

ARMY ENGINEER

NOVEMBER / DECEMBER 2017

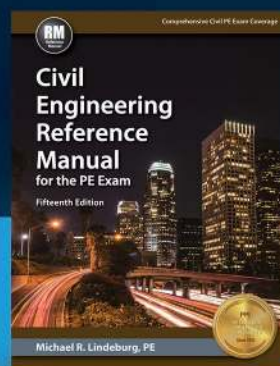


FIND, FIX, AND DESTROY:
37th BEB SUPPORTS TUAS OPERATIONS IN IRAQ

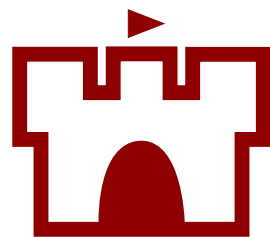
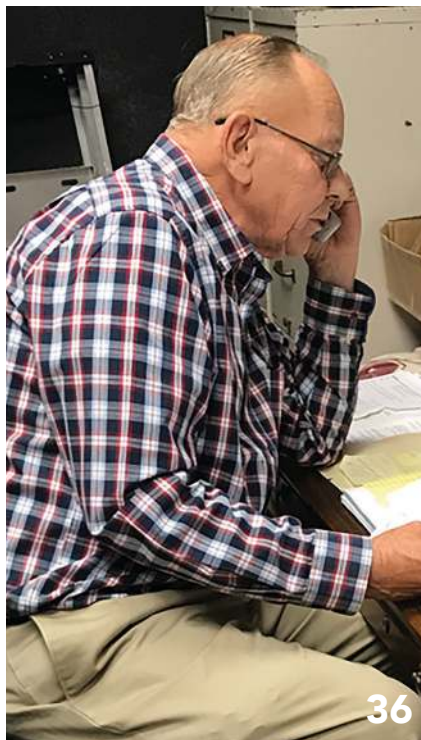
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MEMBER BENEFITS

The Army Engineer Association (AEA) is a member-based, nonprofit corporation specifically organized to facilitate cohesion, interaction, and networking within the United States Army Corps of Engineers' total family of soldiers, civilians, family members, and alumni. As such, AEA serves as both the "Honor Fraternity" and "Alumni Association" for the U.S. Army Engineer Regiment.

AEA provides its members with an Army Engineer Network for Life. Why is this important? Army Engineers excel at completing complex and demanding missions in war and peace, always performed with uncommon dedication, ingenuity, and unsurpassed standards of excellence. All members of this network are thus inseparably linked for life by their service.

Benefits include:

1. Affordable rates.

A 12-month regular membership is only \$25, a 24-month regular term is \$45, and a 36-month regular membership is a \$60 value.

There are even lower junior rates for currently serving soldiers and DA civilians in the following grades: PVT-SFC, 2LT-1LT, W1-W2, GS1-GS9. These lower rates are as follows: 15 months at \$15, 27 months at \$25, and 36 months at \$35. First-time, 36-month members, and lifetime members receive a complimentary Engineer regimental coin.

Lifetime membership for \$300 is available with a one-time payment.

2. Subscription to *Army Engineer*.

3. Opportunities for professional development.

4. Participate in award and recognition programs.

5. Discounts at the Engineer Regimental Store.

6. Eligibility for the award of academic scholarships.

Visit www.armyengineer.com to join!



When I came on board as the Executive Director of AEA, it was in part to develop the way ahead for the Association. For the past year, we have spoken with members of the Regiment, unit leadership, USACE, USAES, retirees, and veterans. We have used direct discussion, informal gathering at units, and a series of surveys across these groups through direct email, Facebook, and online.

This communication was structured to evaluate AEA programs' performance and their value to the members of the Engineer Regiment. We also looked at the various facets of a soldier's career and in which component they serve and solicited comments in each of these areas to better understand and improve our support to you and the Engineer Regiment. The table below is a compilation of the results.



Program/ Benefit	Performance	Value	% Retain At All Cost		
			AC	NG/AR	Retired
Magazine	Very Satisfied	Highly Valued	57%	55%	57%
Scholarships	Satisfied	Somewhat Valued	35%	44%	33%
Regimental Store	Satisfied	Highly Valued (-)	53%	42%	42%
Career Services	Satisfied	Somewhat Valued	26%	14%	25%
Individual Awards	Very Satisfied	Highly Valued	93%	82%	71%
Reg'tl Competitions	Satis/Very Satis	Highly Valued (+)	59%	54%	52%
Preserve Heritage	Very Satisfied	Highly Valued (+)	81%	82%	75%
Promote Camaraderie	Marginal Satisfied	Somewhat Valued	22%	18%	27%
Partner with Industry	Satisfied	Somewhat Valued	30%	29%	37%
Assist Unit Reunions	Satisfied	Somewhat Valued	19%	8%	29%
Honor Eng Sacrifices	Very Satisfied	Highly Valued	77%	69%	66%

There are strong trends in the comments in the following areas:

REGIMENTAL STORE

- lots of comments characterizing the customer service as superb
- need to get a true online store
- need to modernize the inventory, particularly in clothing

MAGAZINE

- needs to be online/digital, email, RSS feeds, available on smart phones, etc.
- balance content between USACE and the uniformed part of the regiment
- preserving/presenting Engineer heritage

WEBSITE

- too difficult to log in and update contact information
- Portions are dated and have broken links
- Difficult to navigate

While there were many great comments on things AEA is doing well, as with most After-Action Reviews, we focus on the negative areas in which we need to improve. Some improvements have already started while others will take a couple of months to be visible.

The members' portal has been reworked to simplify the process to update your information. I would ask you to make sure your email address is the one you'd like to use to receive digital content from AEA. We have made dramatic improvements in the members' database ease of use and accuracy.

Check out the article in this edition (p. 9) for a more complete explanation of all the changes that are happening.

We heard you and now we are taking steps to improve our support to you and the Engineer Regiment. As always, if you want to reach out to me personally, send your thoughts to xd@armyengineer.com.

ESSAYONS.

David Theisen
Executive Director
Army Engineer Association



KipperTool Corded Power Tool Kit

This tool kit provides construction engineers with corded power tools to supplement the Carpenter's Squad Tool Kit and can be used in any construction project involving wood or light metal. It's engineered with router cut foam and for increased accountability, durability, rapid inventory, and FOD prevention.

KIT CDSK-CORDED



KipperTool 60V Flex Cordless Power Tool Kit

Includes DeWalt LED Work Light, Impact Driver, Reciprocating Saw, Circular Saw, Framing Nailer, and other accessories all in one kit. The 60 Volt Flex delivers the power of corded tools in a cordless system. This Kit is engineered with router cut foam and for increased accountability, durability, rapid inventory, and FOD prevention.

KIT CDSK-WA-60V



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FROM THE EDITOR | army.engineer.magazine@gmail.com



It is the end of what I thought was a good run as I write this, and I am diminished and dismayed. This is my last issue as editor of *Army Engineer* magazine.

The powers that be, which include you, my gentle reader, have decided not to continue with a print version—and I am out of a job after seven years of dedication to making this the best publication I could, one of which I am immensely proud.

I cannot take my leave without thanking those who made my time with AEA a rewarding one: COL (Ret) Jack O'Neill, CSM Julius Nutter, CSM Glenn Stines, Linda Mitchell, Kirstina Colvin, Dina Youtz, and my predecessor, COL (Ret) Mike Morgan.

Thank you all for considering my skill with words and photos valuable and for respecting me as an integral



member of the team. I am now on to bigger and better things. Just watch me!

NO SURRENDER!

Beth

Beth O'Hara, Editor

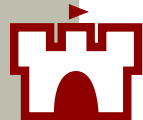
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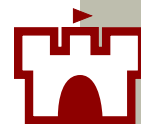
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Sweeping changes for AEA website and magazine

by **COL DAVID THEISEN**
EXECUTIVE DIRECTOR, AEA

AS YOU MAY BE AWARE, AEA has been engaged during the last year in dialogue with leaders, members, and veterans of the Engineer Regiment. Based on this feedback, the AEA Board of Directors has approved changes in several programs. These are the most important three.

1. INFORMATION TECHNOLOGY.

Our current 10-year-old technology for design and web hosting is ill suited as the primary interface for sharing information with our members. In July, we lost most of our independent editing capability based on phasing out of legacy software which made updating almost impossible. While we were able to redesign the member portal to be easier to use, it was limited by the loss of full website maintenance. The website has been the primary means by which members interact with AEA, and it is missing the mark in being able to support you. In the future, the website will become the backbone for information about the Engineer Regiment and will enhance our interaction with our members.

AEA has contracted for website redesign that will take place over the next couple of months. This will be a comprehensive redesign taking the 25 pages of bland text down to 10 interactive pages. The website will integrate *Army Engineer* editions, the weekly eNewsletter, and Facebook into one platform. The membership portal also will be integrated into this platform and follow an industry standard two-click process to navigate the site. We ask your patience as we are under construction; inevitably, we will have portions of the site offline for editing. When you are trying to get information on awards, scholarships, or items from the store, I ask that you reach out via email to FLW or to VA via email or phone, and we will get you what you need.

2. ARMY ENGINEER. In your hands is the last full paper-only edition of *Army Engineer*. There is overwhelming demand for a digital magazine that is smart phone or tablet readable, so the magazine will be primarily digital starting in January 2018. We will publish six digital versions on a bi-monthly basis and one paper edition per year. We will use a combination of direct email and website downloads as the primary distribution methods. We are looking at the yearly paper edition to be a compilation of the best products/news of the year. We will still print roughly 300 magazines per edition to forward to our advertisers and supporting firm members who require hard copies. We also will provide on request to the local AEA Chapters ten paper copies of each edition.

The internal updating of mailing addresses inside AEA also is unsustainable. We hand label and mail each issue of *Army Engineer* to ensure you get your magazine. In spite of a week-long, labor-intensive effort by the FLW team, roughly 10% of our members do not receive our magazine due to changes of address for each edition. Because we print 5,000 magazines per issue, almost 500 are missing out while they are moving to a new duty station. Lastly, the reluctance of advertisers willing to invest in a paper-only product is growing. Almost all newspapers and magazines (to include the other Regimental associations) have a digital version of their product. The logic is simple for advertisers; it is about getting the best value for their investment. With a digital format, advertisers (and article contributors) can go beyond the still photograph and include a 30-second video clip that is far more informative. This technology also enables us to have easy navigation and access RSS feeds as well as work with Facebook and other platforms.

3. THE REGIMENTAL STORE. The area that will change here is the addition of e-commerce technology to offer high-demand items online. The technology is a steep learning curve for AEA and expensive to start from scratch. The recommendation from industry is to work with an existing firm with proven security and e-commerce technology. Also, the regimental store has traditionally not carried items that are tied to specific units; in a brick and mortar store it is too difficult to stock inventory in this manner. With e-commerce, this becomes much easier, and we have decided to expand this area first. A significant portion of our unit heritage is on display in the Regimental Room. We are digitizing the plaques one at a time with a vendor. The goal is to eventually make all 138 unit plaques in the Regimental Room available through this vendor, and we aim to have the first 10 of these units online by Regimental Week 2018. We are collecting all the unit crests for units within the Engineer Regiment. We envision being able to get leather products, cups, key chains, glasses, and shirts proudly displaying your Distinctive Units Identifier. As we partner with the 3rd-party vendor to generate this capability, it means that the 10% member's discount will not apply to these items. Rather than share our membership data with the vendor, we have opted to get the best deal available and offer that to all interested parties. We hope to have the online products starting in December. Initially, there only will be a few products; we will broaden the range over time. As we grow this capability, we hope to integrate products into our Fort Leonard Wood store.

Lastly, we'd like you to provide a civilian email address in your contact information. As the Internet of Things

CHANGES continued on p. 11

Cape Cod Canal is a little greener with the purchase of electronic vehicles

by **ANN MARIE R. HARVIE**
NEW ENGLAND DISTRICT

THE CAPE COD CANAL TEAM recently became more environmentally friendly when they purchased six Polaris GEM eM1400LSV electric utility vehicles to replace the aging fleet of gas-powered John Deere Utility Gators. "These vehicles are exclusively powered by electricity and only need to be plugged in at night to be ready for the following day's work," said Park Ranger Ann Le Blanc. "These vehicles are safe, quiet, good for the environment, and very cute!"

Their appealing appearance was not the reason for their purchase, however.

According to Park Ranger Joe Mazzola, switching to electric vehicles would save park rangers time by not having to continually fill up the Gator tanks. It also eliminates the potential hazard of carrying fuel containers that could spill. "Moving to these smoother riding and quietly running vehicles will

increase operator situational awareness and reduce fatigue," he said.

Mazzola also said moving to electric will also work toward the District's sustainability goals to lower CO₂ emissions.

These vehicles not only will be healthier for the environment, but will save money, according to Park Ranger Michele Breen. "In 2016, we spent roughly \$3,500 in gasoline for the six Gators," she said. "We tend to keep our utility vehicles until the end of their life span, which in the case of the Gators is approximately 10 years. If gas prices remained the same for the next 10 years, our gasoline savings would amount to \$35,000."

Breen said gas estimates based on energy outlook predictions by the U.S. Energy Information and Administration indicated that the saving would be more like \$54,000. She said the older vehicles have found homes elsewhere in Operations Division.


The new vehicles are the latest in a series of initiatives the Canal has

undertaken in the last decade to make their project more environmentally friendly.

Other efforts have included a new, energy-efficient heating system; new LED lights and other work in the Canals' maintenance building; a new heating system in the maintenance shed and the Ranger Annex garage; and replacing and upgrading lighting at the Administrative Area, recreation areas, 14 miles of the Canal, as well as new Energy Star windows at the Herring Run comfort station.

The canal team is constantly looking to save money and improve the project's carbon footprint.

According to Scott Barr, Environmental Resource Specialist, upcoming projects include installing new fiber optic lines, replacing the Bourne Bridge lighting with LED lights, installing a new HVAC system in the administration building, and a possible midway solar array.

The canal's efforts are in keeping with the USACE sustainability plan. 

The new Polaris GEM will save the government thousands of dollars and significantly reduce the Canal's carbon footprint. PHOTO COURTESY USACE, NEW ENGLAND DISTRICT.

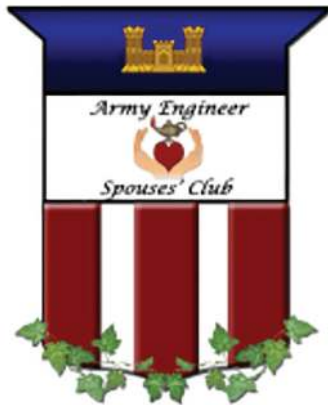


CHANGES *continued from p. 9*

is the future, there is full recognition that DOD email systems and servers also have been raising the bar on the defensive screening process. We currently have 4,200 .mil email addresses for our 7,500 weekly eNewsletter mailings. Many of our members report

that the newsletter is unreadable on a DOD system. Because there are constant changes to cyber defense, it is reasonable to assume that at some point DOD will eventually limit most content. Therefore, it is time to add a private email address to your member

information so that you can continue to receive our products. We will try several different delivery methods of email links and content to see what has the highest success rate. We will use the website as a distribution portal as well. 🏠



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For further information, the application, or to join AESC, please visit www.armyengineerspouses.com. 🏠



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Seasonal park rangers are true assets to our missions

PHOTO AND STORY
by **JASON TREMBLAY**
NEW ENGLAND DISTRICT

AS PARK RANGERS AND NATURAL

Resources Specialists in the New England District, we have many disciplines to manage. They include our primary mission of operating and maintaining our flood control dams to our other missions such as recreation management of the parks. Environmental stewardship encompasses our environmental regulations—in particular our natural resource management of wildlife, forestry, fisheries, and cultural resources. Other disciplines are interpretive services, visitor assistance (rules and regulations enforced under Title 36), and the administrative work of timekeeping, credit card procurement, contract administration, data calls, reports, etc. Before the larger influx of the public arrive at our parks, New England District's human resource specialists assist us with hiring our temporary full-time park rangers. Those temporary park rangers help us manage the additional workload during busy times in which we typically see construction and engineering projects in full swing. They come to our parks to help us and are tremendous assets to our programs and reflect positively on our agency as a whole. They are the familiar faces to the public that visits our civil works projects, the flood control dams, and our parks. The park rangers' time at the parks—typically three months—and contributions to our staff allow us to continue working on the various other high-priority duties that we manage, and this allows us to meet our mission objectives. It is important to recognize the contributions that our summer staff members make and to remember that they can also be tomorrow's leaders.

Our summer seasonal park ranger, Emily Acone, is a biology major at Syracuse University. She has been a tremendous help to us here at Edward MacDowell Lake with our recreation management and natural resources management programs. In addition

to her other duties, she monitors and observes the turtle nesting area and records field notes. She manages the Blue Bird Nesting Box Program and collects data from the boxes. She also assists with monitoring aquatic and terrestrial invasive plants in the park.

The natural resource work that Acone is helping us with goes a long way toward meeting our environmental stewardship goals, and it reflects positively with the public. As budgets tighten, it is important not to overlook the natural resource management objectives.

In addition, Acone is picking up valuable on-the-job experience that will help with her career aspirations in biology. Without our summer park ranger, we would have fallen short on meeting and accomplishing the work we set out to do for our mission objectives.

So many may ask, what do the full-time temporary park rangers do? In most respects, they have many of the same duties that full-time permanent park rangers do. They operate and maintain recreation facilities to provide for the safe and healthful enjoyment of public land by present and future generations.

Summer rangers prepare and present interpretive programs for either on-site or off-site locations. They update bulletin boards, interpretive displays, and websites. The summer park rangers also are able to provide first aid and CPR.

At their assigned recreational facility, summer park rangers manage the



Summer park ranger Emily Acone repairs a bird box as part of her duties at Edward MacDowell Lake.


lands, waters, plants, and animals to conserve, preserve, and protect those resources now and for the future. Other duties can include monitoring both plant and animal pests, protecting known cultural resource sites, and complying with all the safety rules and regulations to keep themselves and their co-workers safe.

New England District's summer park rangers support the mission of USACE at all levels.

Whenever possible they tell the Corps' story using articles, websites, and public speaking. They also form partnerships internally and externally to promote the Corps and project missions.

Acone is just one excellent example of a New England District summer park ranger.

If you look around at the other projects, there is more young talent out there making a difference for us in the New England District. The Pathways program and temporary hire registry make a difference to our success.

In some cases, these programs have given opportunity to hard-working and talented individuals to be hired on by our agency on a full-time permanent basis to make additional contributions for the long term. 



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WHO'S THE BOS?

by **LTC SEBASTIAN PASTOR** and **CPT JOSHUA NEWBERRY**

SGT Frederick Mickle, a horizontal construction engineer, A Co., 37th BEB, 2nd BCT, 82nd ABN DIV, observes as an Iraqi federal police member builds a berm during a training course to construct counter-mobility obstacles at Q-West Airfield, Iraq.

FOR MOST OF 2017, the 37th BEB, 2nd BDE BCT, 82nd ABN DIV, has operated the intermediate staging base (ISB), Qayarah West (Q-West) Airbase, in support of Operation Inherent Resolve (OIR). Managing the ISB included resourcing and leading the base operating support-integrator (BOS-Iâ) cell, base defense operating center (BDOC), and performing the communications integrator (COMM-I) function. Additionally, the ISB had an active C-130-capable airfield managed by a U.S. Air Force senior airfield authority (SAA) cell and was frequently utilized by U.S. and Iraqi Air Force and Aviation assets. This article discusses the methodology utilized by 37th BEB to manage all stakeholders within the ISB and the coordination of resources utilized to expand its capabilities during the OIR deployment.

MISSION

2BCT's mission in theater centered on battalion advise-and-assist (A&A) task forces with the mission of enabling Iraqi Security Forces (ISF) partners with the annihilation of the Islamic State of Iraq and Syria (ISIS) within the Combined Joint Forces Land Component Command-Operation Inherent Resolve combined joint operations area (CJOA). 37th BEB supported this operation through three lines of effort (LOE):

1. Management of Q-West Airbase to enable the BCT's force projection in the CJOA
2. Assured mobility and area security through route clearance packages (RCP) to extend the battalion task forces' operational reach
3. General engineering through light engineer (LE) platoons designed to enhance force protection throughout the CJOA.

TASK ORGANIZATION

The ISB was in its initial stages of being occupied and established by coalition forces during the battalion's pre-deployment site survey in late 2016; further compounding this unique problem set were force manning-level constraints that limited the number of soldiers the battalion and BCT could deploy forward.

Given the importance of sustaining and maintaining a variety of mission-command systems within the ISB and in particular preserving the vital link with the SAA to ensure uninterrupted use of the airfield, the BEB's Signal Co., C/37 BEB, was selected as the BOS-I with its company commander managing this cell. Deploying C/37 BEB also provided the battalion with organizational efficiencies as the signal company commander also performed the COMM-I function.

The BEB was task organized with C/1-73 CAV during the duration of its deployment for ISB security with the troop commander serving as the BDOC OIC. His headquarters element manned the BDOC, including a robust set of sensors that greatly enhanced force protection within the compound and around the airfield.

The BEB staff operated from its tactical operations center within the ISB, centrally located with the BDOC cell and BOS-I cell for ease of communication and unity of effort. The BEB staff served to synchronize and prioritize ISB resourcing while also supporting the BCT with the BEB's two additional LOEs: assured mobility and general engineering effort.

THE ISB

Q-West consisted of multiple organizations from sister services and partner nations who were not task organized under the BEB but operated as tenants within the compound, requiring varying levels of support and relying on our structure for all manner of basic life services (BLS) and force protection requirements.

Each of these organizations provided the BCT with unique capabilities to assist in the military defeat of ISIS; therefore it was a priority that they be

successfully postured to support the mission when needed.

The population within the ISB experienced significant flux periods, especially through the early stages of the deployment, when its personnel size doubled due to operational reasons, which required expeditionary means to temporarily house the influx of personnel and adjustment of all logistical contracts to meet high peak demand. Other than this dynamic period, the ISB population remained at a relatively steady state throughout the remainder of the deployment.

Q-West served as the logistical hub that supported all of the BCT's A&A task forces and their expeditionary array of mission command nodes in and around the city of Mosul while also hosting multiple contractors and field service representatives that facilitated equipment repairs. Mainly they supported the maintenance of a large fleet of Route Clearance Package (RCP) equipment owned by the BEB. In addition to its logistical function, the ISB also provided advanced trauma management and emergency medical treatment operated by a Navy Expeditionary Medical Unit (EMU) and active firing points for various surface-to-surface assets.

Q-West and the airfield were located within an Iraqi perimeter with multiple units that include Iraqi Federal Police, Iraqi Army, and Iraqi Air Force and Aviation units; an Iraqi Air Force general officer served as the base commander for the perimeter that enclosed the ISB and airfield. Security and force protection efforts were coordinated with our Iraqi partners and increased over time through continual key leader engagements (KLE) and other partnership efforts.

THE AIRFIELD

The airfield adjacent to Q-West was secured by BDOC forces while the SAA managed all operations within the airfield. These operations consisted of airspace de-confliction, runway repair, passenger transportation, and A&A missions with the Iraqi Air Force in order to build their enduring capability to sustain their own airfield

management operations. Life support for the airfield was pulled directly from the ISB. The BEB provided food, fuel, maintenance support, and mission-command systems services for every element stationed on the airfield.

The airspace and airfield was a dynamic environment used by various tactical unmanned aerial systems (TUAS), HIMARS, and U.S. fixed- and rotary-wing assets that supported various critical missions for the BCT. The airfield maintained a TUAS compound with two platoons, as well as Iraqi fixed- and rotary-wing assets who operated daily out of the airfield in support of their objectives.

The BEB conducted several force-protection projects in support of airfield operations to include TUAS repairs and mission-command node construction efforts for a variety of BCT information collection (IC) platforms. Outside of force-protection projects, the BEB provided a management team that supported the airfield with crash response and foreign object damage (FOD) mitigation. The airfield remained very active throughout the deployment with its runway and platforms utilized by both U.S. and Iraqi Air Force and Aviation assets.

THE STAKEHOLDERS

Many joint and coalition units rotated in and out of theater during the BEB's tenure on the ISB, and many depended on the BEB for mission support. Organic BEB route clearance patrols played a critical role in securing the routes between the ISB and multiple tactical assembly areas (TAAs) closer to the fight. The light equipment operators were employed on the ISB through minor airfield repair, life support area (LSA) site preparation, and many force-protection improvements. With the inherent lack of resources due to the ISB's contingency status, the BEB still improved many aspects of the ISB. The BEB conducted site preparation for new contracted LSAs, all of which were needed to finally meet CENTCOM *Sand Book* standards. The fuel supply point, which stored various fuel types, required a major reconstruction effort to bring

it into compliance with safety regulations. Based on an expeditionary but robust design, LE platoons bermed containment areas to permanently house fuel blivets.

Other projects contributed to the sustained readiness of all ISB tenants while increasing the force protection of the base. The most significant projects were a small-arms range and crew-served weapons range, several force-protection efforts, and multiple health and safety projects. First, through extensive excavation work, a small arms range was dug over 15 feet underground, ensuring risk mitigation for the Iraqi partners and airfield operations on the base. The excavated soil from these projects facilitated berm development and sandbag emplacement to further the force protection on the base. Lastly, the fire-fighting detachment used one of the burn pits for the hundreds of wooden pallets and dunnage the ISB received and stockpiled weekly.

ISB stakeholders' needs often had to be met quickly. For example, the LE platoons responded on multiple occasions to conduct expedient repairs of the TUAS flightline. After locally sourcing the materiel required for repair, the repair itself had to be synchronized with the BCT intelligence collection plan. The agility needed to conduct these repairs at critical times necessitated the development of a small "on-call" team that could be notified to quickly respond to emerging repair needs.

LESSONS LEARNED

1. CENTCOM Sand Book. Understanding the level of contingency location (initial, temporary, semi-permanent) was key to determining requirements and standards at the ISB. The CENTCOM *Sand Book* establishes guidelines for the planning and development of enduring and non-enduring locations within the CENTCOM area of responsibility which then determines authorized facility guidelines. These guidelines provide a framework for base camp development within the ISB and allocation of critical resources.

2. Base Camp Development. Training and establishing a robust construction cell within the BEB were critical in the management of construction and contracting and developing long-term projects in support of ISB expansion and capabilities enhancement. Before deploying, the BEB was assisted by the Mobile District, USACE, through a 40-hour block of instruction on base camp development. This class served as the foundation on which the BEB's construction cell developed the systems and processes to manage construction priorities within the ISB and in support of theater-wide BCT general engineering projects.

3. Contracting Officer's Representative (COR). COR training conducted online prior to deployment and while deployed were key in establishing conditions for BEB personnel to successfully manage all manner of contracting, with all contracts totaling tens of millions of dollars. The types of contracted support ranged from basic life support to construction and deconstruction projects. Contract management required CORs to analyze the requirements for an ISB whose tenants changed often, necessitating the CORs to balance the needs of stakeholders whose interests sometimes conflicted.


4. BOS Matrix. Understanding one's roles and responsibilities is key in managing complex operations. An effective tool used to manage BOS-I, SAA, BDOC, and COMM-I functions was the creation of a BOS Matrix. The BOS Matrix served as a simple tool to reduce friction and enhance coordination within the many entities of the ISB.

CONCLUSION

Management of an active ISB with limited resources and myriad stakeholders is a complex operation but can be mitigated through continual communication and inclusivity of all stakeholders. An adaptive battle rhythm greatly assisted in providing a structure to address the various concerns and resource requirements among the many tenants within the ISB. Several daily

touch points were conducted so all organizations had a forum to discuss requirements, providing the BEB staff the ability to prioritize and deconflict accordingly.

Understanding where the ISB is in time and space is critical in focusing on the request and receipt of the correct resources from higher headquarters in support of continued base camp development and expansion. A key tool for articulating requirements is the CENTCOM Handbook that provides guidelines and construction standards in support of ongoing operations.

Management of an ISB does not need to be performed by a BEB but can be similarly managed by a Brigade Support Battalion (BSB) with a robust engineering cell to manage base camp development, construction, and COR responsibilities. The BEB did not receive any specialized training for ISB management, but that did not hinder the BEB from adaptively learning ISB management while simultaneously supporting the BCT with assured mobility and general engineering support. 

LTC SEBASTIAN PASTOR commands the 37th BEB, 2nd BCT, 82nd ABN DIV. He is a graduate of the Combined General Staff College, Engineer Captains Career Course, and the Engineer Basic Officer Leaders Course. He holds a bachelor's in civil engineering from the University of South Alabama, a master's in construction management from the University of Missouri Science & Technology-Rolla, and a master's in environmental engineering from Stanford University. He is a PMP and a LEED-accredited professional.

CPT JOSHUA NEWBERRY commands C Co., 37th BEB, 2nd BCT, 82nd ABN DIV. He is a graduate of the Signal Captains Career Course and the Signal Basic Officer Leaders Course. He holds a bachelor's in criminal justice from Morehead State University. He is a certified Cisco systems manager and a battalion-level network administrator.

THE JOURNEY: CONTINUOUS PROCESS IMPROVEMENT (CPI)

by **MARK L. BENNETT**, USACE, SOUTH PACIFIC DIVISION, ARMY BBC AND AIR FORCE BB

IN TODAY'S TECHNO-ADVANCED, need-it-now society, it has become more important than ever to know your business, to understand the Voice of the Customer (VOC) and embedded quality, and to lower the cost of doing business.

To be a leader in industry it takes guts, drive, and innovation.

However, without a true foundation of a CPI culture lacking a guiding coalition, most businesses will be just average. CPI not only streamlines your processes but empowers the most important asset in any business ... your employees! It's your employees who have that tacit process knowledge—or knowing—to perform tasks faster, better, and cheaper. Taking this tacit experience and turning it into explicit knowledge or documented standards provides the best cost-effective way to present reliable services to your customers.

Then understanding the VOC will identify the three key elements for customer satisfaction:

- What is their expected delivery target?
- How much will the service cost?
- What exactly do they want?

Too many times, businesses “assume” what a customer wants. Thus,

we add waste into our processes the customer really doesn't care about.


One of my CPI mentors told me, “Be transparent and teach them all you know because your competitor will drive you to be better each and every day.” By being transparent and showing your customers/competitors what you do will always drive you to be innovative, to reduce process times, and to create capacity. Without this burning platform, most businesses will just be average and usually fail to meet customer expectations. When this happens, your competitors will be sure to pass you by. If a business becomes complacent in what it does, the downward spiral takes effect and it is always difficult to recover.

The first step to begin this journey of transformation is by establishing your mission or why you even do what you do. Then determine your vision or how you are going to achieve world-class status. Finally, build your 12-month business execution plan for the future.

It is important to have a skilled CPI practitioner on board to provide the tools and methodology for change. These CPI Black Belts bring an outside perspective and challenge the status quo. The skilled business surgeons understand how to establish the foundations of CPI into your business using many years of real-world application.

So, do you really know what you do, how to do it well, and how much it costs to perform on a daily basis? My guess is “No.”

I would ask myself: Are we meeting the VOC? Is the workforce empowered? Are we willing to change? The main goal should be not to simply meet expectations but to become the choice!

In closing, reach to a CPI professional to provide the tools to change. Start creating a culture of change throughout every aspect of your business. Empower your workforce to be the drivers in streamlining your processes. Then reach out to your customer to understand the true VOC. 

MARK L. BENNETT serves as the CPI, Quality and Knowledge Management Lead, for USACE, South Pacific Division. He holds a Black Belt certificate from the Air Force and is a Black Belt candidate for the Army. Mark has more than 17 years working as a civil servant business CPI practitioner. He can be reached at Mark.L.Bennett@usace.army.mil, 415.503.6534, USACE-SPD, 1455 Market Street, Suite 2080, San Francisco, CA 94103.

The USACE CPI Master Black Belt is **ROBERT K FUQUA**. He can be reached at 202.761.8584.



PROVIDING A DIFFERENT PERSPECTIVE: Army officers serving as project managers in USACE assignments is a win/win

by **CPT AARON F. ANDERSON, P.E., PMP**

BY APPLYING LEADERSHIP and problem-solving skills honed in the military, officers can overcome a lack of experience to provide alternative perspectives to USACE districts and successfully serve as project managers handling large civil works infrastructure projects.

INTRODUCTION

The use of active duty Army officers as project managers within USACE, especially districts whose primary mission is large infrastructure civil works projects, is an uncommon practice. USACE is an organization built from within the Department of the Army upon inception, and many USACE districts relied primarily on military officers to perform most of their required duties as the country expanded through WWII. Yet, today, the Army assigns the majority of Army officers either as commanders or as broadening assignments for short tours lasting two to three years. With Corps infrastructure projects ranging from hundreds of thousands to multi-

million dollars, it is a sound practice for experienced civilian project managers with longevity in their assigned districts to oversee work completed. The use of Army officers in project manager roles brings about a set of unique challenges that organizations must overcome, but utilizing officers in this way also provides advantages based upon their military backgrounds. In those organizations where the right combination of certified, determined military officers can pair with experienced supervisors and project delivery teams (PDT), there exists the opportunity for the organization to learn and grow as a whole by assigning active military to unfamiliar positions.

A FRESH PERSPECTIVE

Upon taking over as project manager, regardless of the project's stage in the life cycle, it becomes clear that a PDT is unlike a typical military unit. As an Army officer commanding soldiers, officers have enough skills and experience to perform and manage the troops in their unit by setting the example and leading from the front.

There are basic skills that all members in the military are required to master, and this leads to a common point of reference.

Inside a civil works infrastructure project there is no such common ground. A PDT will consist of highly skilled individuals who are experts in their skill sets such as engineering, contracting, legal, public affairs, resource management, etc. It would be unrealistic to believe the project manager could walk into a project and be considered the subject-matter expert in these different roles; therefore, the realization that the project manager is not the technical expert in the room becomes not only accepted but essential to project success. Officers must be willing to ask the tough questions—and the simple ones. The intent is not to become the expert in each field, but rather create a common operating picture between the project manager and the team in order to ensure that the project manager can best utilize resources and manage stakeholders to ensure project/team/organization success.



STAKEHOLDER MANAGEMENT

To be successful, the incoming officer, as a project manager, must listen and be open to accepting the advice of his or her PDT, while at the same time use their outside perspective to question those recommendations that lack detail and understanding. When identifying stakeholders, it is imperative to know not only the PDT members, but also their supervisors so that the officer can seek answers to questions and guidance to bridge the gap caused by inexperience. Seeking out the guidance of leadership and supervisors in the organization allows the project manager to achieve buy-in on decisions and opens the door for further professional development. Much like in the military, civilian organizations solve some problems best with experiential knowledge. While the military officer may lack this experience personally, the ability to seek out those who can provide it is a required skill.

Officers who take the time to get out from behind the desk as much as possible and sit down with each team member gain a better understanding of their duties and responsibilities. In addition, visiting project sites and discussing the technical aspects of the work allows officers to create a common operating picture among the PDT. This may be difficult as one tries to wrangle with the scope, schedule, and budget of each project, but it is an action that serves several key purposes.

Shadowing team members allows the officer to gain a better understanding on how to lead each individual employee on the team, and in return, the team member gets the feeling that the project manager cares about their work (which fosters member buy-in). In addition, it allows the project manager to ask questions and identify inefficiencies that may build over time as employees spend years in the same positions.


The project manager then has the opportunity to reciprocate the education they receive by instructing the team on the military and its methods so that the team has a better understanding of their leader.

LEADERSHIP IS APPLICABLE ACROSS ORGANIZATIONS

Regardless of an employee's age or position within an organization, he or she looks to supervisors and managers to serve as leaders and to provide purpose and direction. By nature of the position assigned and the duties inherited, the project manager becomes that leader. It is in this leadership role that the officer can overcome a great deal of the technical and experience-based gaps that result from not working in the industry. The Army and Project Management Institute (PMI) both identify multiple leadership traits attributed to success in each career field. To start with, officers understand chain of command and the importance of communication both to superiors and members of the PDT. Upon taking the position as a project manager, one becomes a part of a wide array of meetings. Whether the project manager is hosting the meeting or simply participating, the meeting forum allows him to display how comfortable he is communicating to groups of people. This forum can provide the officer with an initial boost in credibility from her civilian counterparts who may not have had very much interaction with uniformed service members. While getting up to speak may cause anxiety in others, an officer in the Army at this stage in his career already has commanded platoon- and company-sized units consisting of 50–250 soldiers and understands and exercises the principles of mission command. More than 15 years of persistent conflict has created a military population in which the majority have served in combat zones, and today's officer brings a different perspective to the organization on how to manage stress and prioritize conflict. Becoming anxious or flustered over smaller issues only serves to erode the confidence that the organization has in the leader, and a experienced military officer understand this. At the end of the day, ensuring that mission accomplishment is nested into the organization's larger picture (regardless of individual project success) and ensuring that managers and leaders are taking care of people is most important. The same officers

who have been trusted with the lives of 250 soldiers also have been in charge of millions of dollars of equipment and property; therefore, the sticker price associated with the cost of large infrastructure projects is not overwhelming.

CONCLUSION

Being a project manager in an organization as diverse as USACE is a demanding and challenging assignment for officers with little experience with USACE or PMI-specific processes and in managing civil works and large infrastructure. However, like other military assignments, district commander's assign officers to their positions because they have trust in their capabilities and potential. The size and scope of large infrastructure is simply too great for districts to accept the risk of failure, and they trust their officers to produce results. Officers will undoubtedly experience a steep learning curve, but at the same time will give back to the organization in their ability to provide a new and open perspective to problems and take charge when leading people. In the end, the long-term benefits to the organization are a fresh perspective of business practices and the development of talent for future USACE assignments. In return, the officer gains valuable project management experience, leadership skills specific to civilian organizations, and a greater understanding of the broad scope of engineering opportunities in the U.S. Army and how USACE meets the needs of the nation. 

CPT AARON ANDERSON

is a project manager for civil works infrastructure with the Portland District. He also served as a company commander with 2nd BCT, 101 AB DIV (Air Assault).



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FIND, FIX, AND DESTROY:

WHEN THE 37TH BRIGADE

Engineer Battalion (BEB), 2nd Brigade Combat Team (BCT), 82nd ABN DIV deployed to Qayarah West Airbase, Iraq, in support of Operation Inherent Resolve (OIR), Iraqi Security Forces (ISF) were engaged in intense ground combat with the Islamic State of Iraq and Syria (ISIS) in Mosul. The ISF relied heavily on indirect fire support from their American partners to continue their steady advance in Mosul—fire missions that were only possible as a result of the full-motion video (FMV) provided from the BCT's Tactical Unmanned Aircraft Systems (TUAS) platoon. The TUAS platoon, part of Delta Co., 1-73 CAV SQDN, fell under the operational control of 37th BEB throughout the deployment.

In its role as the Base Operating Support-Integrator (BOS-I) at Qayarah West Airbase, 37th BEB was responsible for keeping this critical BCT intelligence collection asset flying, enabling the platoon to fly more hours than any other TUAS platoon in support of OIR. The 37th BEB enabled this asset through myriad efforts, including expeditionary repairs of the TUAS runway, maintaining the critical mission command architecture for the TUAS mission, establishing expedited logistical resupply, achieving maintenance excellence, and implementing creative solutions to

mitigate the extreme heat effects on the systems.

SHADOWS IN THE FIGHT

Equipped with several RQ-7 Shadows, the TUAS platoon accomplished three primary missions while deployed in support of OIR. These missions were current operations support to the ISF, intelligence collection for deliberate targeting, and intelligence collection for dynamic targeting. For example, multi-discipline intelligence identifies patterns which drive the BCT targeting process. The UAS was an integral part of this process, and its FMV capability helped identify targetable patterns that could eventually lead to strikes. Finally, once the trigger is met, FMV and updated locations from the Shadow were used to conduct a series of strikes using close air support (CAS) or surface-to-surface fires. The process usually resulted in all enemy and equipment destroyed. Breaking records within OIR, the platoon flew more than 1.5 times the number of hours of any other TUAS platoon in support of OIR. Not only did the platoon provide constant coverage, it was also agile enough to fly multiple aircraft at the same time based on intelligence collection needs.

EXPEDITIONARY RUNWAY REPAIRS

Qayarah West Airbase was under ISIS control from

2014–2016, and ISIS heavily damaged the C-130-capable runway, taxiway, and apron prior to ISF seizing the base in late 2016. The U.S. Air Force conducted initial repairs of the airfield to allow C-130s to take off and land at Qayarah West, in addition to repairing a portion of the taxiway to be used as a TUAS runway.

Following the initial repair, the runway was affected by the highly variable weather of northern Iraq, subjected to extreme sun, wind, rain, and dust storms. 37th BEB conducted expeditionary repairs of the runway as cracks opened and spalls developed, using simple concrete and water during opportune times of inactivity. The keys to success in maintaining the runway were constant communication between the BEB tactical operations center (TOC) and a small, responsive team of soldiers with the tools and knowledge to conduct minor concrete repairs on short notice.

MISSION-COMMAND ARCHITECTURE

The TUAS platoon relied on the BEB S-6 personnel as well as the Network Operations (NETOPs) section from BEB's Charlie Co. to maintain the platoon's critical communications architecture. The TUAS operators relied on their ability to talk directly to the maneuver battalion assisting the ISF in contact

with ISIS, and the maneuver battalions and BEB TOC relied on various mission command systems to view the real-time feeds the Shadows provided. Without the quick responsiveness of the S-6 and NETOPs soldiers, the Shadows would have been completely ineffective.

LOGISTICAL RESUPPLY

Resupplying the TUAS platoon at Qayarah West Airbase was multifaceted but streamlined to sustain operations. 37th BEB was responsible for moving more than 40,000 gallons of aviation gasoline (AVGAS) to fuel the Shadows, ensuring there always was a safe reserve of AVGAS on hand. In addition, 37th BEB was responsible for refueling the ground support equipment and vehicles, providing in excess of 200 gallons of Jet Propellant 8 daily. Generator mechanics regularly serviced and maintained all the generators supporting the ground equipment for the platoon. Also, 37th BEB delivered two meals a day to the TUAS platoon at the flight line, which allowed the platoon to constantly operate conducive to the BCT's intelligence collection plan.

MAINTENANCE

Perhaps the most critical aspect of 37th BEB's support to the TUAS platoon was their incorporation into the maintenance program. The TUAS platoon leader

37TH BEB SUPPORTS TUAS OPERATIONS IN IRAQ TO ENABLE THE ANNIHILATION OF ISIS

by CPT DANIEL FILCIK and CPT DANIEL COURTNEY

FILCIK • COURTNEY



Paratroopers from the TUAS platoon load a Shadow onto the launcher in preparation for a mission over Mosul, Iraq.

attended weekly battalion and brigade maintenance meetings and submitted daily status reports to the BEB TOC summarizing combat power and required support. Flying their daily sortie schedule necessitated all ground control stations to be fully mission-capable (FMC) and most of their aircraft FMC at any given time. The ability of the BEB maintainers and civilian field service representatives (FSRs) to quickly identify issues in an incredibly complex system saved days of grounded time and allowed the platoon to continue to fly. In addition, the BEB S-4 spearheaded an effort with the BCT mobility officer in Kuwait to establish a system to expedite replacement parts into Iraq.

ADAPTIVE SOLUTIONS TO UNEXPECTED PROBLEMS

The Shadows provided a constant opportunity to respond to unforeseen challenges to keep the aircraft flying. For example, the BEB staff had to work to mitigate issues caused by the extreme heat through the summer months in Iraq. To prevent loss of performance, the BEB developed creative solutions, including fabricated wooden and camouflage netting and air conditioning units to moderate temperatures for certain components. Of note, each Shadow mission involved a risk assessment in which the BEB commander ensured the lowest possible level of residual risk was achieved.

BEB-ENABLED ASSET

The TUAS platoon provided an absolutely invaluable asset to the BCT in the

fight against ISIS during their OIR deployment. The platoon's record-breaking performance and nearly immeasurable operational impact could not have been achieved without the broad and persistent support from the 37th BEB. From the no-notice repair of a cracked runway to the joint coordination with the Air Force to develop a reliable and responsive supply chain, the 37th BEB enabled the TUAS platoon to excel as the BCT's primary means of intelligence collection, surveillance, and reconnaissance. 🇮🇶

CPT DANIEL FILCIK was formerly the chief of operations (CHOPS) for the 37th BEB, 2nd BCT, 82nd ABN DIV. He is a graduate of the Engineer Captains Career Course, the Engineer Basic Officer Leader Course, and Ranger School. He holds a bachelor's degree in civil engineering from USMA and a master's degree in civil engineering from the Missouri University of Science & Technology-Rolla, MO. He is a registered professional engineer in Missouri.

CPT DANIEL COURTNEY was formerly the TUAS Platoon Leader for 1st SQDN, 73rd CAV REGT, 2nd BCT, 82nd ABN DIV. He is a graduate of the Armor Basic Officer Leader Course, Ranger School, Pathfinder School, and Airborne School. He holds a bachelor's degree in finance from the University of Notre Dame.

Paratroopers conduct a Shadow engine replacement at Qayarah West Airbase, Iraq.



SEATTLE DISTRICT INTERNSHIP PROGRAM WITH 555TH EN BDE DEVELOPS TECHNICALLY COMPETENT LEADERS

by **CPT DANIELLE PETERSON**, SEATTLE DISTRICT

OFTEN REFERRED TO as the "Jack of all trades," this equivocal nickname does not do the Engineer branch justice. Engineers boast an extensive history of expertise and are frequently sought after for solutions to the challenges no one else can solve. According to *Merriam-Webster Dictionary*, an engineer is "a person who carries through an enterprise by skillful or artful contrivance." This definition suits engineer leaders perfectly.

Another *Merriam-Webster Dictionary* definition of an engineer is "a person who has scientific training and who designs and builds complicated products, machines, systems, or structures." USACE has people who do just that.

USACE was founded in 1802, a mere seven years after the Engineer Branch was established. The initial purpose of USACE was to augment the Army through the foundation and operation of the U.S. Military Academy at West Point. USACE's mission has grown and evolved with the nation's ever-changing needs. Today, USACE provides many services to the nation, including outdoor recreation, environmental engineering, operation and maintenance of dams and waterways, preservation of wetlands, hydropower, technical and construction

support nationally and internationally, emergency response support, and research and development of natural resource preservation technologies.

The missions, training requirements, and everyday demands on the typical engineer unit vary greatly depending on current Army needs. Depending on one's career path, exposure to the execution of complex technical construction could be very limited. However, as engineers, it is likely that a maneuver unit will ask us to provide these services at some point in our careers.

The 555th Engineer Brigade's partnership with USACE's Seattle District has opened up a window of opportunity for engineer leaders to gain confidence in their skills in the technical engineering field from those who are experts in the analysis and execution

of large-scale, complex projects. Interns can fill and supplement the roles of project managers, project engineers, quality assurance

representatives, technical construction engineers, and design engineers.


While these are the roles that most interns fill, this list is not exhaustive.

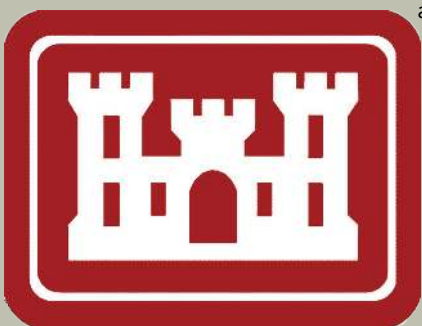
I have served as an intern for six months and

have had the opportunity to work as a technical engineer in Seattle District's Construction Division as an assistant project engineer on a four-building project site at Joint Base Lewis-McChord, WA, and in the Design Branch's Civil Engineering Section. Although I acquired some understanding of how construction activities are executed while I was a horizontal platoon leader, the amount of technical expertise I've gained while working with USACE is incomparable.

I have learned about federal-, state-, military-, and USACE-specific safety regulations and construction codes. I have learned how to properly provide quality assurance and conduct technical inspections on a construction site. I have picked up various bits of knowledge on which products and designs really work and result in a quality end product. I have witnessed the result of great attention to detail in both design analysis and the construction phases. I have learned from the best what a good partnership with a contractor looks like.

This experience has not only developed my technical skills, but has opened my eyes to the vast capabilities of USACE and how it operates. This is valuable for all Army leaders to understand on some level. For example, knowing how to utilize USACE as a resource, understanding how projects get authorized and appropriated, or even just being aware of future career opportunities for soldiers getting out of the military all are useful things of which to be aware.

In a time when our nation is trying to build a tactically and technically competent engineer force, all engineer units should take advantage of the USACE internship program as an invaluable resource. 



ENGINEERS IN SABER KNIGHT²⁰¹⁷

by **CPT ERIC KNIGHT**

PHOTOS BY SSG MATTHEW KEELER,
PAARNG

SABER KNIGHT is the annual culminating command post exercise in which the Danish Division tests their orders and decision-making process against a simulated OPFOR.

Members of the Danish Division include two Danish brigades, two Estonian brigades, a Lithuanian brigade (Iron Wolf), and a Latvian brigade with support from U.S., Slovakian, and German forces. Like last year's exercise, the division was enhanced with the support of a Marine expeditionary unit.

For engineers, participation in exercises such as this serve a twofold process: 1) to identify engineer support to the planning process and 2) to understand friendly-force engineer capabilities. With the former, understanding NATO doctrine develops a baseline which all nations adhere to while also utilizing their own decision-making processes in developing a common operating picture. And in the latter, it is important to understand how the Danish Division, its subordinate brigades, and U.S. forces can best develop a symbiotic relationship with the resources each nation brings into the fight.

There are similarities among the exercises in which the terrain in a defined geographic location has terrain meant to challenge planners and allow them to become conformable in understanding the effects it will have on the various units assigned. The enemy also is multi-faceted, having both a conventional-based force and a main armed-insurgent group being a non-conventional force that mirrors our own OPFOR set.

With this event the theme was offensive operations, which was a carryover from Saber Knight 2016 which dealt with the defensive aspect. The first phase of the operation dealt with crossing a river wide enough to force the use of other NATO equipment. In this case, the operation required four ribbon bridges to be constructed to support the divisional crossing. While this was being planned, the Estonian and Latvian brigades also conducted reconnaissance to find fording sites, and the Estonians developed a fifth crossing utilizing organic assets to support their throughput of logistics and rearward movement of equipment and personnel.

Once the bridge sites were erected and lead brigades crossed, security and maintenance of the bridges was handed over to a newly developed element, the COMM CROSS, which was derived from members of the Divisional headquarters and a divisional support engineer battalion. This complex piece was taken very seriously because the majority of the planning dealt with the execution of sub-phases of the river crossing itself.

To further challenge the brigade engineers, injects dealt with a myriad of obstacles such as road damage, enemy obstacle emplacement, damaged infrastructure, and, in order to protect the division flanks, construction of defensive obstacles. Most of these injects were developed to be outside the capabilities of the brigades organic assets, requiring them to contact division and adjacent units for support and even force some creative thinking.

Another action taken during this year's exercise was testing the individual brigade commander's rapid decision-making process by deliberately changing objectives at the last minute due to the designed

enemy movements. For the brigade engineers, this meant taking a view of the terrain and enemy situation and effectively distributing engineer assets to gain the best effect for the accomplishment of the commanders' mission. This action also supported brigade commanders in meeting their additional functional area training objectives. One such example was to develop a defensive screen while the main division movement shifted its axis of advance.

Preparation for this mission consisted of personnel from the Danish division coming to Fort Indiantown Gap, PA, and briefing the U.S. contingent on the purpose of the exercise, what to expect, what the division wanted the brigades to accomplish, and what the brigades wanted to accomplish. This information assisted the Observer Training Team to better assess how the brigades were executing the division order and in this case assist the brigade engineers in supporting their commanders' view of the operational area and developing a common operational picture throughout the division.

Some key takeaways and

lessons learned from the brigade engineer perspective:

"The biggest takeaway from our side would be that we better understood the planning and execution of river crossing OPS and also the combined effort that it takes to get a division across a gap—which is one of the most complex operations I know. Also we cannot forget the cooperation between NATO countries and learning from each other."

— 2LT KRISTAPS KRUZE, Latvian Engineer

"I saw complexity of CROSSCOM Transfer phase

and how command responsibility is changing during that. In Estonia CROSSCOM is considered more of an Engineer-led process, but it certainly needs to be an OPS-controlled operation."

— CPT KAAREL ARRAK, Estonian Engineer

"My most important takeaway from Saber Knight is the ability to work together with Danish engineers, to learn their procedures. Was good ability to see how it is to plan a river crossing operation and conduct it, because in June we had the ability in our state to try conducting everything with a real amphibious bridge;

that was very useful. So first was planning and conducting river crossing operation, second thing was scatmine fields planning and conducting procedures, and also tracking everything."

— CPT IRMANTAS GENEVICIUS, Lithuanian Engineer

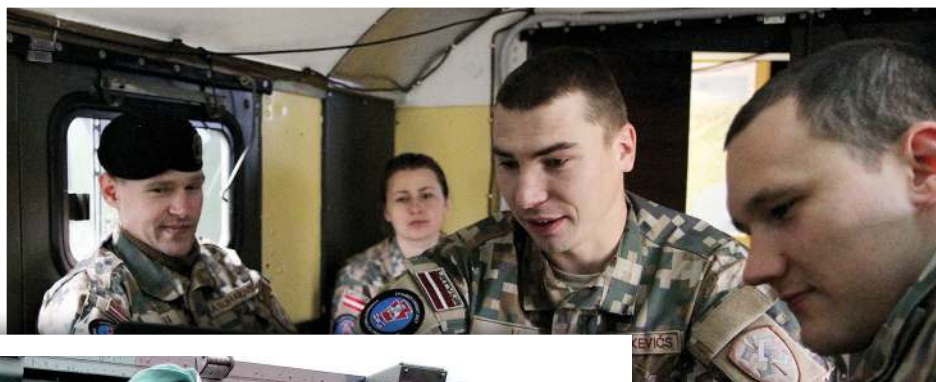
Another key in supporting the warfighter was understanding NATO doctrine. While some of it is relatable to ours, there are other items that offer more leeway, such as in the case of developing a water crossing. This is a critical piece; having seven nations working toward mission

accomplishment can lead to confusion. Having a common doctrine allows all forces to work toward the same goal with virtually the same understanding of mission execution. 🏠

CPT ERICA A. KNIGHT, PMP, is assigned as the Operations Officer of the 337th EN BN, Pennsylvania ARNG.



The Latvian Brigade Engineer Team — CPL A. Suhanovs, 2LT E. Kukaine, CPL E. Voitkevics, 2LT K. Kruze—reviews latest FRAGORD in support of offensive operations.



Estonian Brigade Engineer Team: MAJ Kaspar Saul, CPT Taivo Porval, CPT Kaarel Arrak.

The Lithuanian Brigade command post is developed to maximize mobility and minimize set-up time. Vehicles also are set up to ensure functional areas can conduct mission analysis and course-of-action development while on the move.



BEB PLANNING LINES OF EFFORT AT THE NATIONAL TRAINING CENTER

"FIGHTING" the Brigade Engineer Battalion (BEB) in a Decisive Action Training Environment (DATE) is more than just Engineer operations. In ATP 3-34.22, *Engineer Operations-Brigade Combat Team and Below*, the BEB provides each BCT (I, S, A) with a baseline of combat capabilities that can be augmented with specialized units from EAB units. Typically, BEBs deploy to the National Training Center (NTC) with organic and various EAB assets. The unique skills of the BEB enable the BCT to fight forward but provide varied planning challenges for the BEB staff. To overcome these challenges, the BEB staff must conduct effective internal and external planning while understanding the BEB's strengths.

Typically, BEBs are tasked with four responsibilities in support of BCT operations. The four Lines of Effort (LOE) include: Engineer Synchronization, Enabler Wrangler, Area Security, and Face of Brigade (KLE/Key Leader Engagements). The four tasks are within the scope of the BEB to plan and accomplish concurrently or separately. At NTC, concurrent planning of more than one of these responsibilities creates challenges for the BEB staff. Key challenges include integration

of specialized enablers, information collection, task organization, relationships with BCT staff, and sustainment.

START WITH PLANNING

At NTC, we discuss four methods of planning during the rotation. These methods of planning are presumptive, reactive, parallel, and collaborative. In order to enable the BCT, the BEB staff must avoid presumptive and reactive planning. Presumptive planning is guessing without analysis leading to poor execution. Reactive planning reflects bad time management, exhausts the staff and subordinates, and fails to anticipate requirements. Parallel planning is a method that produces success without direct contact with the BCT planners. Parallel planning has pitfalls, as BCT plans may change without knowledge of the BEB staff. Collaborative planning is the best method because it provides the BEB a voice during the BCT planning cycle. Additionally, collaborative planning provides the BCT staff an understanding of capability.

FOUR LINES OF EFFORT

At home station, the BEB S-3 section generally functions along traditional lines of Plans Section, CUOPS Section, or even a FUOPs

Section. The method of planning in a garrison environment works well for anticipating requirements, meeting training goals, and enabling the BCT. This methodology does not work well during a DATE fight at NTC. BEBs that plan with a garrison mindset are too slow and rigid to meet the fast-paced planning cycles at NTC. Stepping away from the home-station methods of organization—by planning along lines of effort—greatly increases the BEB staff's ability to advise the BEB commander on solutions to mitigate the BCTs problems.

LOE 1. Engineer Synchronization.

According to FM 3-96, the BEB commander is the senior engineer in the BCT and advises the BCT commander on how best to employ combat, general, and geospatial engineering capabilities to conduct combined-arms integration in support of decisive action. In practice, BEB commanders and BCT commanders are embracing this role. Engineers typically understand how to employ Engineer capability to enable the BCT. The challenge for the BEB staff with M/CM/S planning is task organization. According to FM 3-34, Engineer planners must determine the best

by **MAJ ROB FAIREL**

methods to task organize forces at the lowest level to support the maneuver of combat forces to win decisively. Engineer task organization must be aligned with M/CM/S requirements for the BCT. To “win decisively,” the BEB Engineer planner must visualize the Engineer requirements for the BCT combined with the assistant brigade engineer’s understanding of requirements.

LOE 2. Enabler Wrangler.

This is a task assigned to the BEB by the brigade. Embrace this role. This will be the hardest and most frequent planning requirement for the BEB. During DATE rotations, the BEB absorbs various enablers, like EAB Engineer assets (for combat, general, and geospatial engineering), military police platoons, explosive ordnance company, chemical company, and civil affairs. Typically, the first time the BEB staff and enabler leadership meet face-to-face is during Reception, Staging, Onward Movement and Integration (RSOI). The BEB staff must quickly integrate enabler units with the BEB, along with a solid understanding of capabilities, in order to facilitate effective employment of assets to support the BCT. Dedicated planning for enabler integration from Leader Training Program to RSOI to employment in support of the BCT is critical for BEB staffs and BEB commanders.

LOE 3. Area Security.

BEB staffs have difficulty planning and resourcing the area security mission.

BEB staff must plan and resource area security with little augmentation from the BCT. In FM 3-96, the BEB of an IBCT or ABCT conducts five primary tasks during combat operations for reconnaissance and security of the rear area. One of the five tasks is to conduct area security when properly augmented. In FM 3-96, the BCT commander may direct the BEB to secure one or both of the SBCT’s command posts, assign the BEB to their own area of operations, or give the BEB responsibility for base or area defense. A significant change to the engineer battalion mission may affect its ability to provide engineer support to the SBCT. Providing area security for the BCT may require assets not aligned with the BEB. BEB staffs must understand where the BEB commander or BCT commander can assume risk with security. Some BEB commanders assume risk with TAA security while others assume risk with Lines of Communication (LOCs). LOCs during a DATE rotation are challenged by OPFOR, multiple avenues of approach, and total distance required to maintain. BEB staff must plan and resource shortcomings to aligning assets against an evaluated requirement, requesting resources from the BCT and not understanding where the commander is assuming risk.

LOE 4. Face of Brigade

BEBs are not always assigned this task by the BCT. The BEB staff is ready to plan and resource when this task is identified



prior to deployment to NTC. Planning key leader engagements is difficult without prior knowledge of the requirement. When assigned this task by the BCT, make the time to develop a plan that includes enablers, security, talking points, and an exit plan.

DEVELOP A PLAN TO PLAN

Prior to deployment to NTC, develop a plan to plan. Home-station planning methods are slow and cumbersome. In a DATE rotation, the tempo is particularly fast over a vast training area while contending with a skilled OPFOR. The BEB staff must be prepared for the multiple challenges. Dedicating a planner to plan along an LOE will increase the ability of the BEB staff to manage various problems. 🏠

MAJ ROB FAIREL completed 20 OC/T rotations at the National Training Center. While assigned to the Sidewinder Team, Operations Group, he coached and developed BEB executive officers, BEB S-3s, and multiple staff sections. He is currently assigned to the TRADOC, International Army Program Directorate LNO program at USAREUR HQ.

SECURITY FORCE ASSISTANCE: MAXIMIZING EARLY BROADENING OPPORTUNITIES THROUGH SELF-REFLECTION

by **CPT JONATHAN KASPRISIN** and **MSG DANJUMALL ROBERTS** [PHOTOS BY SGT CHRISTOPHER DENNIS]

WORLDWIDE MISSIONS

and today's operational tempo create numerous deployment opportunities for company-level officers and NCOs. These deployments by their very nature often require independent action and decision making that complement essential leader development. Our experience has been in the Train, Advise, and Assist (TAA) arena within a Security Force Assistance (SFA) mission, but it shows that company-level leaders should actively reflect on their early broadening experiences to maximize their development for future leadership assignments.

Broadening experiences are an important part of Army leader development, and the Army Leadership Development Strategy (ALDS) emphasizes enhancing broadening experiences as a near-term goal.¹ Opportunities for broadening experiences usually follow key development positions, but an increasing number of company-level soldiers are participating in SFA missions before their company-level key development assignments. Because one of the current National Military Objectives is to strengthen our global network of allies and partners, we can expect conventional units to play a greater role in SFA missions as operational units

or as part of the new SFA brigades.² This presents a unique opportunity for company-grade leaders to broaden and develop into more effective leaders for their company-level leadership positions. Although there are SFA missions occurring throughout the globe, this article will focus on the experiences of the 303rd Zone Police Advising Team (PAT), Paktiya, Afghanistan. Through our experiences, we will demonstrate how having a mindset of self-reflection, framed within the Army leadership competencies of lead, develop, and achieve can develop you into a better company-level leader.

The 303rd Zone PAT may not have the same exact structure as other advising teams, but its base concept corresponds very closely to others. The PAT is a small, diverse team of Army soldiers and professional police who TAA the 303rd Afghan National Police Zone leadership and staff. Like other advising teams, the Army aggregates personnel from several different units. Advisors then align with counterparts in the Zone leadership and staff to influence all aspects of running a 25,000-personnel police organization. Our mission is to enable the Zone to enact Afghan solutions to Afghan problems in order to create a more

professional and effective police force.

To identify and take full advantage of leader development opportunities, it is helpful to review the Army perspective on how leaders develop. Army leaders should be familiar with the established expectations. If not, reviewing evaluation reports will show the leadership attributes and competencies from *Army Doctrine Publication* (ADP) 6-22 "Army Leadership." The competencies of lead, develop, and achieve are what the Army expects its leaders to do in order to be successful.³ To build these competencies, the Army Leader Development Model (ALDM) utilizes the operational, institutional, and self-development domains by challenging leaders to adapt to an ever-changing environment.⁴ To maximize the learning experience, leaders need to take responsibility for their own development.⁵ Research suggests that exposing leaders to a diversity of experiences and having an iterative process of practice, feedback, and practice is particularly important for development.⁶ When leaders take responsibility for their own development, they become aware of how an experience can contribute to their development and they provide an internal feedback loop through

self-reflection. Reflection helps them to examine past experiences and build mental models that are helpful in improving their future performance.⁷ Certain experiences can contribute more toward increased adaptive performance such as work outside area of specialization, rapidly switching between vastly different situations, and immersion in a foreign culture that is vastly different from the U.S.⁸

These key experiences also could be used to describe what a company-level officer is almost guaranteed to experience during a SFA mission. Knowing how leaders develop enables company-level soldiers assigned to an SFA mission to be aware of the development opportunities and reflect on them through the Army leader competencies lead, develop, and achieve to perform better.

LEAD. ADP 6-22 explains the first competency as building trust through leading by example and communicating in order to influence both people in and beyond the chain of command.⁹ With this definition in mind, we can reflect on an experience ubiquitous to any advising mission: the first interactions with your counterpart. During these first meetings, you have to grow a relationship and



MSG Roberts, 1st Cavalry Division, introduces himself to the 303rd Zone training officer before a joint engagement about C-IED awareness training on 12 March 2017.

rapport in order to build trust with your counterpart. For example, take a junior engineer captain on his first deployment to Afghanistan sitting down for the first time having a cup of tea with an Afghan Uniformed Police (AUP) colonel 25 years his senior. If the captain has any hope of influencing his counterpart, he must convince his counterpart he is worth listening to by building trust between them. While each advisor may take a different route to build that trust, a leader can apply many skills, such as showing respect, listening, and being empathetic in their future assignments. Reflecting and creating the self-feedback loop from the

experience of building trust in an immensely different culture can be applied to future formations to inspire soldiers to be invested in the mission.

During these initial meetings, advisors build trust through communication. Effective communication can be challenging even when two people are from the same culture and speak the same language. A message can easily change meaning as it passes through multiple people, much like the children's game of telephone; communicating through a linguist can add another challenge to communicating an idea effectively. Exchanging ideas with your

counterpart becomes a continuous exercise in planning how you will say something, evaluating if it was effective, and then trying another approach to see if you were able to relay your message. Fast forward to standing in front of a formation of your future soldiers trying to provide purpose, direction, and motivation or just assigning basic tasks during motor stables. As a leader, you need effective, candid, and concise communication to drive that formation to accomplish the task at hand. Advising gives you an iterative experience of communicating in a challenging environment and self-reflection provides the internal feedback loop that can make you into a better communicator. Being a better communicator will not only enable you to direct

that future formation but will help build their trust in you as a leader.

While the communication vignette gave an example of leading others in your chain of command, the SFA mission forces you to influence counterparts that are beyond your chain of command. Take an experienced U.S. Army engineer master sergeant advising a young 2nd lieutenant police officer in charge of the Police Zone's Counter Improvised Explosive Device (C-IED) efforts in order to increase explosive ordnance disposal (EOD) training and reporting. In this instance, not only does his counterpart outrank him but is completely removed from his chain of command. The master sergeant has to employ several different methods in order to influ-



ence change effectively. When direct communication and explaining the benefits does not work, he can appeal to a sense of competition by showing how one of his counterpart's peers is performing well by increasing training. Leading beyond the chain of command can be difficult but relates directly to what leaders will experience in their future formations. Advising provides experiences our master sergeant can draw on when he is a first sergeant and faces the challenge of leading officers in the company just as the company commander may be challenged to influence his peer commanders.

DEVELOP. Army leaders "develop the environment, themselves, others and the profession as a whole."¹⁰ A key goal of broadening is to develop yourself. As a security force advisor, you develop your own skills as well as gain additional experience developing your counterpart and environment. Coming into an advising role requires you to educate yourself on a variety of components in order to understand and navigate your operational environment that covers both physical and human terrain. From a medical lieutenant who has never deployed to a master sergeant with several combat deployments under his belt, you still have to educate yourself on a variety of components to include the terrain, culture, significant personalities, and the last advisor's interactions before you can hope to influence your counterpart effectively. Understanding and then as-

sessing a foreign organization and environment can hone the skills that you will use going into a leadership position. As an incoming leader, you have to quickly gain situational awareness of your new organization's strengths, weakness, opportunities, and threats, and how it interacts with adjacent organizations. Advising not only develops your ability to gain situational awareness but also forces a focus on developing others.

The primary objective of our efforts is to TAA a counterpart or organization; that objective can succinctly be worded as "develop others." A challenge faced by police advisors was developing counterparts to evolve from just receiving training to becoming trainers themselves. Afghan counterparts would attend C-IED Awareness Train the Trainer (T3) courses, but then would not conduct any C-IED awareness courses. Instead, they would wait for the next coalition-taught course. Through training and assistance, advisors were able to change the counterpart's perception of their role in the training process and develop them into conducting the C-IED awareness training at provincial headquarters locations to greatly expand the impact of training. The skills and practice an advisor receives by developing counterparts to transition from executing tasks to managing subordinates can be extremely valuable when in a company-level leadership position. Take a budget NCO who returns from an advising mission and becomes a platoon

sergeant. The experience and reflection from advising can give her a wider range of mental models to face the challenge that she will have developing a newly promoted sergeant from hands-on at the point of action to a leader of a team.

ACHIEVE. The ultimate purpose of leaders is to get results by accomplishing "tasks and missions on time and to the standard."¹¹ Unlike your standard conventional fight in which the task may be to defeat an enemy unit in the vicinity of a location, it is often difficult to measure success in an advising mission that has multi-year goals such as building capacity and increasing self-sustainability. As a result, advisors have to get results by identifying and accomplishing short-term supporting tasks that simultaneously contribute to creating lasting change in the people, systems, and organizations. Advisors have to balance empowering counterparts with how much advisors are assisting in order to accomplish short-term tasks while increasing their counterpart's ability to be self-sufficient.

In a standard company, there are short-suspense tasks and missions that must be accomplished. While a leader may be able to ensure the organization completes the tasks on time and to the standard, that is only one part of the goal. To ensure the organization is growing and able to handle increasingly demanding missions, leaders must create positive conditions by properly delegating and empowering subordinates

CPT Jonathan Kasprisin, Taskforce Southeast, conducts an advising engagement with the Zone training officer to assist in the development of a personnel, training, and recruiting officer seminar on 2 August 2017.

and identifying when is the right time to assist with a task. Every task an advisor is working toward gives him an experience to reflect on to determine how much assistance is required to accomplish the mission while improving his counterpart to create lasting change. For example, a headquarters needs to know how many people have received specialty training in order to identify what courses need to be scheduled. A training advisor could translate an American training tracker and give to his counterpart immediately, or he could work with his counterpart to draft a concept of what makes sense for their systems and assist by recommending improvements. The latter creates a system that is more likely to endure because it was developed by the user, while still ensuring the organization accomplishes the task. An advisor can reflect on her experiences in determining the amount of assistance to provide to get results in her future leadership role while simultaneously developing her subordinate through empowerment.

Every leader bears responsibility for his own self-development, and active reflection is a way to capitalize on early broadening assignments. As stated by the ALDS, "Enhanced broadening experiences build critical thinking skills



and the ability to develop innovative solutions applicable to difficult situations.”¹² Self-reflection of a leader’s competencies during a SFA mission is one way to enhance a broadening experience to become a better company-grade leader. Examining some of the experiences of the

303rd PAT gives an example of how reflecting on advising relates to future challenges. The organization and personal experiences of an advising team may be different on the surface, but the diversity of thought and leadership skills are applicable to future leadership positions. 🏠

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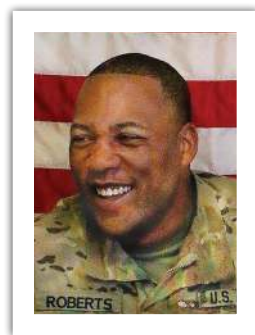
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WHAT YOU NEED TO KNOW ABOUT DAM SAFETY

by STEWART R. FEARON, PMP

IF YOU ARE LIKE MOST people, you don't think a lot about dams or dam safety. Dams offer recreation areas for boating and fishing, store water for agriculture or drinking, generate hydroelectric power, and provide flood control. Dams don't have a lot of moving parts, so when a dam is designed, built, and maintained properly, malfunctions are rare. However, like much of our infrastructure, dams are aging. A disciplined dam safety program ensures regular inspections occur and gives proper attention to any signs of distress. It is critical that all dam owners remain vigilant to protect public safety.

While dams are not something we think about from day-to-day, the Oroville Dam in Northern California captured national headlines when record-setting rainfall and an emergency release resulted

in damage to the spillway. Another recent example can be cited in the Houston area as a result of Hurricane Matthew; again, record rainfall caused all types of flooding and stressed dams, levees, and other flood control infrastructure. This article will briefly present dam safety from a dam owner perspective.

NOT ALL DAMS ARE THE SAME

USACE South Pacific Division (SPD) has several types of dams. Some have a permanent reservoir, and others detain water during the flood season and are typically dry the remainder of the year. Dams are constructed out of concrete, masonry, earth, rock-filled, timber, or gabions filled with earth or rock.

It is the responsibility of the dam owner to inspect and maintain their dam. According to the 2017 Infrastructure Report Card,

there are 90,580 dams in the United States with an average age of 56 years. USACE owns or manages around 720 dams. The danger is when a dam owner lacks basic information such as the underlying geology, design, and construction, they are unable to characterize the risks of their dam's performance.

USACE is committed to fully understanding its portfolio of dams and properly characterizing their performance capability and maintains life-safety as the paramount and overarching consideration. USACE has a disciplined approach that incorporates risk management to evaluate its portfolio of dams.

DAM SAFETY BORNE FROM U.S. DAM FAILURES

One of the most famous and deadliest dam failures was the Johnstown Flood in 1889. When the South

Fork Dam in Pennsylvania collapsed, more than 2,200 people died when a 30-foot wall of water a half-mile wide "swept through the communities of South Fork, Mineral Point, Woodvale, and East Conemaugh, accumulating debris, including rocks, trees, houses, barns, railroad cars, animals, and people, both dead and alive" obliterating everything in its path.

While the Lake Conemaugh tragedy happened more than a century ago, there are still more modern instances of dam failures. In 1963, the Baldwin Hills reservoir had uncontrolled releases, killing five people and destroying 277 homes. In 1972, a coal slurry dam in West Virginia collapsed killing 125 people. In 1976, the \$100 million Teton Dam in Idaho failed, killing 11 people and destroying thousands of homes. In 1977, the Kelly Barnes Dam in Georgia collapsed, and 39 people died in the middle of the night.

The modern-day dam safety program is a result of the heightened awareness caused by previous disasters. All dam owners—to include the federal government, state governments, and private entities—have a responsibility for their dams. There is an increasing awareness and coordination among regulatory bodies on dam safety. The bottom line is that no dam in the



FOLSOM DAM. American River, Sacramento, CA.

	Dam Safety Action Class (DSAC)	Characteristics
1	Urgent and Compelling (Unsafe)	Critically near failure or Extreme high risk
2	Urgent (Unsafe or potentially unsafe)	Failure initiation foreseen or very high risk.
3	High Priority (Conditionally Unsafe)	Significantly inadequate or moderate to high risk.
4	Priority (Marginally safe)	Inadequate with low risk.
5	Normal (Adequately Safe)	Residual risk considered tolerable.

United States is infallible if it is poorly designed, improperly constructed, or not maintained. The results of dam failure can be catastrophic—resulting in the loss of life and damage in the millions of dollars. USACE recognizes this risk and has developed a Dam Safety Program.

USACE DAM SAFETY PROGRAM

USACE defines dam safety as “the art and science of ensuring the integrity and viability of dams such that they do not present unacceptable risks to the public, property, and the environment.” USACE has established a robust dam safety program to develop the expertise to build, modify, and safely operate USACE dams. The Dam Safety Modification Mandatory Center of Expertise (DSMMCX) in Huntington, WV, works in close coordination with all seven regional Dam Safety Production Centers (DSPC) to modify USACE dams to meet tolerable risks.

The SPD is headquartered in San Francisco and is the home of one of the seven DSPCs. SPD oversees USACE operations in ten states, is comprised of four districts that are responsible

for 46 dams and reservoirs as well as 2,286 miles of federal levees. Every USACE-owned dam in the SPD region is categorized with a Dam Safety Action Class (DSAC) number, which allows the SPD Dam Safety Program to focus their efforts where they are needed most.

The DSAC rating system takes into account the condition of the dam and the risk to lives and property below the dam. A DSAC 1 is considered an unsafe dam that is critically near failure or extremely high-risk—the highest priority. DSAC 2 category dam is unsafe or potentially unsafe and very high-risk. DSAC 3 dams are conditionally unsafe and are still a high priority. They are considered moderate- to high-risk. DSAC 4 and 5 are marginally safe, low-risk, and normal, respectively.


DSAC Class 5 dams receive routine maintenance and periodic inspections to ensure they do not become DSAC 1–4 dams. For DSAC 1 dams, the DSPC is involved with the development of a Dam Safety Modification Study (DSMS). This study examines the risk drivers and recommends a plan to fix the problems.

Then the DSPC continues supporting the effort as the study evolves into plans and specifications with specific fixes to the dam; this is called Pre-Construction Engineering Analysis & Design (PED) phase. Finally, the DSPC continues to monitor the engineering and design during construction phase.

DSAC is the system USACE uses to prioritize the funding and dam safety efforts for USACE and federal dams. “Dam safety projects executed by USACE are cost-shared with a local sponsor and vary based on original authorization. The construction is fully funded by the U.S. government up front and billed back to the cost-shared sponsor over a set period of years following construction completion.” For other dams, the Association of State Dam Safety Officials (ASDSO) is a good place to start for national dam safety guidelines and resources.

CONCLUSION

Dams serve many purposes. They provide recreation areas, flood control, electricity, and water for agriculture or drinking. If a dam fails, the consequences can be catastrophic. USACE has a dam safety program that

uses deliberate methods to inspect, maintain, and operate their dams; in some cases we are also modifying our dams because it is our intent to make them fully functional and as safe as possible. 

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THE GOVERNMENT MULE

by **LON MARK DAVIS**

in collusion with MG (RET) BRYAN WATSON and BARB MELTON

IN THIS ISSUE, I want to show respect to an Army Engineer legend. CSM (Ret) Glenn Stines has served the Regiment for 50 years (starting in Vietnam). I do not recall talking to anyone who doesn't know about "Sergeant Major Stines." Many of you know Glenn as the heart of the AEA Store on Fort Leonard Wood. The number one reason that our store is successful is Glenn Stines, who at times arrives at work four hours before the store opens.

Just to tell it like it is, CSM Stines would not cooperate in the drafting of this article. Needless to say, if I post fake news, it is clearly Glenn's fault.

I affectionately tell others that Stines (what his Frau calls him) was my first friend in the Army, but I just didn't know it at the time. When I arrived at OSUT training in July 1981, Stines was wearing a drill sergeant hat and sharing words of encouragement with a group of new soldiers. Stines did not joke and was by all accounts the toughest of them all. Furthermore, he walked faster than any human, EVER! Heck, if he could do the moon walk, he would

get to Saturn in the same amount of time.

I remember my first payday as a soldier during that hot summer. We were marched early in the morning to the 2nd BDE Gym because back in those days we had to Report for Pay. This major event required me to report, get a blue check (a check that was blue) from an officer who then cashed that blue check and gave me the \$400 I had earned for the month. Honestly, I thought I was rich. But the real point here is that when the unit halted at the gym that morning and faced to the left (sounds like drill sergeant talk), there on the roof of the gym stood a green fatigue-clad man wearing the "brown round" and holding a M16 rifle at an extremely modified position of port arms. I recall thinking that I am surely in hell and that Satan himself had taken over control of fitness centers in mid-Missouri ... it was DS Stines.

I avoided him because his vibe was much less than friendly. One morning when my inner slicky-boy convinced me to get under my bunk and trap

my fingers in the springs thereunder (presenting the illusion that I was tightening the blankets) I heard the gruff yet splendid voice of my hero ordering me to get off my buttocks. He was inquisitive and asked questions like, "Are you angry Private?" and "Do you want to continue to live?" I was both and apparently said what must have been the correct answers and at the right volume because he left me standing there without my pride.

I met a gentler but not tame version called 1SG Stines in 1986 when I reported to my unit as a drill sergeant. Stines was the first sergeant next door to my company. It was clearer to me during this assignment that Stines was the mentor and expert on all things NCO. One key and obvious factor was that 1SG Stines never ignored or walked past a problem. Additionally, he always had time to discuss and critique one's actions or behaviors.

When you've been around as long as the Government Mule you've impacted many people. Let me share the remarks of retired MG Bryan Watson:

"When I think of 'the Great Ones,' CSM Glen A. Stines always comes to mind ... foremost! We first met when he was a SFC and assigned to become the 1SG for C/16th EN BN in 1st AD. I was lucky enough to be the company commander. Student meet teacher; Stines taught me everything I know about leading soldiers and supporting the maneuver commander. He was and remains a helluva example to learn from ... and there is an entire regiment of officers and NCOs like me who owe both our passion and our success in leading Engineer soldiers to the example of Stines. He was old-school when we needed old-school the most; he was a combat-tested veteran when right-shoulder patches were scare and we needed combat leaders to show us how to train for a fight and keep us grounded in the true nature of our business. He was a true mentor before the concept of mentorship became over-popularized and diluted. Stines' brand of mentorship was always based on a life-long relationship between officer and NCO. His style



of leading has always been 24/7 leadership ... it doesn't matter where you are, what time of day or night, what day of the week, or what aspect of life ... whatever your challenge he's leading you forward and making you better. You may not appreciate his tough-as-nails approach, uncompromising integrity, and tell-it-like-it-is candor. But, I can guarantee you will be well led ... well learned ... and soldiered."


Watson continued, "Stines sets a standard and does not blink when it comes to enforcing it. Once on a river crossing exercise in Germany, we were swimming the M113s. As one of our platoons approached the far shore of the Main Donau, one of the squad M113s sank. I watched as two heads popped up in the water ... whew!

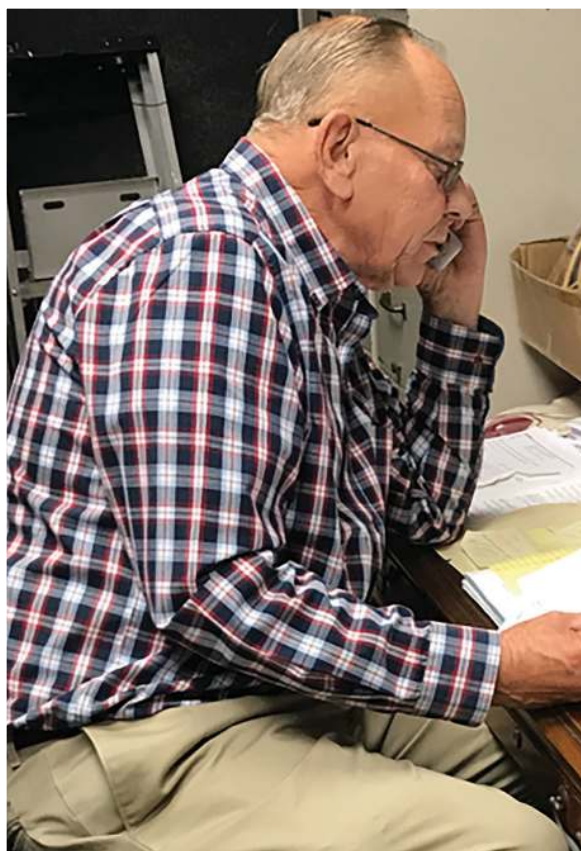
Then I hear that unmistakable voice of 1SG Stines barking orders from the bank. Then one of the heads disappeared for quite some time. When I got to the bank to find out what was going on, I asked Stines what he yelled at the soldiers in the water and why one of

them disappeared for so long. He looked at me and said, 'Well, Sir. One of them little soldiers said he left his weapon in the track. I told him to go back down and get it or I wouldn't let him up on this bank. I told him to have it tied to their body; he didn't. So he had to go back down and get it.' That's standards!"

Watson went on to say (and I am paraphrasing) that Stines is much more than a gruff old-school NCO; Stines takes care of all soldiers aged 1 to 100. As the AEA Store manager, he has taken care of what all soldiers need around the globe. He ships everything from flags to castles to shirts to homemade beef jerky. Stines has taught and led future leaders at every level.

I can tell you that when I met DS Stines in 1981, I never considered I would work with him as I do today. I have witnessed his rough kindness and sincere interest in a friend's well-being.

If you talk to CSM Stines after you read this story, thank him, and tell him he's the best damned mule this government ever bridled. 



SHAPING THE FIGHT IN SUPPORT OF OPERATION EAGLE STRIKE

by **1LT JULIETTA LAVERA**

ATP 3-37.10 states, "Base camp planning in general is a detailed and methodical process by which the necessary actions are developed to support the commander's base camp requirements in response to a mission need in light of specified constraints with available resources for a specific purpose." With Eastern Mosul cleared and units posturing for the Western Mosul Offensive, it became apparent that TF (TF) Eagle, 37th BEB, 2 BCT, 82nd ABN DIV, would need to support the construction and master planning efforts of the various Tactical Assembly Areas (TAA) and Position Areas for Artillery (PAA) or firebase in support of the Western Mosul Offensive as part of the greater Operation Eagle Strike.

Shortly after the 37th BEB arrived in theater, the tactical basing plan for the Western Offensive was approved by Combined

Joint Forces Land Component Command (CJFLCC). A Basic Life Support (BLS) contract and a construction package (consisting of Class IV materials and Material Handling Equipment) was funded for each TAA and PAA. Maneuver task forces were templated to occupy and conduct operations from their respective TAAs and PAAs. In addition to its traditional capabilities, each maneuver TF had a designated Contracting Officer's Representative (COR) and a TF engineer. TF engineers served as key enablers attached to these maneuver task forces in order to advise the maneuver commanders across all lines of engineer support. The COR ensured that the contracted BLS and construction packages were synchronized to meet the emerging mission requirements and dynamic battlefield. The 37th BEB construction cell served in an advisory capacity to the COR as the alternate COR for all TAAs and PAAs for the

Western Mosul Offensive and to the TF engineers. The construction cell, located out of Qayarah West Airbase, Iraq, was mission-essential to the master planning efforts for the TAAs and PAAs. Upon construction of the first PAA, it was apparent that there was a significant knowledge gap of TAA/PAA establishment and master planning efforts between the TF engineers and TF CORs.

BASE CAMP MASTER PLANNING (BCMPP) FOR TF ENGINEERS

The Base Camp Development Planning Process consists of six steps:

1. Initiate preliminary planning
 2. Land use planning, location selection, facility requirements development
 3. General site planning
 4. Design, guide, programming, construction
 5. Maintain and update plans
 6. Cleanup, closure, archive
1. Reconnaissance
 2. Site occupation at Initial Operating Capability (IOC)
 3. Operations at IOC
 4. Operations at Final Operating Capability (FOC)
 5. Sustained operations.

Master planning for these TAAs and PAAs occurred in the first two steps, while revision of that plan

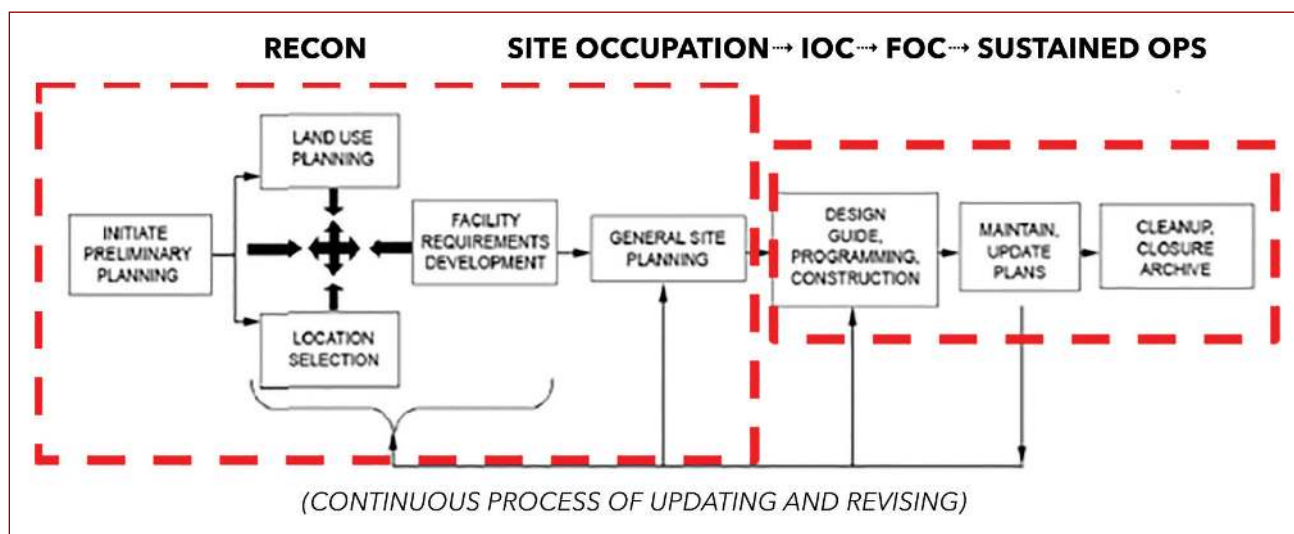


FIGURE 1. 37th BEB Base Camp Development Process.

Dozing operations conducted by equipment operators at a TAA in the vicinity of Mosul, Iraq, February 2017. The equipment operators relied heavily on contracted equipment to execute their missions.

occurred in the last three steps. This process is outlined in FIGURE 1.

The key planning considerations that TF engineers had to communicate to the maneuver commanders were related to the mission, site selection, facility requirements, and expansion and closure requirements.

Once a mission was clearly defined, the selection of the site for the TAA or PAA was driven by land use agreements between Iraqi Security Forces and Coalition Forces. One of the key roles of the TF engineer was to define the operating capability within the mission set, which drove the master planning process. With guidance from the maneuver commander, the TF engineer and COR defined what IOC and what FOC looked like for each TAA or PAA. The TF engineer and COR then communicated this guidance to the construction cell, who then created an initial master plan of the TAA or PAA. Based on those inputs, the master plan took terrain heavily into account, with force protection and drainage being key considerations for the placement of nodes within the TAA/PAA, such as life support areas, entry control points, dining facilities, Class IV storage yards, and guard towers. Another key component of the master plan was designating

expansion areas in the event of a population surge and for TAA or PAA closure.

From a contracting standpoint, the construction cell and the maneuver battalion COR coordinated contracted items to support the construction of the TAAs or PAAs and the billeting of soldiers at the TAA or PAA. Since it was early in the deployment, the 37th BEB had not received its organic engineer equipment. As a result, they had to rely heavily on contracted Material Handling Equipment (MHE) to construct TAAs and PAAs. The initial MHE package that was funded did not provide the capability to rapidly construct these TAAs and PAAs to IOC within three days. The Construction Cell and the COR worked together to tailor these MHE requests to provide the engineer assets tailored to each TAA and PAA. The basic MHE package that was used for

the TAAs and PAAs consisted of the following 11 vehicles: one grader, one 2.5 CY front-end loader, two D7 dozers, one backhoe loader, one vibratory roller, one 10k forklift, one 10-ton dump truck, one skid steer, one water distributor, and one crane. Typically, two blade teams consisting of four personnel (12N) and an NCOIC (TF engineer) supported the construction of the TAA and PAA. Of note, the 37th BEB as a Light Airborne Combat Engineer Unit does not have organic crane operators. As a result, all crane operations in support of the TAA or PAA construction were conducted by contracted crane operators.

Another planning consideration that TF engineers had to communicate to the Maneuver Commanders was facility requirements. Facility Requirements are defined as the planning factors that are utilized to

determine the billeting standards for each TAA or PAA. The packages for BLS were awarded for a pre-determined population size. Before occupying the TAA or PAA, the construction cell worked with the COR to ensure that the BLS packages would support the projected populations in accordance with the facility requirements outlined in the *Sandbook*, "Chapter 5: Contingency Basing Construction Standards."

Finally, TF engineers had to take expansion and closure into consideration when designing TAAs and PAAs. The design of each TAA and PAA took transient, surge, and contracted housing into account, thus allowing the flexibility for expansion into the base camp master plan. Moreover, a key part of the site selection process was the capability of the respective TAA or PAA to expand to accommodate the afore-



mentioned additional personnel and equipment. These expansion areas were identified in the planning process and became a helpful tool as TAAs and PAAs grew in both population and capabilities. As a rule of thumb, each TAA and PAA was designed to accommodate 15% of its existing population in the event of personnel surges and expansion. With the majority of TAAs and PAAs collocated with Iraqi Security Forces, the TF engineers always had to keep closure in mind during the base camp master planning process. Although not exercised as part of Operation Eagle Strike, all base camp master plans had closure and retrograde requirements outlined in each master plan, with the end-state of transferring the TAA or PAA to Iraqi Security Forces once mission requirements dictated the transition.

LESSONS LEARNED

Site Selection. A vital lesson learned was the importance of having the COR and TF engineer on the reconnaissance to understand the scope of work required to construct the TAA or PAA to IOC and FOC. We validated the importance of getting eyes on the objective, with the TF engineer and COR acting as key enablers. Land use agreements between Iraqi Security Forces and Coalition Forces authorized the Coalition construction and subsequent occupation of the TAAs and PAAs. Before occupation of the TAA or

PAA, maneuver commanders conducted a reconnaissance. This reconnaissance answered key PIR (Priority Intelligence Requirements) that drove the site selection of each TAA and PAA. These PIRs were critical to setting conditions for site occupation at IOC. Example PIRs that were confirmed during the reconnaissance were the amount of unexploded on site, number of buildings that are habitable, existing force-protection measures, and overall drainage of the site. Having the TF engineer and the COR on the recon better allowed them to identify critical shortfalls and confirm the PIRs before occupation.

Engineer Support Package.


Horizontal engineers are only as effective as their equipment. After construction of the TAAs and PAAs, the construction cell identified engineering support packages utilizing contracted equipment that were both tailorable and scalable to the mission. Having redundancy in the engineer support package proved mission essential because of the poor maintenance status of the Iraqi equipment. Based on the heavy reliance on contracted equipment, we found that we were on the contractor's timeline for maintenance. This ultimately impacted the horizontal engineer's ability to operate and both delayed IOC and subsequent FOC in multiple TAAs and PAAs.

Although the contractor is legally bound to provide mechanic support within three hours of notification, it soon became apparent that this timeline was not feasible. Given that most of the contractors had to navigate various checkpoints throughout Northern Iraq, a more realistic timeline of 24 hours from initial notification to receipt of mechanic support emerged. With that being said, the recommended engineer support package incorporates redundancy in key assets, such as bulldozers, because contracted equipment proves unreliable more often than not.

Mission Command. Our maneuver counterparts lacked basic understanding of the synchronization of engineer efforts to get their TAA or PAA to IOC and FOC. There was a key knowledge gap between the maneuver commander and the TF engineer. To overcome this gap, the TF engineer established construction priorities between the reconnaissance and the initial occupation of the site in order to clearly define the scope of work necessary to achieve IOC and FOC. To ensure that engineer assets were being utilized appropriately, the TF engineer conducted daily synchronization meetings with the maneuver battalion's operations officer. From these daily meetings, the TF engineer was able to update the

maneuver battalion of the progress of the ongoing construction priorities and receive new guidance and any changes related to the established scope of work. These daily synchronization meetings allowed a shared understanding of the progress and overall engineer support to the operation between the maneuver TF and the TF engineer.

CONCLUSION

By the end of the nine-month tour, TF Eagle, 37th BEB, 2 BCT, 82nd ABN DIV, provided master planning and construction support to establish three PAAs, four TAAs, and expanded an existing TAA in support of Operation Eagle Strike and the clearance of West Mosul. On average, the horizontal engineers were able to establish these TAAs and PAAs at IOC in 48 hours and FOC in seven days. Through this application of doctrine, our TF engineers were able to communicate to maneuver elements and meet all mission requirements through a shared understanding of base camp design. 

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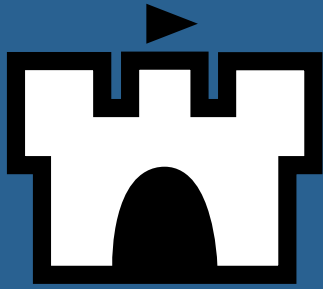


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