should include collaboration with host nation stakeholders and other groups.

Recognizing these key issues, the military has many needs that it must address. These include the need to minimize the logistical footprint and costs of base camps, and to conduct proactive avoidance of liability. Also, the military needs to improve resource conservation and maintain good relations with the host nation by winning the hearts and minds of the populace. To achieve these, the Department of Defense needs to identify a staff proponent for base camp operations and planning in order to provide a consistent policy across and within theaters of operation. They also require further research, acquisition, and development of pollution prevention techniques. The military also must integrate environmental considerations and needs into contracting. This will be aided by involving environmental specialists into the initial planning of base camps.

In the base camp operating procedures breakout session there were five military needs identified. First, as previously stated, the Department of Defense needs to assign a proponent for base camp doctrine and policy. Second, DoD needs a plan to capture lessons learned through time from all organizations with experience in base camps. Third, organizations need to plan for surge periods in base camp population such as during transition times between occupying units. Fourth, engineer reconnaissance should be integrated into the master planning process. Finally, there should be a reduction of the restrictions and complications in funding processes for base camp development. Funding limitations add complications to base camp procurement.

Several means are available to address the base camp operating procedures issues identified. Base camp issues should be pushed through the Department of Defense Joint Operational Engineer Board (JOEB). The engineer branch should be formally designated as the proponent for the Army. The military construction (MILCON) funding threshold for base camps should be increased from \$750K to \$2M. Current spending restrictions make the efficient development and construction of base camps more difficult than is necessary. MILCON funding levels should be set based on the theater of operations and contingency operation supported. Blanket regulations do not account for varying threat levels and resource limitations. Master planning for base camps should include the power generation and life support needs, and equipment maintenance facilities and parking necessary during surge periods. The Department of Defense proponent should provide standards for quality of life, force protection, and structural terminology across the Services. Engineers building base camps

should focus engineer reconnaissance efforts to provide the necessary information on the local infrastructure required to support organizations assigned to the base camp. Finally, an open website that allows base camp lessons learned and best practices from all organizations to be posted would help those preparing to plan and construct base camps.

In the area of base camp force protection, the military has several needs. The Department of Defense needs a central proponent to update doctrine to better define levels of base camps and their associated force protection requirements. The military needs modular force protection packages that can be easily transported and configured for base camp facilities. Modular force protection packages that can be ordered as a whole or by individual component should be entered into the procurement system. There is also a need for base camp users to share force protection training plans. Finally, the military needs a centralized means of demonstrating new technologies for force protection.

The planning tools breakout session identified the existence of several critical areas. Currently the joint community lacks a detailed document for planning, executing and managing base camp construction. Second, there exists a need for the Department of Defense to better define expected unit duration at base camp locations during initial planning since this often drives the required construction methods and techniques. Lastly, the military needs more experienced and better trained junior officers in terms of base camp construction.

To help organizations plan, the DoD staff must define common standards for base camp infrastructure. This will ensure that all base camp planners and builders have similar expectations regardless of the service or organization supported. The DoD staff should develop a reporting tool and policy to track base camp infrastructure, or adapt the existing model used by the US Central Command (CENTCOM). Force commanders should define time-phased required quality of life standards for their soldiers during the initial planning stages of base camp development. Finally, the Engineer schools for each service should develop more detailed training curricula for junior officers in the planning and construction of base camps.

### **Plan for the Future**

The 3<sup>rd</sup> Base Camp Workshop identified several key areas that need to be focused on in future research and workshops. Three main themes emerged from this workshop. Leaders need to understand the funding processes for base camp development and construction. DoD needs to identify central proponents for base camp policy and to revise existing doctrine and make it more applicable to all military Services (i.e. 'joint').

Finally, there exists a need to develop a method for capturing lessons learned and best practices over time.

A recurring theme that surfaced in both key note addresses, as well as in the leader panel was the importance of understanding base camp funding processes. There are many different restrictions on how much and on what specific pots of money may be used for or with any one contract or contractor (GAO-04-854, 2004). If base camp planners and constructors do not master these concepts they can very easily get bogged down in paper work and legal restrictions resulting in inefficient or ineffective base camp construction (Pollman, 2005) (Marich, 2005). Any further discussions or workshops on base camp planning and construction should include a presentation to clarify these processes.

All four groups in the breakout sessions identified the lack of a joint proponent and doctrine for base camps as a source of concern and frustration. The Department of Defense needs to establish joint doctrine at the DoD and Service levels. Without standards set by DoD, each Service determines their own standards and terminology. This creates difficulty between each of the Services in expectation and construction. COL Marich pointed out in his key note speech that when his Army unit took over a base camp from the Marines, a large amount of work had to be redone due to different unit sizes, vehicle configurations, and operational procedures (Marich, 2005). Had there been a joint DoD standard for the initial development of the base camp, there would most likely have been a smoother transition between units of different Services resulting in saved money and time.

The other concern that each of the breakout sessions identified was a need for proponents to be assigned throughout the Joint and Service command levels. Without known and assigned proponents, researchers and base camp developers are less efficient and not synchronized in their efforts. In future workshops, personnel from the Joint Operational Engineering Board as well as members from each of the Services, the Army Engineer School, and members of the Office of the Secretary of Defense (OSD) Joint Staff will be invited to participate.

A key point discussed in the leader panel and in several of the breakout sessions was the need to capture lessons learned through time and not only from unit to unit. This would provide units from all Services the opportunity to gain knowledge and insight from others. To capture the lessons learned from current and previously deployed units in Iraq, Afghanistan, and other countries, USMA and ERDC-CERL will be working on the development of a website that would provide the following: a forum for best practices to be posted, lessons learned to be organized and available to members of all Services, links to existing sites that are

very useful in the planning and construction of base camps, and provide a site where individuals can post problems that they may be having and receive responses from those with experience in those areas.

### Conclusion

The 3<sup>rd</sup> Base Camp Workshop conducted at the United States Military Academy served as another step in sharing information and solving the existing base camp difficulties within the Department of Defense. This workshop provided a forum for base camp subject matter experts to discuss their experiences and identify issues of concern in the fundamental areas of soldier health and environmental impact, base camp operating procedures, force protection and planning tools. This workshop highlighted the critical needs for simplifying the funding processes for base camp development, for the development of a Department of Defense level proponent for joint base camp policy and doctrine, and for a methodology for easy access to base camp planning systems and lessons learned. More research is required in each of these areas and will be followed up with another workshop in 2006.

### References

- AT Planner, Redbook and Sandbook are Planning tools used by various organizations in the military for planning base camps. However, none are used as a standard by all military organizations.
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- Joint Forward Operations Base (JFOB) Force Protection*. Handbook of tactics, techniques and procedures to mitigate rockets, artillery, mortars, and improvised explosive devices. Draft 2004.

3<sup>rd</sup> Base Camp Workshop “Base Camp Leadership & Best Practices”, <http://www.se.usma.edu/basecamp/>, used as a one-source location for research continuity at USMA in this domain.

the Engineer branch of the US Army during a 22-year Army career.

Pollman, Robert A. BG, (2005). Comments are taken from opening remarks at the 3<sup>rd</sup> Base Camp Workshop conducted at the United States Military Academy, 10 May 2005.

Marich, Lou L. COL, (2005). Comments are taken from remarks at the 3<sup>rd</sup> Base Camp Workshop conducted at the United States Military Academy, 11 May 2005.

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