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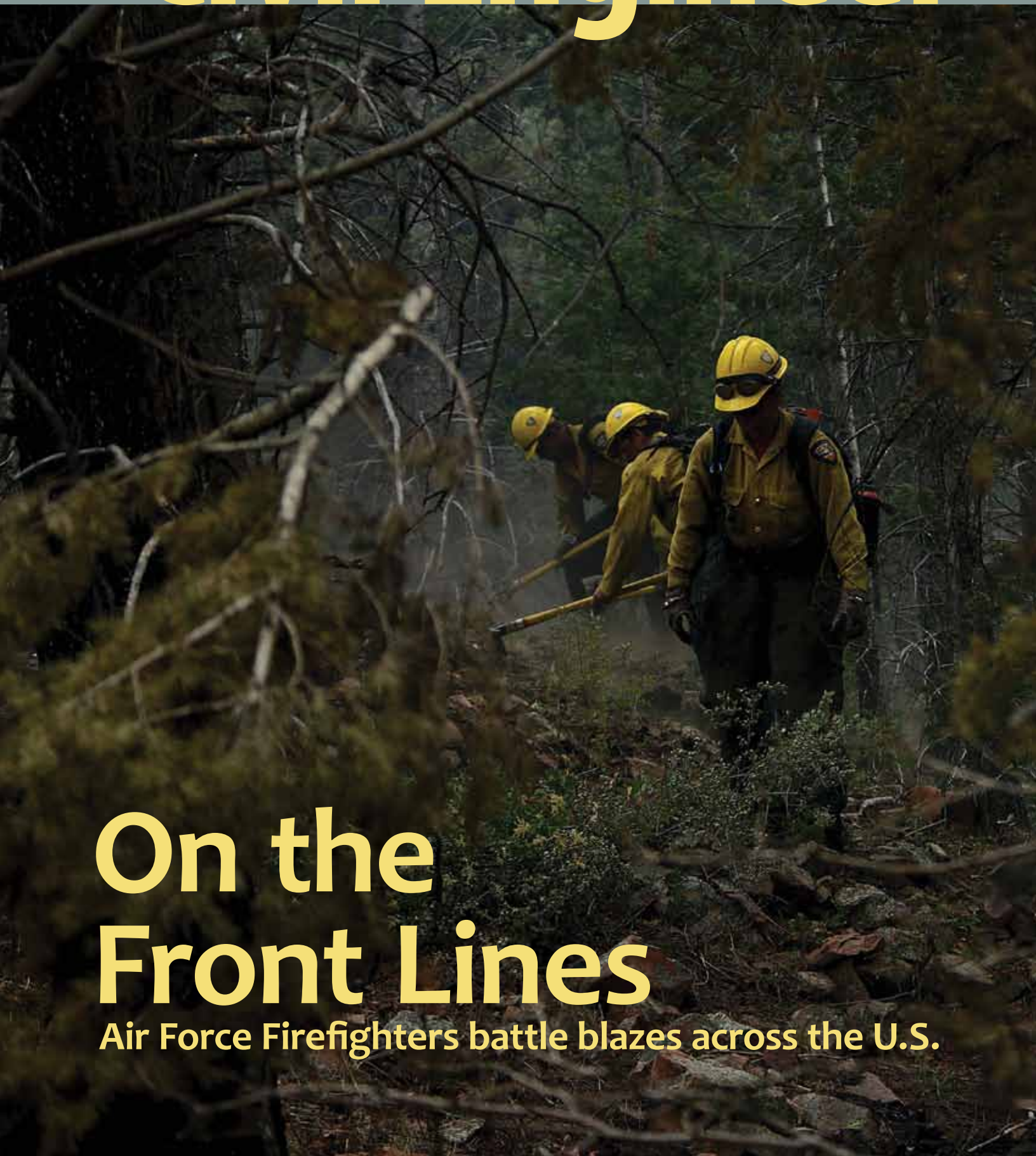

On the Front Lines

Air Force Firefighters battle blazes across the U.S.

Air Force Civil Engineer
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Features

Sections

On the Cover

A team of Hot Shots, firefighters from Vandenberg AFB , Calif., specially trained to fight wildfires, cuts a fire line in the Mount Saint Francois area of Colorado Springs, Colo., while battling the Waldo Canyon fire. (photo by MSgt Jeremy Lock)

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Building Great Leaders

When asked his definition of leadership, Gen Colin Powell stated that it was "solving problems" and consistently being a trusted source for solutions. By this definition, all Air Force Civil Engineers are leaders — by job description as well as by nature.

We will rely on this trait as we continue forward with our CE Transformation…Accelerated (CET-A) efforts. Transformation will help us build a Civil Engineer enterprise focused on providing enhanced installation management and expeditionary combat support. We will continue to work toward operating in smarter, faster, cheaper, and better ways.

Our certain success with CET-A relies upon our most important resource: our people. This makes Building Great Leaders not only a goal, but a mandate. However, CET-A affects many processes at all levels of our community, including force development for military and civilians. We have already begun to address these challenges.

Although Civil Engineer Airmen remain in high demand for contingency taskings, our deployment-to-dwell rate is improving. This gives our officers more time to focus on professional development and our enlisted force the ability to get back to basics with on-the-job training. As the availability of formal training classes reduces along with our budgets, home station training (HST) becomes even more important. CMSgt Jerry Lewis, our Chief of Enlisted Matters, discusses HST in an article on pages 4 and 5 of this issue.

Civil Engineering has also volunteered to lead the Air Force Personnel Center's initiative to develop more civilian standard core position descriptions (SCPDs), an initiative that will increase our SCPDs from 41 to 90 percent and make our hiring process more efficient Air Force-wide. Members of the Civil Engineer Functional Advisory Council (FAC) continue to focus on civilian force development. Articles in this issue by FAC members give information about the wage-grade civilian superintendent course at the Air Force Institute of Technology (p. 22) and the importance of developing a civilian career development plan (p. 26).

Current and future fiscal challenges require all of us — military, civilian, and contractor — to be a more efficient workforce. On June 25, 2012, AFCEE capabilities were consolidated into the existing AFCESA Reach-Back call center. Individuals are now able to access information, ask questions for responses, or get linked with appropriate subject matter experts for both FOAs 24/7 through one call-in number or email address. More information on this efficiency-gaining consolidation is on page 13 of this issue.

Finally, we would like your feedback on the CE Magazine. Please take the time to complete and mail in one of the questionnaire cards included in this issue.

Throughout accelerated transformation, I expect all engineers to be proactive, provide feedback through appropriate channels, and be effective implementers of the changes ahead. I have the utmost trust in our career field, that we will meet the challenges head-on and continue to provide excellent service, as we **Build to Last and Lead the Change**!

Timothy A. Byers
Major General, USAF
The Civil Engineer

BACK 2 BASICS with HOME STATION TRAINING

CMSgt Jerry Lewis
USAF/A7C

Air Force civil engineers are recognized as "installation engineering experts" by our fellow Airmen, and our joint and coalition partners. There is a simple reason behind our stellar reputation: We are "Brilliant at the Basics."

This isn't something that comes naturally. No Airman joining the Civil Engineer community automatically becomes brilliant at the basics. This is something we work towards through diligent training and exercise.

As constrained resources and accelerated transformation affect all aspects of Civil Engineering, we must not lose sight of our key goals to "Build Ready Engineers, Build Great Leaders, and Build Sustainable Installations." Finding ways to do things smarter, faster, cheaper, and better includes a renewed focus with on-the-job training and building our installation and expeditionary combat support capabilities while at home station.

As we continue to operate in an austere fiscal environment, home station training (HST) will become increasingly important to develop our workforce and ensure our readiness for whatever mission requirements the future brings. HST consists of deliberate activities conducted at home station that are intended to build our expeditionary combat support skills. It allows us to prepare for contingencies while providing installation support.

Through HST, Airmen focus on six critical areas: general contingency proficiency; expedient methods; combat skills; weapons skills; field sanitation and health; and specific Air Force Specialty training.

Training in general contingency skills and expedient methods helps keep engineering skills current and ready. General contingency training includes familiarization with the Prime BEEF program, Air Force Contract Augmentation Program, and Damage Assessment and Response Teams. Airmen also develop their skills through team building, program management, and vehicle training. Training in expedient methods focuses on understanding of Basic Expeditionary Airfield Resources, environmental management, and bare base planning and layout.

While building sound engineering skills is critical to providing expeditionary combat support, HST programs also institutionalize training that prepares Airmen to operate in dangerous areas of responsibility. Combat skills training can elevate personnel to a readiness level capable of supporting operations in low-to-medium-threat environments. Weapons skills training prepares them for conducting force protection missions in austere environments. Civil Engineer Airmen must receive field sanitation and health training — fundamental instruction in personal hygiene, disease control, mess sanitation, field hygiene, water purification, and related topics. Lastly, HST includes training that allows Airmen to improve their skills within their own specialties.

As resource constraints impact the ability to send Airmen to formal training, squadrons must incorporate HST as part of regular operations. Squadron leaders should review HST requirements outlined in Air Force Instruction 10-210, Prime BEEF Program, and utilize their personnel resources to develop a training plan that incorporates these requirements. They should build a training regimen that not only

When deployed to the Southwest Asia AOR, civil engineers (here members of the 386 ECES) use the skills honed during home station training projects. (photo by SSgt Alexandra M. Boutte)

(above top) TSgt Roy Stockinger, a 307 CES (Reserve) structural carpenter, works on an awning on the 307th Bomb Wing Headquarters at Barksdale AFB, La., as part of an on-base renovation project. The 307 CES completed 12 projects at Barksdale worth approximately $250,000 in materials and manhours. (photo by TSgt Jeff Walston)
(above bottom) Airmen of the 354 CES keep an eye out during a predeployment dismounted patrol preparedness exercise at Eielson AFB, Alaska. (photo by A1c Laura Goodgame)

follows the AFI, but is also educational, developmental, and beneficial to the accomplishment of their mission.

The Civil Engineer Total Force should take advantage of HST opportunities. As we continue to utilize Reserve and Air National Guard Airmen to support expeditionary missions, we must use HST to ensure they are ready. Air Force Reserve Command's Airman Seasoning program provides great opportunities for active and Reserve civil engineers to team up. Reserve Airmen who participate in this program receive upgrade training while working alongside their active duty colleagues. Squadrons should reach out to local Guard Civil Engineer units near their communities and establish HST opportunities together. This leverages both professional and organizational resources from active duty and reserve component units to enhance training opportunities.

The Readiness Support Division at AFCESA, Tyndall AFB, Fla., can help with HST implementation. The division has developed lesson plans and distance learning tools that address the majority of HST requirements, available through the Expeditionary Engineering CoP and the CE Virtual Learning Center. Civil Engineer Airmen should also be heavily involved in the HST planning process, engaging leadership and sharing their ideas to improve the training process. Squadron leaders should listen to this feedback and adopt ideas that are innovative, educational, rewarding, and mission-enhancing.

HST has benefits beyond developing key skills Civil Engineer Airmen use during deployment. It provides the ability to conduct effective training while saving resources, an important consideration for squadron commanders. It also helps build a wingman culture within our operating environments and gives junior Airmen the opportunity to learn from experienced NCOs and wage-grade civilians.

While HST can yield numerous benefits for CE Airmen and their squadrons, it can also yield substantial benefits at our installations. For example, the 2 CES at Barksdale AFB, La., utilizes Prime BEEF training days to focus on HST, training both as teams and within Air Force Specialties. Their training plan incorporates key capabilities, including convoy operations, land navigation, decision making, and weapons handling.

The benefit to the installation came in the form of a contingency construction project that renovated an on-base medical group facility into a community fellowship and meeting location.

Reduced resources and accelerated transformation will continue to bring change to the Civil Engineer community for the foreseeable future. But, one thing that will not change is the mission to provide installation management and expeditionary combat support capabilities when called upon. In contingency environments, civil engineering's job is to "Lead the Way." To do that, we must build our skills at home station to ensure we are ready.

Editor's Note: Please see CMSgt Lewis' Centerline May 21, 2012, video on Home Station Training on the CE Portal.

CMSgt Lewis is the Chief of Enlisted Matters, the Office of The Civil Engineer, the Pentagon, Washington, D.C.

SuPR KIT
ADR SHOP-IN-A-BOX

Dr. Craig A. Rutland, P.E.
HQ AFCESA/CEOA

The new Sustainment Pavement Repair (SuPR) Kit gives civil engineers a superior capability for contingency repair and sustainment. It is scheduled to be shipped to the field starting in early 2013.

Background

Created as part of the Air Force's Airfield Damage Repair (ADR) Modernization Program, the SuPR Kit is designed to provide everything needed to make fast and durable concrete and asphalt repairs on an airfield in the AOR. It was developed by experts at AFCESA and the Air Force Research Laboratory (AFRL) at Tyndall AFB, Fla., and at the U.S. Army's Engineer Research and Development Center (ERDC) in Vicksburg, Miss., with a great deal of input and help from the Airmen who will actually use the kit in the field.

The SuPR Kit project is the culmination of research that began in 2005. This research effort was initiated by the AFCENT commander to determine why airfield repairs were failing prematurely. AFCESA was also tasked to develop and identify products, equipment, and procedures for field engineers to make fast but durable repairs, working around aircraft missions in high ops tempo environments. What was needed were materials that could gain strength rapidly but were less sensitive to the mixing proportions, as well as equipment that was small, air-transportable, and multipurpose, yet powerful enough to do the job properly and quickly. Also needed were tactics, techniques, and procedures that integrate these materials and equipment to produce long-lasting repairs within operational time frames on airfields.

SuPR Kit Components

The SuPR Kit is a comprehensive package of more than 350 individual items — materials and equipment — that all fit together into four 20-foot Conex containers.

One of the Conex boxes is devoted to consumable materials, including some unique materials acquired and tested by AFRL to improve the speed and durability of repairs. Working with a private vendor, AFRL developed a unique pelletized asphalt material that affords the ability to package, store, and transport airfield-quality asphalt concrete material for making hot mix asphalt easily. Couple this material with the kit's specialized equipment and in approximately four minutes a team can produce hot-mix asphalt that can be placed and compacted in repairs on the airfield. A rapid-setting flowable fill, developed by ERDC, allows rapid repair of base and sub-grade base materials without the need for compaction of many lifts or in tight locations. A solid, stable base for placing pavements, including asphalt, can be created in a very short period of time. Typically, one can compact hot mix asphalt on the rapid-setting flowable fill within 30 minutes after placement. The kit also includes a rapid-setting concrete material that provides a durable cap or spall repair capable of high early-bond strength to existing pavement and supports aircraft traffic within two hours after placement. Other consumables include dowels, joint sealant, geo-fabric,

Pavements and Equipment CEs perform a variety of spall and full-depth concrete and asphalt repairs, testing equipment, tools, and materials included in the SuPR Kit. (photo by Mr. Eddie Green)

and cold-patch asphalt in enough quantities for a team to get started once they hit the ground.

The other three Conex boxes contain equipment, tools, and maintenance supplies. The "workhorse" of the equipment is an 80-horsepower compact tracked loader with multiple attachments, including a breaker hammer, an angle broom, a cold planer for asphalt and concrete, and a miniature hot-mix asphalt batch heater/mixer. The kit also includes a variety of saws, hand tools, a rotary concrete mixer, an EZ Drill concrete dowel bar drill, and a compact dual steel wheel vibratory roller.

SuPR Kit Concepts

The SuPR Kit is basically an airfield repair "shop in a box" that gives civil engineers the ability to perform high-quality repairs and return an airfield to service within three hours (versus days) while supporting a high aircraft sortie rate. It focuses on sustainment but may be used for spall repair during any phase of airfield operations.

The kit will allow engineers in the field to get away from "repairing the repairs" and to place high-quality durable repairs with minimal impact on flight operations. More efficient repair techniques reduce the required manpower and, because most of the kit's items are widely used in the field, training will be easier and more efficient. Plans are for the SuPR kits to be treated as war readiness material, or WRM, assets.

Training materials are currently being prepared. A computer-based training course will be supplemented with Silver Flag training and updates to training at Fort Leonard Wood, Mo., at regional equipment operator training sites, and at the Expeditionary Combat Support Training Certification Center, Dobbins ARB, Ga. A mobile training team is expected to provide initial training at forward deployed locations.

A Pavements and Equipment Airman waits to take a temperature reading of pelletized asphalt being heated in the compact tracked loader's burner attachment. The SuPR Kit gives CEs the capability to produce airfield quality hot-mix asphalt within four minutes. (photo by Mr. Eddie Green)

The Troops Talk

In January 2012, Pavements and Equipment CEs from three installations gathered at the Engineer Research and Development Center in Vicksburg, Miss., to put the SuPR Kit to the test. Here's what they said:

"I think the kits will be beneficial for those first in. When you hit the ground in an AOR, sometimes you don't have the tools that you need. When we landed in Bagram in 2002, we were following a RED HORSE team who had minimal pieces of equipment. We had to send a guy to another base with a shopping list of the items we needed.

"If kits like these had been there already, we would not have had to waste time and money and man-hours. The kits will be a lifesaver. When you go in, you can get right to work and focus on the mission."

MSgt Tellas Johnson
633 CES, JB Langley-Eustis, Va.

"When we opened the first Conex box, it was a Dirt Boyz' dream — all new equipment including a skid-steer loader with brand new attachments.

"The team that put this kit together was thorough in their design and planning. They've even thought of the little things you need for maintenance, like air filters and oil filters. They've put in all the extension cords and all the different generator sizes that you'll need to switch through. We have everything we need to take off and go."

TSgt Jason Collins
4 CES, Seymour Johnson AFB, N.C.

Final Testing and Delivery

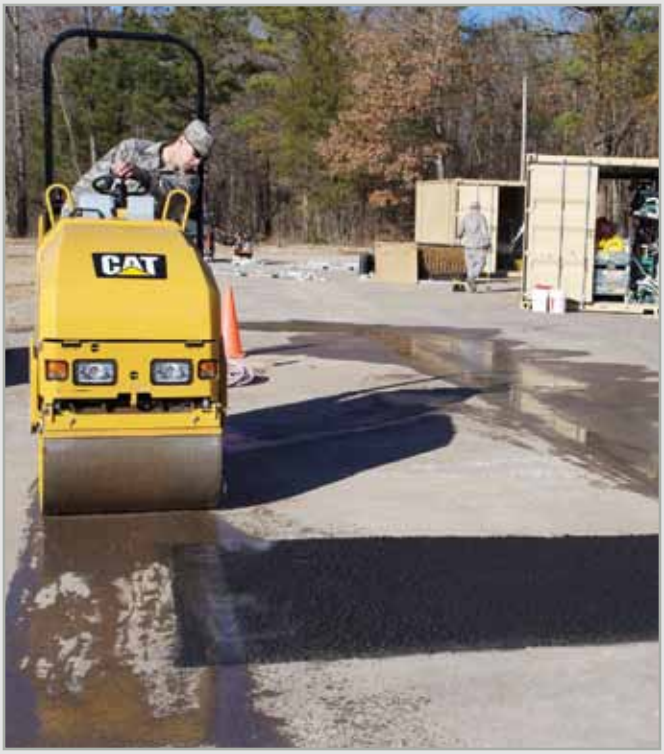
During final field testing at Vicksburg, Miss., in January 2012, minor adjustments were made to the final kit configuration. ERDC is working with the Defense Logistics Agency to procure the kits while AFCESA is finalizing the UTCs and the training packages. Throughout the development process, experts with recent field experience from different military units from around the Air Force helped to refine the kit. The Pavements and Equipment Airmen who have tested the kit are impressed by the design planning and detail involved. The feedback is that it is a comprehensive tool kit that every Air Force civil engineer tasked with performing pavement maintenance would love to have, with items they deem valuable and necessary, especially during deployments.

Shipping of the SuPR Kit is scheduled to start in early 2013, with all kits delivered by the end of FY14. AFCESA, in conjunction with AFRL and ERDC, continues to refine the capabilities of this system with a focus on improving the ability to use locally procured materials and reducing the need for the transport of large quantities of specialized materials.

Dr. Rutland is the Pavements Subject Matter Expert, AFCESA, Tyndall AFB, Fla.

Watch the video about SuPR Kit at http://youtu.be/Zuv3Gd0TutY

Read about the history of ADR in this issue's ***Proud Heritage*** *article, page 28.*



TSgt Jason Collins, 4 CES, Seymour Johnson AFB, N.C., uses the SuPR Kit's vibratory asphalt roller to compact a repaired section of asphalt. (photo by Mr. Eddie Green)

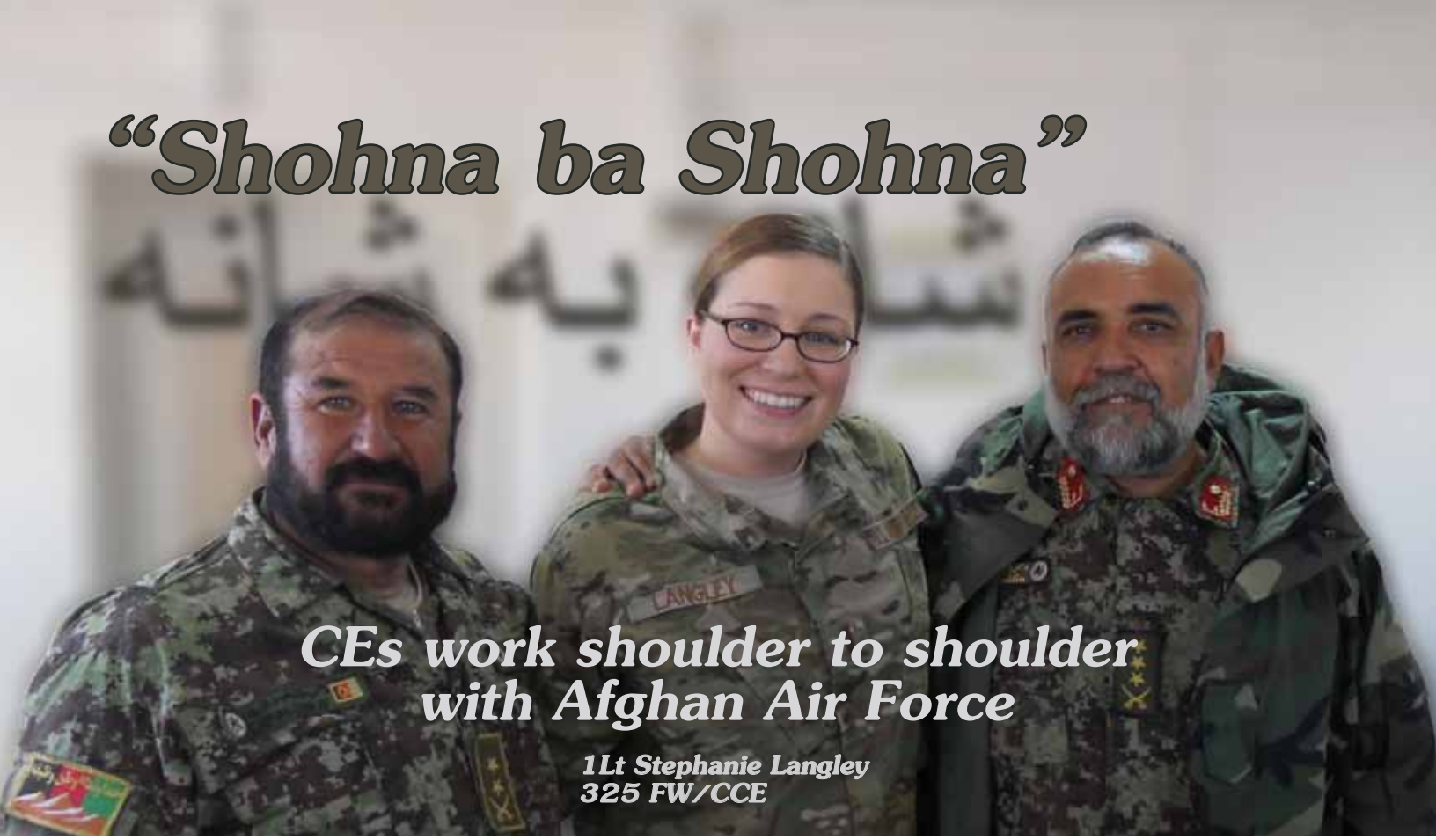
Pavements and Equipment CEs extract needed equipment from one of the SuPR Kit's four 20-foot Conex containers. Over the course of one week, CEs performed a series of concrete and asphalt repairs, evaluating the kit's design, configuration, and equipment selection to provide valuable feedback to the development team. (photo by Mr. Eddie Green)

"Dirt Boyz" remove containers of consumables from the SuPR Kit's fourth Conex container. The Kit includes a supply of materials like rapid-setting concrete and dowels, as well as cold-patch asphalt components like pelletized asphalt and a rapid-setting flowable fill. (photo by Mr. Eddie Green)

ADR modernization will improve our ability to function during all phases of airfield operations, including Open, Establish, Expand, Maintain, Sustain, and Recover. AFCESA is developing and testing new materials, equipment, and procedures to accomplish required tasks in logistically constrained environments, and then making them operational by publishing criteria, specifications, and guidance; creating and updating training materials and courses; and developing new equipment and materials in specialized packages, kits or UTCs. These include:

- **Rubber Removal and Paint Striping Kit** – C-130 transportable capability for rubber removal using either detergents or ultra-high pressure water and paint striping in remote locations
- **Aircraft Tie Down Augmentation Kit** – Equipment and materials to test existing tie-downs or mooring points as well as install new tie downs with little impact to the airfield or operations
- **Aircraft Expedient Trim Pad Anchor Kit** – Equipment and materials to install an engine run-up anchor in remote locations (currently available)
- **Semi-Prepared Runway Operations Sustainment Kit** – Equipment and materials to perform maintenance and minor repair of semi-prepared (dirt) airfields to sustain air operations
- **Asphalt Sustainment Augmentation Kit** – C-130 transportable infrared heating and mixing equipment and materials to allow the reuse of cracked and oxidized asphalt in repair, thus reducing the need for new materials
- **Precast Slab Repair Augmentation Kit** – C-130 transportable equipment that, with the SuPR Kit, allows engineers to perform major repairs, including complete and multiple slab replacements on airfields in a few hours
- **Airfield Recovery** – Scalable equipment and material set that enables a squadron to repair and return an airfield with hundreds of craters back to operations within a few hours
- **MARES Kit** – Update of equipment, materials, and procedures in the MARES kits to improve the ability to open the base

"Shohna ba Shohna"



CEs work shoulder to shoulder with Afghan Air Force

1Lt Stephanie Langley
325 FW/CCE

In western Afghanistan, civil engineers are working to help put the small Shindand Air Base on the map.

Civil engineers from five different missions are working "Shohna ba Shohna" or "shoulder to shoulder" with one common mission: to develop Shindand AB into the regional hub for all training in western Afghanistan.

Engineers from the 838 Air Expeditionary Advisory Group (AEAG), the Infrastructure Training Advisory Group (ITAG), the 577th Expeditionary Prime BEEF Group (EPBG) Detachment West, the U.S. Army Corps of Engineers (USACE), and the Air Force Center for Engineering and the Environment-Afghanistan (AFCEE-A) are working with each other, with U.S. military and coalition forces, and with the Afghan Air Force (AAF).

Shindand AB is unique in that, theater-wide, it is the only base that owns both the base operating support integrator and the senior airfield authority function. With the J7 civil engineers falling directly under the 838 AEAG, they control all functions related to facilities support, operations, life support, real property, and the repair and maintenance of facilities and airfield surfaces.

Established as a NATO training base in 2009, Shindand AB has expanded to nearly three times its original size. By July 2011, it was the second largest air base in Afghanistan. Shindand is the major hub for all Regional Command (RC)-West Afghanistan training and is set to be the premier flight training center for both the fixed-wing and rotary-wing pipelines for the AAF. The first undergraduate pilot training class, which started on December 10, 2011, is scheduled to graduate by October 2012.

Many base agencies played a role making this milestone happen, but civil engineers led the way in transforming the base. The 2010 expansion included living quarters and work space, called the "Far East Expansion," to house more than 5,000 coalition forces and government contractors. Other expansion projects built two new entry control points, two new well complexes, a new fire station, 31 miles of new roads, a power plant, and a wastewater treatment plant.

In one of their most recent O&M projects, J7 civil engineers completed the beddown of aircraft added to support the AAF pilot training program. The project included adding parking spots for fixed-wing aircraft (e.g., Cessna 182s and Cessna 208s) and rotary-wing aircraft (e.g., Mi-17s and MD-530s). New tie-downs and taxiway markings were also needed.

Not only are the Shindand engineers supporting the Afghan military, but they are also supporting U.S. Forces-Afghanistan (USFOR-A) personnel. Members of the 577 EPBG Detachment West are currently executing 72 O&M projects worth a total of $44M to beddown USFOR-A.

Since the 838 AEAG is an advisory group, the group's engineers also control the advising mission under the direction of NATO Training Mission-Afghanistan. One near-and-dear

project is an Afghan civil engineer squadron. "The J7 advisors assess, train, advise, and assist the newly formed Afghan squadron," said Air Force Capt Byung-Suk Choi, who heads the project. Engineers from the 838 AEAG work closely with the Italian Air Force and ITAG to ensure members of the Afghan squadron are postured to take over O&M of their infrastructure.

ITAG was created in support of NATO's 2014 transition pace, with the ultimate goal of facilitating capable stewardship of enduring facilities being handed over to the Afghan National Army and AAF. Shindand's ITAG team is responsible for increasing manning, facilitating training, and fielding equipment for the AAF's civil engineer squadron.

A phased building turnover plan has been generated with O&M responsibility of 25 percent of the existing facilities being turned over to the AAF in July 2012. ITAG was essentially created to eliminate the O&M contract not only at Shindand, but theater-wide. It will facilitate contractor-led formal training and job shadowing as the O&M responsibility borne by contractors is gradually scaled back. The number of civil engineering personnel has more than quadrupled from the AAF's original manning document, the Tashkil. At the conclusion of an extensive hiring process, the AAF civil engineer squadron is expected to increase personnel by over 400 percent.

Rounding out Shindand's engineer capability are the heavy lifters — USACE and AFCEE-A. These organizations execute MILCON and Afghan Security Forces Fund projects to support both U.S. and Afghan requirements.

Under the direction of Lt Col Pat Miller, AFCEE-A is constructing an undergraduate pilot training campus for the AAF, similar to the one at Vance AFB, Okla. The cost for this project is approximately $30M and includes 38 facilities for training, operations, and support functions, as well as administrative space for not just the training group, but also the air base wing headquarters and operations, maintenance, and mission support groups. The project is expected to be completed by October 2012. It is just the first of a multi-phase AAF build; approximately $75M in additional requirements will be executed by AFCEE-A in support of the AAF during the next year.

Shohna ba Shohna, the civil engineers at Shindand AB are working to accomplish a wide range of missions to put the base on the map and pave the way for the 2014 transition.

1Lt Langley is an executive officer for the 325th Fighter Wing, Tyndall AFB, Fla. She deployed to the 838 Air Expeditionary Advisory Group as the J7 Chief of Engineering.

Afghan contractors pour a concrete generator pad during a construction project at Shindand AB, Afghanistan. (U.S. Air Force photo)

Prime BEEF to the Rescue

CMSgt Shayne D. Somavia
838 AEAG/EMSG

At Shindand AB, Afghanistan, the 557th and 777th Expeditionary Prime BEEF Squadrons (EPBSs) came to the rescue when construction of the new dining facility "stalled" at 75 percent completion.

A new dining facility (DFAC) was needed to upgrade an already overextended feeding capability and to reduce the amount of time Soldiers, Sailors, Airmen, and Marines had to travel to get a hot cooked meal — both important quality of life issues in a deployed environment. Groundbreaking began in September 2011, with planning and construction handled by the 838 Air Expeditionary Advisory Group.

In December 2011, however, the project came to a halt when its size moved it from one type of construction category to another, and only military labor could be used to complete it. The facility was basically an empty shell with no interior construction, plumbing, or electrical wiring.

That's when Prime BEEF stepped in. Beginning in March 2012, the 557 and 777 EPBSs worked hand-in-hand, dividing the labor based upon their availability. The 777th coordinated and managed the project; 577th members were the workhorses, augmented by troop labor from other specialties on base.

In total, more than100 personnel provided approximately 4,900 manhours to finish the facility, teaming up to tackle the residual work, which included hanging conduit; pulling electrical wire; moving appliances and equipment; readying it for operations; and implementing antiterrorism-force-protection measures.

The Far East Dining Facility at Shindand AB officially opened on May 1, providing an important quality of life improvement for service members deployed to Afghanistan. (U.S. Air Force photo)

Shindand's new Far East DFAC officially opened for business on May 1.

"Having the Prime BEEF team here at Shindand along with the troop labor was paramount to finalizing our DFAC's construction," said Lt Col Stuart Mathew, base civil engineer, 838 AEAG.

CMSgt Somavia is the Superintendent, 838th Air Expeditionary Advisory Group, Base Operating Support Integration.

(above and below) Members of the 577 EPBS and Shindand AB's troop labor volunteers install electrical cable to supply power to the base's dining facility in Afghanistan. (U.S. Air Force photo)

Extending CE's Reach

Teresa Hood
AFCESA/CEBH

It's a two-for-one deal on information: one reach-back center now handles the calls for two Civil Engineer FOAs.

On June 25, 2012, AFCEE at Port San Antonio, Texas, and AFCESA consolidated their 24/7 call center capabilities into the existing Reach-Back Center (RBC) at AFCESA, located at Tyndall AFB, Fla.

"The center at AFCESA has been providing basic information for AFCEE subject matter experts since 2005," said Mr. Terry Edwards, director of AFCEE. "The newly expanded capability now includes support and direction for all AFCEE capabilities."

The RBC has handled more than 46,000 calls since it opened in 2005, fielding a range of questions or information requests from deployed locations, the Pentagon, MAJCOMs, bases, industry, and even other services.

"When the request for information comes in, many times the caller doesn't know what person or division to contact; as a centralized hub we do," said Mr. Jeff Warnecke, an RBC agent and the center's manager.

The Reach-Back Center approaches its mission with a focus on providing excellent customer service. Every question or information request is prioritized, with the goal of timely response to each and every one.

TSgt Jason Myers (left), AFCESA's Readiness Operations Center NCOIC, asks RBC agent Mr. Greg Hummel a question while Mr. Jeff Warnecke (right) takes a call. Reach-Back Center agents answer information requests by phone, online, or in person. (photo by Mr. Eddie Green)

"If we are unable to provide the exact answer to the caller immediately, we will track the call in our ticketing system, which generates an email so the requester knows we'll get back to them, usually within 24 to 72 hours," said Mr. Greg Hummel, an RBC agent.

During normal duty hours, Monday through Friday, 7 a.m. to 4 p.m. CST, RBC agents are available to answer calls directly. Outside of that timeframe, callers can leave a voicemail for response on the next duty day. For emergencies, callers have the option to contact a standby duty officer for immediate assistance.

In order to speed up the process and get the information out as efficiently as possible, the RBC relies on a vast knowledge database of technical information in over 100 subjects.

"Every answer provided by our subject matter experts is captured and added to our knowledge database," said Mr. Warnecke. "If we get the same question again, we already have the answer and can provide a quicker response to the customer."

As former Air Force civil engineers, the three RBC agents, Mr. Warnecke, Mr. Hummel, and Mr. Al Wackowski, bring practical experience to the table, having more than 70 years of Air Force Civil Engineering knowledge between them.

"The Reach-Back Center has proven to be one of our agency's most effective resources," said Col David Reynolds, AFCESA's Commander. "AFCEE and AFCESA working together to expand our collective 'reach' across the Civil Engineering enterprise is an important step in making us even more effective and efficient."

Anyone needing answers or assistance from either AFCEE or AFCESA should contact the Reach-Back Center at any time with one call or email:

DSN: 523-6995

COMM: 1-850-283-6995

Toll Free: 1-888-232-3721

Email: AFCESAR@tyndall.af.mil

AIR FORCE Encroachment MANAGEMENT PROGRAM

"...the Air Force must build a cross-functional encroachment management framework that integrates existing Air force programs into a comprehensive strategy."

Maj Gen Timothy Byers, The Civil Engineer

Ms. Lynn Engelman
USAF/A7CPB

Encroachment is a serious risk to Air Force readiness and long-term sustainment of an installation's mission capability. Traditionally, the Air Force has looked at actions taken by those outside the fence line as the source of all encroachment; however, Air Force activities can "encroach" upon local communities, as well as upon activities within the installation fence line. To effectively manage encroachment requires the Air Force to consider what happens both outside and inside the fence line, as well as expand the geographical scope of encroachment management efforts to include its ranges, airspace, auxiliary fields, and other sites essential to the mission (see Figure 1).

The Air Force Encroachment Management (AFEM) Program, developed by Headquarters Air Force (HAF), provides a comprehensive and integrated management framework (organize, assess, act, and monitor) to prevent, minimize, eliminate, or manage the effects of encroachment. The AFEM Program requires cross functional support at all levels of the Air Force. It builds upon, rather than replaces,

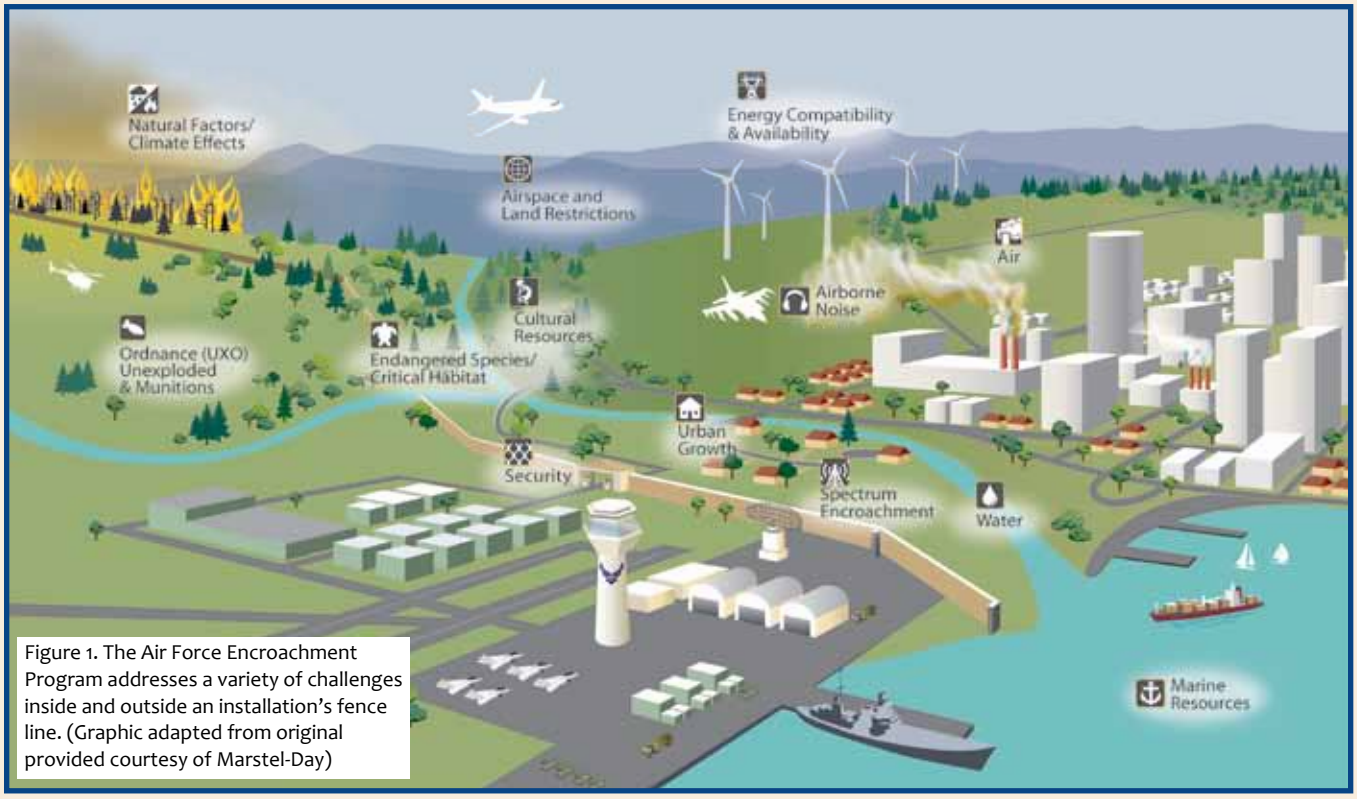


Figure 1. The Air Force Encroachment Program addresses a variety of challenges inside and outside an installation's fence line. (Graphic adapted from original provided courtesy of Marstel-Day)

existing programs and tools, such as the Air Installation Compatible Use Zone (AICUZ); DOD's Office of Economic Adjustment's Joint Land Use Study (JLUS); Air Force Spectrum Management Program; Airspace Management; Range Management; Natural and Cultural Resource Management; and Air Quality, as well as other installation management programs.

The AFEM Program expands the Air Force's perspective of encroachment management. Rather than focusing on the traditional boundaries of the airfield or installation perimeter, the Air Force is now using a systems approach that functions on a landscape scale, and is based on the concepts of the installation complex and mission footprint (see definitions and Figure 2). These two concepts define the geographical scope of what needs to be monitored and protected for mission sustainability, and drives the requirement to establish strong relationships with organizations, communities, industry, and state and federal agencies that also exist within the same operational landscape as the Air Force. The Secretary of the Air Force approved Air Force Policy Directive 90-20 on Encroachment Management in April 2012. The implementing Air Force Instruction is expected to be finalized by the end of the summer, with an Air Force handbook to follow.

Another new concept is establishment of cross-functional decision-making Installation Encroachment Management Teams (IEMTs) for long-term, collaborative planning and problem solving. These teams will analyze issues, develop responses, monitor activities, coordinate with their cross-functional MAJCOM EMTs, and engage both internal and external stakeholders. Members will represent functional areas such as Airspace Management; Asset Management; Civil Engineering; Communications; Environmental; Legal; Public Affairs; Range Management; Real Estate; Safety; Spectrum Management; Security Forces; and installation tenants. In February 2011, The Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) established the HAF Encroachment Management Working Group (EMWG), which maintains situational awareness of encroachment challenges across the Air Force as well as reviews proposed courses of action to address encroachment and sustainment challenges. The HAF EMWG is chaired by SAF/IEI's Director of Encroachment Management.

Thirteen encroachment and challenge areas will be addressed in the AFEM program. To assess an installation's situation relative to these challenge areas and develop strategies to address them, the Air Force is introducing the Installation Complex Encroachment Management Action Plan, or ICEMAP, process. Assessments provide comprehensive situational awareness of mission needs, a customized installation encroachment management strategy, and a common framework to assist all stakeholders — Air Force and community — in identifying issues.

Encroachment management continues to be a challenge. Building upon past programs and new guidance and concepts, the AFEM Program gives the Air Force an effective edge in meeting the challenge.

Ms. Engelman is Air Force lead for the AICUZ/Noise/Encroachment Management programs in the Office of The Civil Engineer, the Pentagon, Washington, D.C

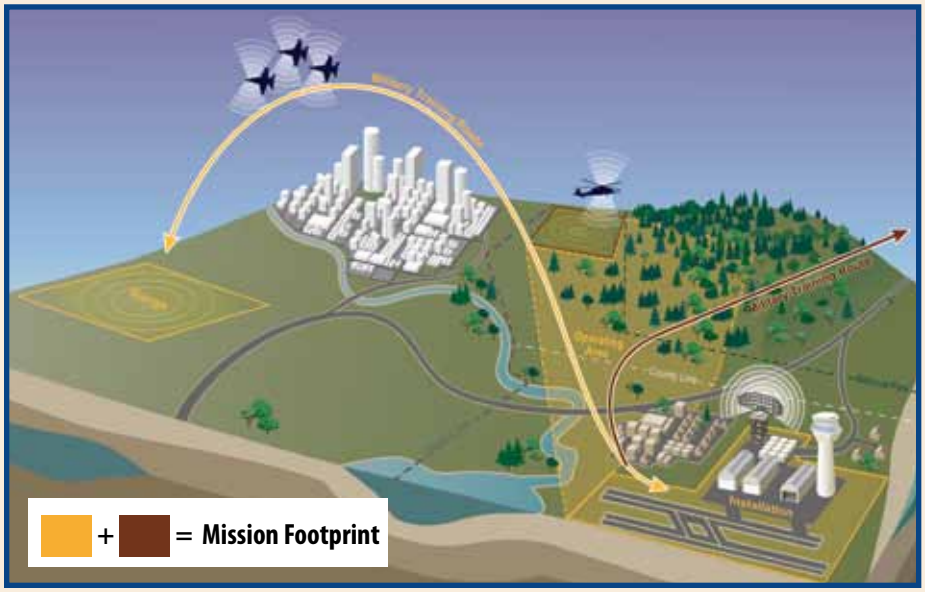


Figure 2. The Air Force systems approach to encroachment management uses two concepts: installation complex and mission footprint. (Graphic courtesy of Marstel-Day)

Definitions

Encroachment - Any deliberate action by any governmental or non-governmental entity or individual that does, or is likely to, inhibit, curtail, or impede current or future military activities within the installation complex and/or mission footprint; or deliberate military activity that is, or is likely to be, incompatible with the use of a community's resources.

Installation Complex - The land, facilities, airspace, and ranges providing direct mission support to the installation and/or are managed by the installation.

Mission Footprint - The installation complex plus any land, facilities, airspace and/or ranges that are not managed by the installation, but which provide direct, routine support to the mission.

Engineering a HEAVY Recovery

Lt Col Michael Nester
577 EPBS/CC

Maj Mel Ibarreta
777 EPBS/Det East

We've all heard that "It takes a village to raise a child." But, at Forward Operating Base (FOB) Shank in Eastern Afghanistan, it also takes a village to recover a C-17 Globemaster III aircraft. Because of icy conditions in the area in late January 2012, a cargo-carrying C-17 aircraft slid off the FOB's runway and came to rest some 650 feet off the runway, across a 10-foot deep and 300-foot wide wadi (a dry stream or riverbed that usually contains water only during times of high rain). The impact with the wadi sheared off the nose gear and managed to flatten most of the tires. The 150-ton aircraft lay within the approach of the runway, cutting off large aircraft service to the FOB.

The FOB's "village" then sprang into action. The Army secured the aircraft until Air Force teams arrived from another location in Southwest Asia. Joining the aircraft recovery team were aircraft maintenance specialists from JB Charleston, S.C., and recovery specialists from the Boeing Company, the manufacturer of the aircraft. Initial assessment concluded that the $218-million aircraft could be recovered. The big question was, "How?"

Led by members of the 777th Expeditionary Prime BEEF Squadron (EPBS) detachment assigned to FOB Shank, the technical staff began designing a solution to get the aircraft back on to the ramp. SSgt Michael Root, a heavy equipment expert from the 777th's sister squadron, the 577 EPBS, joined the team. An engineered land bridge was the quickest route to allowing the aircraft to be towed out of the approach path. Because a C-17 doesn't turn on a dime when it's unpowered and missing wheels, engineers had to account for a wider turning radius for the aircraft and support vehicles. These calculations were essential to clearing a site to turning the aircraft around to face the airfield.

SSgt Root worked with equipment and operators provided by the Army's 661 Engineer Co, 7 EN BN, TF Red Devil to remove snow, then grade and compact an area large enough to turn the aircraft. Afghanistan was in the middle of the snowiest winter in 30 years and soil conditions were less than ideal. The equipment operators had to make the site firm without overworking the ground and creating a soupy mess. TSgt Ursula Rothweiler and SrA Matthew Ogden, engineering assistants (EAs) with the 777 EPBS, worked with the Boeing team to stake out a road that the C-17 would use to get back on to pavement. Placing the road's centerline correctly was critical to building the bridge in the right spot and with enough strength to simultaneously support the C-17 and the multiple towing vehicles.

(above) On moving day, the recovery team carefully guides 200 tons of aircraft and support vehicles onto and down the runway. (photo by Mr. E. John Schumacher)
(below) C-17 Globemaster positioned off the runway after landing, prior to recovery operations (photo by Maj Mel Ibarreta)

TSgt Livingston and SSgt Resendez place side slopes over coarse aggregate. (photo by Maj Mel Ibarreta)

(above) Compaction of soil top course in preparation for AM-2. (photo by TSgt Ursula Rothweiler)
(below) The final compaction pass — the land bridge is at final grade. (photo by Mr. E. John Schumacher)

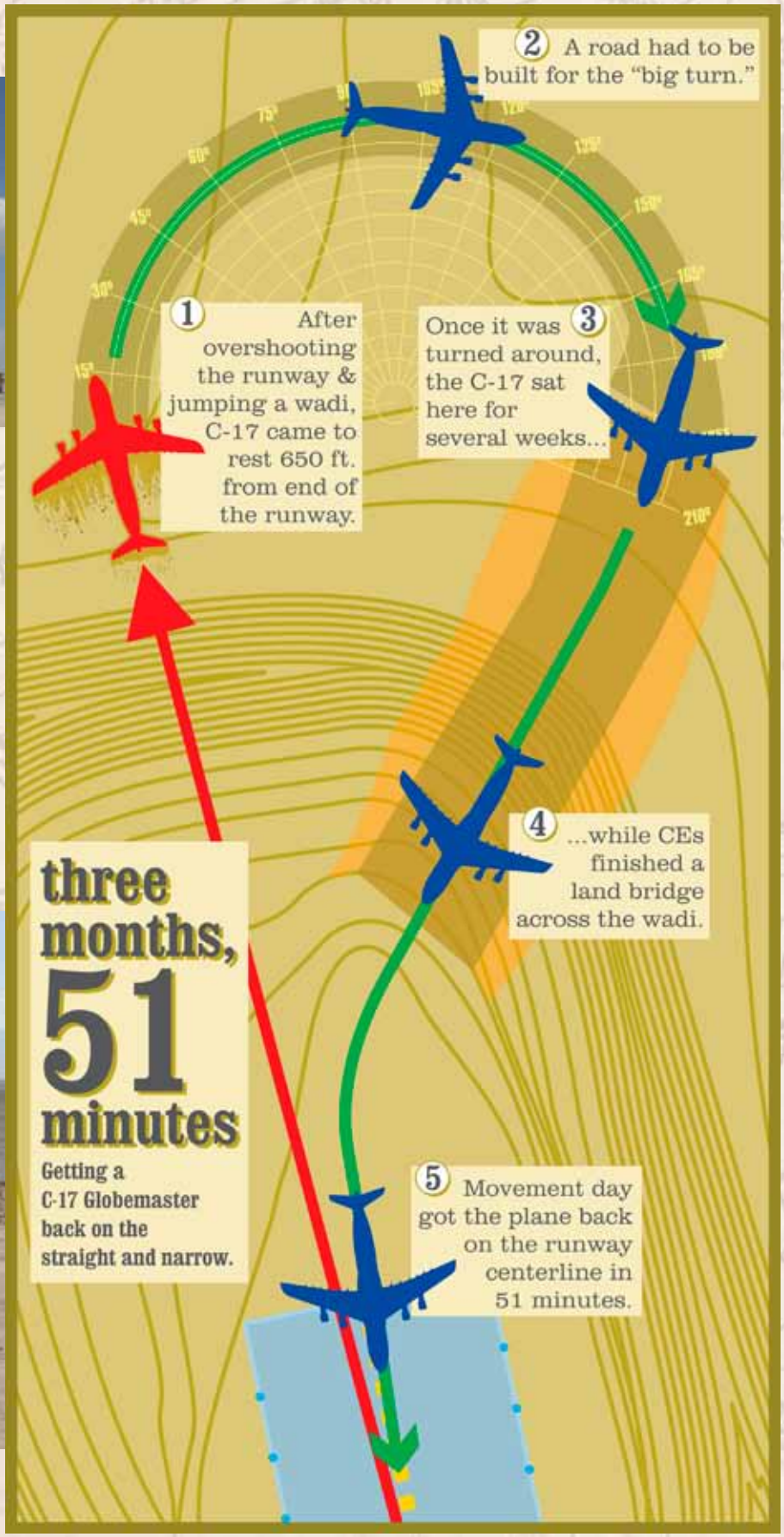
With the centerline staked out, heavy equipment operators TSgt Albert Fanini, TSgt Robert Livingston, and SSgt Johnny Resendez, also from the 577 EPBS, went to work. Leveraging the Army-provided equipment and operators, the "dirtboyz" began building the bridge. Starting with boulders as large as two feet in diameter placed in the bottom of the wadi to provide for drainage and strength, the land bridge quickly rose in layers of decreasing aggregate size separated by geotextile fabric. Led by TSgt Fanini, called an "artist on a bulldozer" by the Army garrison commander, the team did not stop until 8,500 cubic yards of material were placed, shaped, and compacted. The airfield's firefighters and fire trucks provided valuable water for compaction, taking the place of the water truck and operators usually a part of work crews on such a job. When finished, the bridge was approximately 12-feet tall from the bottom of the wadi and stretched some 350 feet across. The EAs then performed California Bearing Ratio tests to ensure the bridge base course was strong enough for the one time pass of a combined 200 tons of aircraft and support vehicles.

A crane lifts the C-17's nose to allow the recovery trailer to take the place of the missing nose gear. (photo by Mr. E. John Schumacher)

As a final insurance measure to help spread the heavy loads, an AM-2 patch, 48-feet wide and 150-feet long, was placed by troop labor from the combined team of Air Force aircraft maintainers and security forces, Army engineers and aviation specialists, and Boeing contractors.

On "moving day" in April over 50 people — Soldiers, Airmen, civilians, and contractors — participated in the total team effort. The C-17's nose rested on a specialized recovery trailer built by Boeing. A 10-ton tractor towed the trailer, and heavy expanded mobility tactical truck (HEMTT) wreckers towed each of the C-17's left and right main

TSgt Rothweiler (left) and SSgt Willis (right) perform CBR tests to ensure bridge is ready for 200 tons. (photo by Mr. E. John Schumacher)



Army, Air Force, and Boeing contractors carefully move the aircraft down the runway to the maintenance ramp. (photo by Mr. E. John Schumacher)

gear. Steering the massive C-17 required the HEMTTs to work in concert with the recovery trailer taking the place of the missing nose gear. In only 51 minutes the joint team successfully towed the aircraft over the land bridge, back down the runway, and onto a ramp to begin repair. Not only was the aircraft successfully recovered, but FOB Shank's airfield was reopened to heavy airlift.

"This project leveraged the unique capabilities of the 1st Expeditionary Civil Engineer Group," said Col John Allen, the group's commander. "From the immediate access to the supported commander through our liaison officer on-scene at FOB Shank, to the reach-back design cell of the 777 EPBS and the highly mobile construction capability of the 577 EPBS, the pieces meshed together with the joint team to save this strategic asset and restore air operations. It demonstrated what 'Engineering Combat Power' is all about."

Lt Col Nester is the commander of the 577 EPBS and Maj Ibarreta is the liaison officer to FOB Shank, 777 EPBS, Det East.

(right) Small boulders form the first layer of the bridge, providing strength and water flow through the wadi. (photo by TSgt Ursula Rothweiler)

(below) Success! Recovery team crosses the runway threshold. (photo by Maj Mel Ibarreta)

Firefighters Battle Wildland Fires

Ms. Teresa Hood
AFCESA/CEBH

Everyone knows that Air Force firefighters are at the ready to respond to fires on the flightline and in installation facilities. But, as events this spring and summer have shown, they also fight their fair share of wildland fires.

"This has actually been an average year for us in terms of numbers of wildland fires," said Mr. Donald Warner, the Air Force Fire Chief, AFCESA, Tyndall AFB, Fla. "The difference this year, though, is the fires have threatened our installations more than usual."

Air Force-wide, firefighters have battled wildland fires large to small from east to west. In most cases, they responded to mutual aid requests, assisting local communities. But, at the U.S. Air Force Academy in Colorado, Air Force firefighters battled a devastating wildland fire on their own turf.

Colorado's Waldo Canyon fire started on June 23 and became the most destructive wildfire in the state's history, burning over 29 square miles, killing two people, and destroying nearly 350 houses before officials declared it "fully contained" on July 10.

During the firefighting efforts, Mr. Ernst Piercy, the Academy's fire chief said, "This is absolutely the worst wildfire I've ever seen." As the fire spread from where it began near Woodland Park, Colo., the U.S. Air Force Academy and the city of Colorado Springs were directly in its path. On June 26, the fire leapt two ridges and breached the Colorado Springs city limits, fueled by 65-mph winds. Part of that fire spread to the southwest portion of the Academy on June 27, and officials began evacuating more than 600 families living on base and 110 dormitory residents.

Firefighters from the 10 CES and Soldiers with Fort Carson's 4th and 52nd Engineer Battalions established fire breaks along the base's southern side. Approximately 1,000 firefighters from around the country were postured to fight the fire, including teams from AFSPC and AFGSC, who responded to requests for aid.

Personnel from AFSPC's Colorado bases were in the fight from day one, as firefighters at Cheyenne Mountain AFS answered a mutual aid request for support for firefighting and backfilling a Colorado Springs fire station. They were soon joined by firefighters from Schriever, Peterson, and Buckley AFBs. As the fire grew in intensity over the course of seven days, AFSPC provided 171 firefighters and 34 pieces of equipment. AFGSC's F.E. Warren AFB, Wyo., also provided resources, equipment, and personnel.

On day three of the fire, responding to a request from the National Interagency Fire Center in Boise, Idaho, 18 members of Vandenberg AFB's "Hot Shots" deployed from California, loading into a C-17 with two crew carrier vehicles, one superintendant support vehicle, and one all-terrain vehicle. According to Vandenberg AFB Fire Chief, Mr. Mark Farias, the Hot Shots' special wildland fire and urban interface training makes them a valuable front-line asset.

(left to right) Assistant Chief Martin Galler, Assistant Chief of Fire Prevention Mr. Robert Lemanksi, Capt Todd Harris, and Fire Chief Thomas Nicometi discuss plans for extinguishing a wildland fire on one of JB-McGuire-Dix-Lakehurst's ranges in April 2012. (photo by Mr. Russ Meseroll)

A firefighter from Mountain Home AFB, Idaho, watches as a fire break is created to help protect structures from the Benwalk fire in Mountain Home, Idaho, July 9, 2012. (photo by Mr. Jeffrey Wagner, MHAFB Deputy Fire Chief)

Further north and about a month later, on July 9, 14 Airmen and four vehicles from the 366 CES at Mountain Home AFB, Idaho, were dispatched to the town of Mountain Home, to support efforts to control a wildland fire. The Benwalk fire burned more than 25,000 acres as it threatened structures along the local interstate.

"Our firefighters integrated seamlessly into the local incident command structure, working alongside personnel from the Mountain Home Fire Department, the Bureau of Land Management, and the Forest Service," said Mr. Jeffrey Wagner, Mountain Home's deputy fire chief. According to Chief Wagner, 366th firefighters responded during the summer to six other wildland fires that burned almost 256,000 acres.

Air Force firefighters in other states also responded to wildland fires, which although smaller, required the same level of trained skills. Firefighters from Malmstrom AFB, Mont., answered a mutual aid request from the community of Stockett on July 22, for a fire ignited by lightning. Firefighters dug fire breaks and operated hose lines. Also on July 22, Tinker AFB, Okla., firefighters — as part of the Oklahoma County Wildland Taskforce — assisted multiple agencies in battling a fire of more than 3,000 acres in Blaine County, Okla. In Texas, from May to July of this year, firefighters with the 82 CES at Sheppard AFB, Texas, answered four requests for aid for local wildland fires that burned 659 acres.

On the East Coast, at Hanscom AFB, Mass., 66 CEF firefighters assisted the local community with a 5,000-gallon tanker and personnel for a small wildland fire. At JB McGuire-Dix-Lakehurst, N.J., where the Air Force has the lead for base support, FES successfully contained 46 wildland fires from April to July. The fires caused an estimated $24,000 in Air Force and $500 in non-Air Force property damages, primarily to range areas.

Firefighters at JB McGuire-Dix-Lakehurst attribute their effectiveness in fighting wildland fires to exemplary training and mutual aid partnership — a proven combination, as Air Force-wide, firefighters successfully battled recent fires.

2Lt Bryant Davis, 366 FW/PA; Mr. Don Branum, USAFA/PA; SSgt Erica Picariello, 30 SW/PA; and TSgt Chris Powell, AFNS, contributed to this article.

(opposite page) A cloud of smoke from the Waldo Canyon Fire in Colorado rises from the south behind the U.S. Air Force Academy's chapel as cadets head for a briefing on evacuation procedures on June 27. (photo by Ms. Carol Lawrence)
(below) A team of Hot Shots, firefighters from Vandenberg AFB, Calif., prepare to cut a fire line on June 28, while helping to battle fires in the Waldo Canyon in Colorado. (photo by MSgt Jeremy Lock)

FORGING A STRONGER CIVILIAN WORKFORCE

Ms. Vicki Preacher
96 CEG/DD

Recent Civil Engineer career development efforts are focusing on building better federal wage service (FWS) civilians with a new supervisor course, as well as offering tuition assistance to some FWS employees for the first time.

A well-developed civilian workforce — at all levels — is essential in meeting the strategic goals of Building Ready Engineers, Great Leaders, and Sustainable Installations. Civil Engineer FWS, or "wage grade," employees must have the opportunities to acquire the right leadership and management skill sets they need to be current and future leaders of operations flights. To ensure these employees have a structured career development path, a Functional Advisory Council Wage Grade Development sub-panel was established and has already had several success stories.

On Sept. 12, 2011, a pilot Civilian Supervisor Course (MGT 571) was launched at the Air Force Institute of Technology (AFIT). The five-day class was attended by 20 operations flight wage grade supervisors. The pilot class received extremely high ratings from the attendees, as did the more recent classes held in April and May of 2012.

"The overall relevance and effectiveness ratings for this course were much higher than any of the CE Superintendent (MGT 570) and the Fire and Emergency Services Flight Superintendent (WGMT-427) courses I've directed for the past one-and-a-half years," said CMSgt Dirk McDowell, the AFIT course instructor.

The class is geared towards WS-9 supervisors, with the objective of enhancing each student's knowledge of Civil Engineering and related processes to better prepare them for serving as a shop supervisor, flight superintendent, or deputy flight chief.

"This challenging course should be a requirement for all CE supervisors," said Mr. David Colwell, a pilot course attendee from Eglin AFB, Fla. "It provided a monumental amount of valuable CE-specific information that I had not been exposed to in my four years of being a supervisor."

Another success story is the first-time-ever availability of tuition assistance for people in certain FWS positions. Civil Engineering has already had the first beneficiary of this program: A WS-10 is currently working on his master's degree using this centrally funded program.

Eligibility is dependent on an individual's occupational series and work experience, but generally starts for FWS individuals who are in WS-9 positions or above. To qualify for the program you must be a current Civil Engineer civilian who is eligible for a "centrally managed" position. The program will pay up to 75 percent of tuition (with some limits per semester hour/fiscal year). Funding is generally available on a first-come, first-serve basis; however, if centrally managed training funds become a limiting factor, the Civil Engineer Development Team will rank order applicants and fund accordingly. Coursework must be related to duties and an application package and Civil Engineer Career Field Team approval are required.

To find out more about AFIT's Civilian Supervisor course (MGT 571), go on the AFIT web site at http://www.afit.edu/cess/Course_List.cfm?tab=2#ENG. The next class is scheduled for Sept. 10-14, 2012, with more to follow. Be on the lookout for your MAJCOM call for class attendees. To find out more about the tuition assistance program, contact the CE Career Field Team at DSN 665-2666 or commercial 210-565-2666 or at afpc.ce.cft@us.af.mil.

Ms. Preacher is the Deputy Base Civil Engineer, Eglin AFB, Fla. She serves as the chair for the Wage Grade Development Sub-panel.

Mr. Mark Correll, the Deputy Civil Engineer, addresses students during a session of the Civilian Supervisor Course at AFIT, Wright-Patterson AFB, Ohio. (U.S. Air Force photo)

In the Driver's Seat at Dobbins

Mr. Gene Van Deventer
AFRC/A7ZP

For years, AFRC has taken advantage of simulators to provide its aviators with a realistic, cost-effective and safe training environment. Now, the command's Civil Engineer community is getting in on the act, using simulator technology to train its cadre of heavy equipment operators.

The Training Certification Center (TCC) at Dobbins ARB, Ga. — formerly known as the regional equipment operators site — contributes significantly to the combat readiness of AFRC's civil engineers. More than 750 civil engineers from a wide spectrum of specialties receive annual training certifications at the TCC, which is celebrating its 10th year of training excellence.

The TCC recently acquired state-of-the-art heavy equipment simulators that allow students to receive initial field indoctrination on heavy-duty equipment such as bulldozers, front-end loaders, dump trucks and road graders in the classroom instead of in the field. With the simulators, instructors can simultaneously oversee multiple students' hands-on performance.

"The simulators provide a safe environment using heads-up computer displays and actual maneuvering devices, such as shifters, levers, and foot pedals," said MSgt Christopher De Void, NCOIC of the TCC's Pavements and Equipment Section. "Training exercises are native to each machine and include varied applications from trenching with the hydraulic excavator to moving objects with a clamshell on the front-end loader."

During each training session, students' actions are recorded, allowing instructors to play everything back and go over the scenario in great detail. Using simulators has other benefits, as well. Bad weather has no effect on training and because they operate on electricity instead of fuel, they save money and eliminate harmful emissions. Simulator training also eliminates safety risks inherent in operating heavy equipment.

"Our new simulator additions include the dozer, front-end loader, off-highway truck, motor grader, and hydraulic excavator," said TSgt Ryan Cleary, a TCC instructor. "These five simulators will be used primarily for 3E2s (pavement and equipment operators), but they will also be used for contingency training for other CE career fields."

Instructor TSgt Alexes Abrams said after mastering the required equipment skills, students continue their training on the real equipment. Successful accomplishment will allow students to obtain a certification of training and/or certificate of contingency training, which the Air Force requires either once a year or every three years.

The TCC also conducts mission-essential equipment training, a program that affords civil engineer units access to low density basic expeditionary airfield resources assets not readily available at their home stations. Instructors teach 40-hour expeditionary and contingency training courses for 11 civil engineer career fields in the training center's main campus classroom and at two practical field training cantonment sites.

AFRC's acquisition of heavy equipment simulators is a cost-saving venture as well as a leap into future technologies that place the command at the forefront in training excellence.

Editor's note: This article originally appeared in Citizen Airman, Vol. 64, No. 3, June 2012 (http://www.citamn.afrc.af.mil).

Mr. Van Deventer is assigned to the Expeditionary Combat Support Division's "Zulu Warriors," Directorate of Installations tions and Mission Support, HQ AFRC, Robins AFB, Ga.

At AFRC's Training Certification Center (TCC), Dobbins ARB, Ga., instructors (left to right) MSgt Anthony Bourdeau (Electrical Systems), TSgt Ryan Cleary (Pavements and Equipment), and TSgt Sean Collins (Water-Fuels System Maintenance) test some of the TCC's heavy equipment simulators. (U.S. Air Force photo)

What Base? BEAR Base!

A1C Megan C. Jones
49 MMS/BMSS

The Basic Expeditionary Airfield Resources Base (BEAR Base) is led by the 49th Materiel Maintenance Group (MMG). BEAR Base was originally designated and activated as the 4449th Mobility Support Squadron on March 1, 1972, at Holloman AFB, N.M. It was assigned to the 49th Combat Support Group, before being redesignated as the 49 MMG July 1, 1994.

The 49 MMG BEAR Base is the Air Force's only organic BEAR unit; all other BEAR Bases (PACAF, USAFE, AMC, and AFCENT) are contracted. The 49th provides mission-ready equipment for global power and reach — anytime, anywhere, at a moment's notice. The group is responsible for the storage, inspection, maintenance, repair, deployment, and accountability of $234M of ACC's BEAR Base assets. There are 18 BEAR Base storage locations worldwide.

The 49 MMG has 426 personnel authorizations (372 actual); 24 Air Force Specialty Codes (AFSCs); and two squadrons: the 49th Materiel Maintenance Squadron (primarily civil engineer AFSCs) and the 49th Materiel Maintenance Support Squadron (primarily logistics readiness AFSCs).

Teams from the 49 MMG respond worldwide for the deployment, setup, operation, maintenance, teardown, and reconstitution of equipment in support of contingencies, exercises, counterdrug operations, and other higher headquarters-directed requirements. The 49th MMG also provides a mobile training team that educates DOD personnel in deployed BEAR Base operations.

A bare base is a site with a usable runway, taxiway, parking areas, and a water source that can be made potable. A complete BEAR Base comprises 3,500 people and work facilities as well as aircraft maintenance billeting, messing, latrines, showers, electrical power, water production, aircraft hangars, civil engineering back shops, vehicle maintenance, chaplain, and mortuary affairs.

On a day-to-day basis, 49 MMG BEAR Base Airmen are responsible for maintaining more than 248,000 assets; maintaining and building 2,200 BEAR and Fuels Operational Readiness Capability Equipment unit type codes (UTCs) with two different configurations (30 percent air and 70 percent surface); standardizing configurations; and maintaining packing plans and UTC management.

Outside the compound, BEAR Base provides operational, humanitarian, and exercise support, as well as support for the president of the United States. Some notable operational support examples are preparing four teams and 160 tons for Operations Odyssey Dawn and Tomodachi; training support personnel and using 300 tons of equipment for a Department of State mission; providing continuous AFCENT BEAR subject matter expert teams; and setting up beddown for the Joint Task Force-North Operational Mission. BEAR Base has also provided personnel and equipment to support potable water production following flooding at Minot AFB, N.D.; set up beddown for RED HORSE units participating in New Horizons in Panama, and two presidential locations.

BEAR Base is the lead for integrating green technology in contingency locations that can reduce fuel costs by more than 25 percent and leads research and development of the Smart Grid and Solar Integrated Power System. BEAR BASE is also responsible for operational testing and evaluation of new assets, such as BEAR Water System (2010), BEAR Power Unit (2012), and Expeditionary Airfield Lighting System II.

The Air Force's BEAR Base provides the manpower, equipment, and expertise to support a diversity of missions across the globe, living up to its motto: "What Base? BEAR Base!"

A1C Jones is a Structural Journeyman in the Structures Flight, 49 MMG, Holloman AFB, N.M.

(opposite page) SrA Chris Warchol, SSgt George Fritz, and A1C Bryan Haley (left to right) are members of the structures shop for the 49 MMG. (photo by A1C Michael Shoemaker)
(below) Members of the 49 MMG BEAR Base team build a facility at a contingency location in Southwest Asia. (Courtesy photo)

BEAR & Operations:

- Operation Just Cause — Panama
- Operations Desert Shield and Desert Storm
- Operation Provide Comfort — Turkey
- Operation Uphold Democracy — Haitian relief efforts
- Hurricane Andrew relief
- Continuing enhanced counter narcotics operations throughout the Caribbean and Latin America
- Space shuttle contingency support
- Operations Deny Flight and Provide Promise — Croatia
- Operation Joint Endeavor — Bosnia
- Presidential support missions to Africa and China
- Operation Southern Watch — Southwest Asia
- Operation Iraqi Freedom — Southwest Asia
- Operation Enduring Freedom — Southwest Asia
- Minot AFB Flood Relief —- North Dakota
- Operation New Dawn — Southwest Asia

DEVELOPING A CE CIVILIAN CAREER PLAN

Mr. Michael Redfern
AFPC/DPIBD

Mr. James Fitzpatrick, P.E., CFM
HQ AETC/A7C2

Just as successful business owners utilize a business plan to get their company from where it is to where they want it to be, as an Air Force Civil Engineer civilian, you can create a career plan to achieve your personal and professional goals. Core competencies to focus on are professional credentials, diversity of experience, professional development, formal education, and supervisory experience. Two elements will distinguish your career development plan from a mere wish list: written goals and deadlines.

There's a world of difference between just thinking about your career goals and writing them down. As you begin to write, identify your short-, mid-, and long-term goals. Know what it will take to get there, such as on-the-job training, time, funds, or family buy-in. Discuss your plans with your supervisor/mentor.

Get familiar with the Transition Civilian Development Plan (T-CDP) at https://www.t-cdp.hq.af.mil/Presentation/Authorization/Login.cfm. The T-CDP is a great on-line tool that will help you build your development plan and even communicate that plan to your supervisor or mentor.

Acquiring knowledge and skills is a primary component of any career plan, so you should determine what learning opportunities are out there and how to take advantage of them. Research options to identify the most effective (e.g., cost, time, availability) training methods for each gap identified in your plan.

Formal Learning Opportunities

There are many formal routes you can take to reach your educational goals.

Free training is available through the Defense Acquisition University (DAU) web site (http://www.dau.mil/default.aspx). Consider taking DAU courses such as Acquisition 101, Facilities Engineering 201, and others related to facilities engineering and contract management.

You can prepare for supervisory duties by taking courses from the Supervisor's Resource Center on the Air Force Portal.

There are also numerous non-DOD free training courses:

- N.Y. State — http://cmsapps.nyserda.ny.gov/hps/ (sustainable design)
- FedCenter — http://www.fedcenter.gov/training/ (energy/sustainability)
- Whole Building Design Guide — http://www.wbdg.org/education/cont_education.php
- AECDaily On-Line Learning Center — http://www.aecdaily.com/
- MIT, Berkley, Carnegie Mellon, and others (not-for-credit engineering courses)

Civilians can apply for courses at Air University through the Civilian Developmental Education data call held each spring. These courses include the following:

- New Employee Orientation (NEO), computer-based training mandatory for new Air Force civilians
- Civilian Acculturation and Leadership Training (CALT), in-residence formal indoctrination experience for GS-7 to GS-13 civilians with no prior military and two to five years of civil service
- Resident or non-resident Professional Military Education
  - Squadron Officer School (GS-9-12)
  - Air Command and Staff College (GS-12/13)
  - Air War College (GS-14/15)

Informal Learning Opportunities

You can also acquire knowledge and skills valuable to your career goals through other, less formal means.

Research the careers of people that you admire or aspire to emulate. They could be a role model or mentor with whom you have regular contact, or someone whose entrepreneurial spirit you admire. Whoever you choose, study the steps they took to reach the point in their careers where they felt a sense of accomplishment. Learn what that person did to achieve success and, if you have easy access to the person, perhaps ask them to be your mentor or give you feedback on your development plan. You may be surprised at what you'll learn from someone who looks at your career plans from an objective point of view.

Many find supervisory experience is one of the most elusive skills to acquire. Take stock and look at all of your current roles, such as volunteer, chairperson, team lead, and any other leadership roles you have. Find the gaps and actively seek supervisory experience via temporary promotions, details, job applications, and management reassignments. Widen your aperture and seek positions outside your organization, series, installation, and MAJCOM.

Summary

Creating a personal development plan is a great step towards reducing stress and becoming happier and more self-fulfilled. The more you invest in your plan today, the more the plan will work for you. Once written, review your plan every day.

To stay on your path, use the acronym SMART — Specific, Measurable, Action-oriented, Realistic, Timely — and keep two important actions at the forefront:

- Be proactive — Invest in yourself; do not expect someone else to take care of you; know what opportunities are available.
- Be responsible — It's never too early, or too late, to start developing a career plan; ask for help when and where you need it.

Mr. Redfern is the CE Career Field Administrator for all Air Force civilian architects and engineers, and in this capacity, provides career advice to both individuals and large groups. Mr. Fitzpatrick is the Deputy to the Command Civil Engineer, HQ AETC, JBSA - Randolph, Texas.

TAKE ADVANTAGE OF

Basic Learning Opportunities

- **Attend at least one work-related training seminar per year.**
- **Attend evening or weekend classes as agreed upon with supervisor and as identified as important for promotion.**
- **Attend one annual professional conference in your field and prepare a report for others in the organization.**
- **Satisfy all conditions required to maintain or acquire professional licensing in your field.**
- **Seek out coaching from more experienced staff members to build your skills.**
- **Share new skills with coworkers doing similar jobs.**
- **Request help from your manager before your productivity is negatively affected by insufficient knowledge.**
- **Communicate that you are willing to receive feedback from supervisors and coworkers.**
- **Ask others for suggestions about how to do something more efficiently.**

Airfield Damage Repair: The Beginning

Dr. Ronald B. Hartzer
HQ AFCESA/CEBH

This issue's article on the new SuPR Kit (p. 6) describes a new tool in the civil engineer's arsenal to repair damaged airfields. Providing an operational runway has been a critical mission set for Air Force Civil Engineers since the early years of the Air Force.

Several types of expedient runway materials were developed for use in World War II to provide runway surfaces at overseas locations. Pierced steel plank (PSP), the most common type, grew out of an idea by Mr. Gerald G. Greulich of the Carnegie-Illinois Steel Corporation. The final product was the result of numerous interim improvements. For example, when the original steel plank design was deemed too heavy, holes were punched in the length of the plank. This not only reduced the weight by 17 percent but also improved drainage, allowed groundcover to camouflage the runways, and improved traction.

Individual PSP planks were 10 feet long and 15 inches wide and had a series of 30 hooks and slots on either longitudinal edge that permitted easy assembly. To construct an entire runway, Aviation Engineers began in the middle and worked in opposite directions. Eventually the battalions became so proficient that they could also start at either end to meet the growing runway. PSP repairs were easy: Two men with pry bars could remove a single mat or repair it in place. PSP was used around the world during World War II to provide runways and also repair runways that had been bombed. The United States manufacturers produced 800 million square feet of PSP during WWII, an amount equivalent to a runway 150 feet wide and about 1,000 miles long!

Another material WWII engineers used was prefabricated bituminous surfacing, better known as "Hessian Matting." This was a heavy burlap-type material delivered to sites in rolls and laid length-wise down a runway at a 50 percent overlap using a machine known as a "stamp-licker." As Hessian Matting came off the rolls, a coating of solvent was applied to the bottom to produce a sticky surface. Hessian

Aviation Engineers in Alaska lay pierced steel plank. The hooks and slots on either side are clearly visible. (U.S. Air Force photo)

Members of the 804th Engineer Aviation Battalion stake PSP down to the ground during an extension of an airfield to accommodate P-61 "Black Widows" on Saipan in June 1944. The U-shaped clips helped hold the PSP in place during takeoffs and landings. (U.S. Air Force photo)

Matting had no load-bearing capacity; it served primarily as ground cover. When the material became too slick for the aircraft, a light coat of solvent or diesel fuel was spread on the runway, followed by a sprinkling of sand that was pressed into the surface with a roller. This provided adequate friction for aircraft using the runways.

Repair of the Hessian Matting from bombing attacks could be easily done by removing the damaged strips, replacing the sub-grade, and laying new matting using mops and buckets of solvent. The advantage of Hessian Matting over PSP was its lighter weight. A 3,600-foot runway required only 800 tons of Hessian Matting versus 4,800 tons of PSP. Engineers built more than 100 Hessian Matting airfields in Europe following D-Day, including 30 in the Normandy area alone.

During the Korean War, the Air Force used PSP on the peninsula to provide runways for the rapid buildup of forces in 1950, but not always with the best results. PSP runways that would have endured during WWII couldn't stand up to the heavier cargo aircraft and jet fighters. At Taegu AB, the PSP runway quickly began showing the stress of frequent F-80 jet aircraft takeoffs and landings. Irregularities and sharp edges in the PSP began damaging the F-80s, forcing them to change their landing gear at nearly 20 times the normal rate. During a five-month period, there were 14 aircraft accidents directly attributable to the rough runway. Eventually, the runway fell to pieces and the jets were pulled out and relocated to an air base in Japan. Clearly, a substitute for PSP was required.

An aluminum matting called AM-2 — an evolution of PSP — was originally developed for the U.S. Navy in 1961 and adopted by the Air Force in 1965. The individual panels measured 12 x 2 feet by 1-1/2 inches and weighed 144 pounds. The matting was originally designed for 2,000 to 3,000-foot runways and short-term (30-day) use on expeditionary airfields, but operational needs in Southeast Asia during the Vietnam War demanded a much longer life and more extensive use. For example, at Tuy Hoa AB, South Vietnam, the Air Force constructed a 9,000-foot AM-2 runway, used as the primary runway for a full five months and a taxiway for the following two years. Civil engineers, especially RED HORSE units, laid and repaired AM-2 at nearly every U.S. Air Force base in Southeast Asia.

(above left) Just a few miles behind the front lines in Normandy, men of the IX Engineer Command construct a landing strip of "Hessian Matting" using a truck-mounted piece of equipment known as a "stamp-licker" in August 1944. The mat was laid in longitudinal strips at a speed of about 4 miles per hour. A team of 150 men using 6 stamp-lickers could construct a 3,600 x 140-foot runway in approximately 14 hours, providing a "waterproof carpet" for the aircraft.

(left) Aviation Engineers reload a 200-foot roll of "Hessian Matting" on a "stamp-licker."

(above right) In a rare color photo from the Korean War, Aviation Engineers and local laborers use PSP to construct a reveted parking area at a base on the peninsula. (U.S. Air Force photos)

Workers construct a 9000-foot temporary runway of AM-2 at Tuy Hoa AB, Vietnam, in 1966. (U.S. Air Force photo)

Although there were no enemy aerial attacks on U.S. bases in South Vietnam, numerous rocket and mortar attacks damaged runways, as did aircraft accidents. At Phan Rang AB, when an F-4C landed short during an aircraft system failure, the landing gear struck the lip of the runway. In the process of skidding down the runway, the damaged landing gear acted like a pair of pogo sticks, puncturing the runway in 31 places over a distance of 1,400 feet. The 554th Civil Engineer Squadron (Heavy Repair) repaired the runway over the next three days and nights while flying operations continued on the runway.

What became known as rapid runway repair or RRR was initiated in the late 1950s and refined in the 1960s. In 1960, the NATO standard was declared as the ability to repair three large craters formed from 750-pound bombs within four hours after an attack. AM-2 was determined to be the preferred choice for foreign object damage (FOD) cover for repaired craters. In 1975, the AM-2 met the NATO criteria during a demonstration at Aviano AB, Italy. As the threat to NATO and Korean bases increased in the 1970s, so did the requirement for a repair capability for additional large craters; an added requirement to repair small craters and spalls made the AM-2 repair concept inadequate.

In 1979, Air Force officials expanded the RRR program to provide an advanced RRR capability by the late 1980s. This covered the area of air base survivability needed to launch

Lt Col Francis E. Torr (right) and MSgt Bruce F. Swafford, members of Prime BEEF Team #1, take measurements on AM-2 in preparation for laying it in aircraft revetments at Tan Son Nhut AB, Vietnam, in August, 1965. (U.S. Air Force photo)

and recover aircraft and directed development in bomb damage repair (BDR), alternate launch and recovery surfaces (ALRS), surface roughness criteria, and post-attack environment. Program management for BDR, surface roughness, and ALRS was delegated to the Air Force Engineering and Services Center (AFESC) at Tyndall AFB, Fla., along with minimum operating strip selection and airfield damage assessment.

In the early 1980s, AFESC tested a new generation of polymer concretes for structural caps and spalls. The rapid-setting material was added to leveled stone in a prepared crater to form a polymer cap repair. A 45-foot diameter crater could be capped using the polymer in just 30 minutes. This and other RRR methods were tested at Salty Demo, an air base operability demonstration held at Spangdahlem AB in 1985.

Prime BEEF engineers and local laborers lay AM-2 in a protective revetment at Tan Son Nhut AB, Vietnam. (U.S. Air Force photo)

Two other methods of FOD cover were developed in the 1980s. The Federal Republic of Germany developed precast concrete slabs for flush repairs that were tested by NATO and found to be acceptable. When used as a crater cover, they offered a durable and flush repair with little maintenance. The crater had to be squared by saw cutting so the slabs fit securely with the old pavement. A screed had to be run over base material before placement; final compaction settled the slabs with a vibratory roller.

The second type of FOD cover was a fiberglass mat system. Originally, the fiberglass mat came in a roll 78 feet wide and 52 feet long; engineers sprayed the mats with a resin to harden them on site. Eventually, the mats were produced in 6 by 30-foot panels that were connected with hinges so they could be unfolded to produce a 54-foot by 30-foot mat. The system was successfully tested at Wendover Airport, Utah, in June 1990, and sent to Operation Desert Shield bases in December 1990.

One phase of the airfield damage repair/RRR story closed with the end of the Cold War and the diminishing Warsaw Pact threat to European bases. Shortly after Col Marshall W. Nay, Jr. became Air Force Engineering and Services Center commander in 1990, he announced that it was time to declare victory on RRR. He believed that the systems in place provided workable solutions and it was time to move on to other projects. However, the requirement remains and will continue as long as aircraft fly and fight from runways that are vulnerable to attack.

(top right) Engineers place precast concrete slabs as a cover for a crater that has been filled and leveled during Salty Demo at Spangdahlem AB, West Germany, in 1985.
(right) A polymer concrete material is applied on a runway during Salty Demo.
(below) Engineers place folded figerglass mat as a cover for a crater.
(below right) An engineer tightens the bolts to anchor the fiberglass mats in place. (U.S. Air Force photos)

RED HORSE Dedicates Unity Park

SrA Joe McFadden
1 SOW/PA

Nearly 100 red-capped 823rd and 556th RED HORSE Airmen and civilians gathered for a memorial park dedication ceremony at the 823rd RED HORSE compound at Hurlburt Field, Fla., on May 5, 2012.

The RED HORSE Unity Park — "Where the Legacy Lives Forever" — is meant to both honor the memory of the squadrons' fallen Airmen and serve as a testament to total force integration between active-duty and Reserve Airmen.

"We used this as a great training venue, and the squadrons came together for something that is going to be here for a long time," said Col Franklin Myers, 556 RHS commander.

The park, located next to 823 RHS headquarters, includes a horseshoe-shaped brick structure encompassing a flagpole and a red horse statue.

Each end of the horseshoe represents the 556th and 823rd squadrons and bears the names of nine Airmen who lost their lives while assigned to their respective squadrons.

Construction spanned nearly six months of designing and building. More than 90 Airmen from both squadrons carried out nearly 200 core tasks that culminated in more than 6,000 work hours to finish.

"From looking out my window over the last few months, I thought it was great to see 556th and 823rd RED HORSE working together on this," said Col Douglas Hardman, 823 RHS commander. "Somewhere down the road, we'll deploy together, and the bonds we've built today will carry forward into the future."

"There was great [total force integration] between the 823rd and 556th on this," said MSgt Brian Barnes, a cantonment deployment specialist for 556th and park project manager. "But, more importantly, we did all this for the names on the wall — they will never be forgotten."

The following Airmen were honored with an individual plaque as part of the memorial:

A1C Lawrence Lewis, 823 RHS - May 12, 1967

A1C Earl Reed, 823 RHS - May 27, 1968

MSgt Harlen Houston, 556 RHS - May 27, 1968

SSgt Frederick Kutzer, 823 RHS - March 26, 1969

SSgt Earl Smock, 823 RHS - July 10, 1968

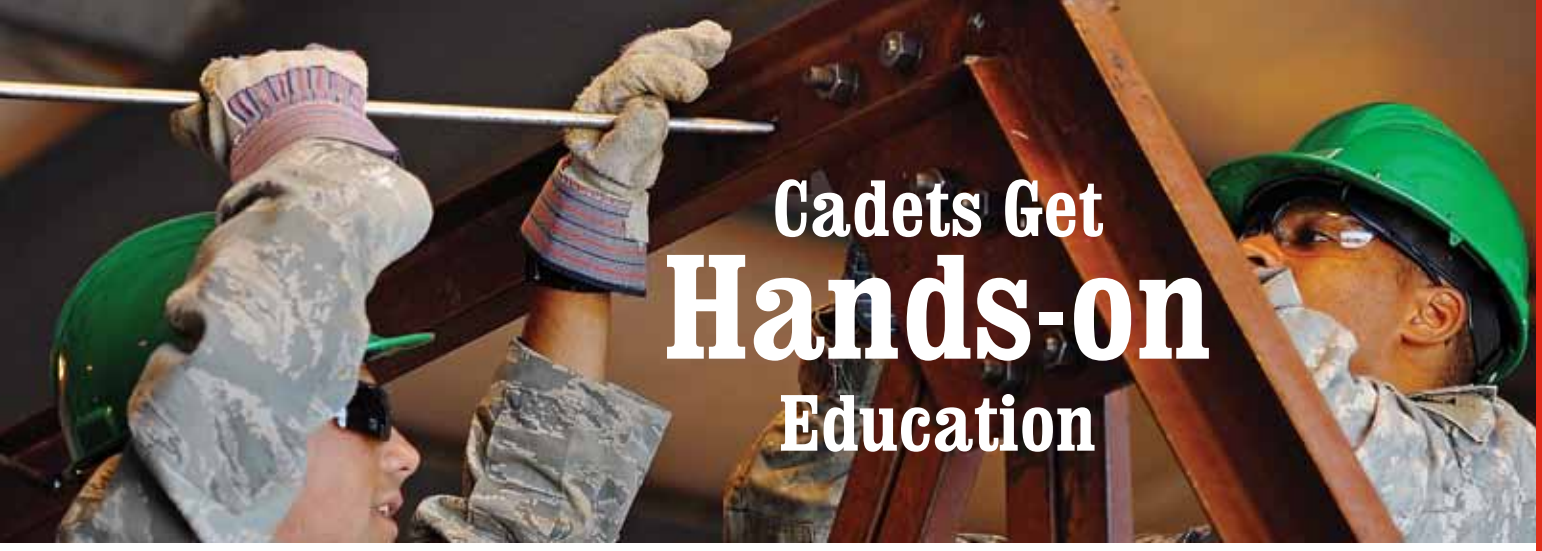
A1C Ken Griffith, 823 RHS - July 10, 1968

SrA Steven Wright, 823 RHS - June 5, 1996

SrA Ajnar Carter, 823 RHS - June 5, 1996

TSgt Linda Sanchez, 823 RHS - March 30, 2012

Those who have fallen while serving within either the 556th or 823rd RED HORSE Squadron are memorialized on individual plaques on the horseshoe at the RED HORSE Unity Park at Hurlburt Field, Fla. (photo by A1C Naomi M. Griego)



Cadets Get Hands-on Education

Seventy-five cadets from the U.S. Air Force Academy, five from the U. S. Naval Academy, and four from West Point started their three-week Field Engineering and Readiness Laboratory, or FERL, training on June 3. Construction of two Hogan homes for the Navajo community was one of their main projects.

Now in its 19th year, the FERL program uses a "construct first, design later" approach that provides students with a solid foundation for learning scientific theory and engineering design principles in more advanced courses of the civil and environmental engineering curriculum. Cadets participate in the program the summer before their junior year.

"The reason we do it that summer is because during their junior year, they start the bulk of their civil engineering majors," said Capt Lindsey Maddox, course director of the program. "By bringing them out here and letting them have fun hands-on experiences, when their instructor starts talking about it next semester, they can have a really good visual."

The 554th RHS at Andersen AFB, Guam, also hosted a group of cadets participating in the FERL program, in late May and early June.

"This gives them the opportunity to expose themselves to what we do in the Air Force and what they will be getting into," said Capt Ben Thomas, 554 RHS engineering flight project engineer. "They can get their practical experience on the ground and bring it back to the classroom."

The cadets were able to see the 36 CES as a whole, along with other aspects of Andersen and Guam's local community. They toured the fire department, worked with EOD, and worked with different types of construction and equipment. One of the main projects they contributed to was the building of a warehouse for the Pacific Air Forces Regional Training Center.

Cadets participating in the program at the Academy live and work at the FERL site in Jacks Valley. This year, 35 active-duty Airmen and reservists came to the Academy to help mentor cadets in FERL activities.

"They start these houses from the ground up and by the time the three weeks are over, they'll be completed and the houses will be transported to Gallup, New Mexico," said Capt Maddox. "They donate the homes to the Southwest Indian Foundation and their different chapters apply for them if they have a need for houses."

Cadets build the homes carefully.

"When I mess up, instead of trying to just fix it a little bit, I completely take out the nail and make sure it's right because someone is actually going to live in this house," said Cadet 2nd Class William Kent.

Cadet 1st Class Mike Radosevich, cadet commander of FERL, said he thinks the program is essential to cadets. "They get to work with peers and faculty who they'll be working with during the school year, as well as gain exposure to what needs to get done and what they will be leading as officers."

Compiled from articles by Ms. Amber Baillie (USAFA/PA) and SrA Veronica McMahon (36 AW/PA).

(above) Cadets put together a support beam for one of two Hogan homes for the Navajo community in Gallup, N.M. (photo by Ms. Liz Copan)
(below) Cadets pour concrete during a day spent working with the 554 RHS at Andersen AFB, Guam. (photo by SrA Jeffrey Schultze)

Key Personnel Update

Col Bart Barnhart is the Director, Installations, Air Forces Central Command, Shaw AFB, S.C. He was formerly the Chief, Asset Management and Operations Division, Office of The Civil Engineer, Washington, D.C. He replaces Col Marvin Smith, who retired.

Col Gregory Ottoman is the Chief, Asset Management and Operations Division, Office of The Civil Engineer, Washington, D.C., replacing Col Barnhart. Col Ottoman was formerly the deputy chief of the division.

Mr. Robert Gill is the Chief, Programs Division, Office of The Civil Engineer, Washington, D.C. He was formerly the Chief, Policy and Analysis Branch, in that division. Mr. Gill replaces Col Stephen Shea, who is now the Chief, Readiness Division, U.S. Air Forces in Europe Command, Ramstein AB, Germany.

Mr. Paul Parker, the former Director of Communications, Installations, and Mission Support, Air Force Materiel Command, Wright-Patterson AFB, Ohio, has retired. Col Mike Stinson is the acting director.

Col Calvin Williams is the Director, Logistics, Installations, and Mission Support, Air Force District of Washington, JB Andrews-Naval Air Facility Washington, Md. He replaces Col Peter Sartori.

Col Peter Sartori is the Director, Installations and Mission Support, Air National Guard, JB Andrews Naval Facility Washington, Md. He replaces Mr. William Albro, who is now the associate director.

Leaders Visit Schoolhouse

Maj Gen Timothy Byers, The Civil Engineer, meets AB Scott Baxley during a tour in April of the 366 TRS's seven-acre outside training area at Sheppard AFB, Texas, as instructor Capt Melissa Jumper looks on. AB Baxley is a student in the Electrical Systems Apprentice ITRO course. Maj Byers and CMSgt Jerry Lewis, the Chief of Enlisted Matters, visited the Sheppard schoolhouses, including Power Production; Operations Management; Heating, Ventilation, Air Conditioning and Refrigeration; Water Fuels Systems Maintenance; Pest Management; and Explosive Ordnance Disposal (preliminary). (photo by Mr. Danny Webb)

CEs "Strongest in AOR"

SrA Melanie Harris (left) and TSgt Ryan Callagy, both deployed to Afghanistan as members of the 455 ECES, recently earned the title "strongest in the AOR," in a competition with more than 40 others from various bases in the region.

During a brief ceremony in Bagram's AF's gym, Lt Col Katrina Stephens, 455th Expeditionary Force Support Squadron commander, presented the two civil engineers their individual medals in several categories, as well as the trophies for their overall "Strongest in the AOR" titles.

Although TSgt Callagy, from Gulfport, Miss., has competed successfully several times before, this is the first time he's won it all. This is the second time competing for SrA Harris, from March AFB, Calif.

(text and photo by TSgt Shawn McCowan, 455 AEW/PA)

Night Training

SrA Jeremy Robinson, 8 CES water and fuels, demonstrates blackout procedures during PRIME Beef nighttime training at Kunsan AB, Republic of Korea. The squadron conducted the training to hone the way they conduct nighttime contingency operations. "Controlling the skies as well as the Air Force does, our enemies are driven to do most of their operations at night," said MSgt Jason Pearl, 8 CES PRIME Beef program manager. "That makes it imperative that we control the night, as well as deny them any sort of victory." (photo by SrA Brigitte N. Brantley)

"In recent weeks, our Air Force firefighters have bravely responded as wildfires swept across this nation, especially in the western United States. Working alongside civil departments, government agencies and other services, the teamwork, dedication and tireless efforts of our Airmen and civilian firefighters have been vital in saving countless lives and homes from devastation both on and off our installations. I am particularly proud of the way our firefighters from as far away as Wyoming and California converged at the Air Force Academy to protect our national asset, the Academy campus and installation. I am grateful to our firefighters for their service, professionalism and commitment to duty and mission."

Maj Gen Timothy Byers, The Civil Engineer, July 2012

Firefighters Mr. Mark Caraway and Mr. Tommie Disario, 10 CES, stop for a break while patrolling a previously burned 10-acre area at the U.S. Air Force Academy, Colo. (photo by Mr. Mike Kaplan)

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