



FEATURE STORY

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

For Immediate Release:
Dec. 6, 2012

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USACE's military construction program in southern Afghanistan winds down



Concrete aprons and taxiways such as this were under construction by the U.S. Army Corps of Engineers as early as 2009 at Kandahar Airfield. USACE placed more than 100 football fields of concrete on Kandahar Airfield as part of its \$706 million Military Construction program in south and west Afghanistan. (USACE Photo)

The United States and its coalition partners sent military forces to Afghanistan in support of Operation Enduring Freedom in October 2001. A six-person U.S. Army Corps of Engineers Forward Engineer Support Team deployed with the U.S. Army's XVIII Airborne Corps to provide engineering, construction, planning, contracting and real estate services.

The U.S. Forces mission and long-term commitment to Afghanistan prompted USACE to bolster its presence in Afghanistan in 2004 with a Corps of Engineers district headquartered in Kabul. The district's personnel provided a full-range of engineering expertise to the combatant commanders.

The question was not whether the forces needed facilities from which to operate, but rather what kind and how permanent the structures needed to be? The answer was not simple. Some locations had one level of need while others had more, or less. USACE engineers, working with U.S. Forces-Afghanistan leaders, began designing military bases and facilities that met the current and future needs of the force and from which U.S. forces could execute their mission.

The deploying troops needed runways, taxiways, hangars, billeting, dining facilities, electricity, fresh and wastewater solutions, work spaces, roads, fuel depots and warehouses. USACE played a role in that early mission by designing and constructing facilities to meet those growing needs.

Five years later, in 2009, President Obama ordered a 30,000 U.S. troop surge. USACE created a second district, the Afghanistan Engineer District-South in Kandahar on September 29, 2009 to better manage the increase in military construction requirements.

Since its beginning in 2009, the Afghanistan Engineer District-South has awarded 46 contracts for military construction and has completed 35 of them. Those 35 projects, in south and west Afghanistan, are valued at about \$540 million. The South District has 11 more military construction projects which will be done by the spring of 2013, one slated for completion in the fall of 2013 and one slated for award in late December 2012.

The larger-scale and more costly military construction projects were built on Kandahar Airfield in Kandahar province and Shindand Air Base in Herat province.

The South District also completed several more construction projects at Forward Operating Bases and other smaller installations. For instance, temporary housing on FOB Dwyer in Helmand province and FOB Wolverine in Zabul province gave U.S. Forces a safe and comfortable place to live.

USACE built fire stations at Multi-National Base Tarin Kowt in Uruzgan province and FOB Ramrod in Kandahar province to create safer installations from which our forces could conduct their missions.

USACE also oversaw the construction of wastewater treatment facilities on MNB Tarin Kowt, Kandahar Airfield, Shindand Air Base, FOBs Delaram and Dwyer to improve sanitary conditions while troops remain in Afghanistan.

“When we transition in 2014, our completed military construction program will have totaled about \$706 million,” said Army Col. Vincent Quarles, Afghanistan Engineer District-South commander. “We are finishing up some critical construction that will facilitate the return of vehicles and equipment to the U.S. We are also finishing the last few aircraft hangers, warehouses, roads, utility upgrades and other enduring facilities that support our forces.”

Kandahar Airfield

As the busiest single-runway airport and largest NATO base in the world, Kandahar Airfield plays a central role in sustaining the 26,000 U.S. and coalition forces and contractor personnel at the airfield and the thousands more assigned to coalition installations throughout southern Afghanistan.

The 3rd Infantry Division, a tenant unit currently headquartered at Kandahar Airfield and serving as the command element for Regional Command-South, moved into its USACE-constructed headquarters facility in late summer 2012 when they deployed to Afghanistan.



The Theater Vehicle Maintenance Facility under construction on Kandahar Airfield by the U.S. Army Corps of Engineers will be complete in December 2012. (USACE Photo)

“The division headquarters facility can accommodate at least 500 personnel,” said Quarles. “It includes offices, conference rooms, a command center, entry control points and an operations bridge.”

At a cost of about \$60 million, the division headquarters is a permanent, hardened facility that enables coalition forces to execute their mission with maximum capability.

U.S. Forces and their NATO allies share many facilities on Kandahar Airfield. Among them are the runway and airfield facilities. Hundreds of civilian and military aircraft fly into and out of KAF every day, said Steve McCall, the air traffic management site manager and an air traffic controller at the airfield. Both fixed and rotary wing aircraft from several coalition countries can be seen at the airfield at any time along with Afghan airlines and chartered passenger aircraft.

To keep air traffic moving with minimal mission interruption, the South District paved some 4.9 million square feet of runways, taxiways, shoulders and ramps on KAF alone.

“That’s the equivalent of 100 football fields,” Cummings explained.

Air traffic was not the only USACE focus — the district also built facilities for vehicular needs as well. One of those projects, the Theater Vehicle Maintenance Facility on Kandahar Airfield, is the single point for refurbishing and retrofitting the U.S. fleet of heavy, medium, and light tactical vehicles, mine-resistant, ambush-protected vehicles (MRAP), line haul trailers, armored security vehicles and route clearance vehicles.

The project includes facilities where workers can repair about 150 wheeled vehicles per month.

The 11 major structures associated with the project include two vehicle maintenance buildings, two administration buildings, a construction equipment and material handling equipment shop, robotics shop, storage buildings, tire repair shop, paint shop with paint booth, fire pump house and vehicle wash station, said Maj. Frederick Cummings, the South District’s Kandahar Area Office officer in charge.

The facility is almost complete, with the wash-rack portion operational since the summer.

“The theater vehicle maintenance facility will provide our forces with unprecedented in-theater capabilities,” said Cummings. “Already dozens of vehicles have been washed thoroughly in preparation for retrofitting and redeployment to the U.S.”

The wash racks operate 24 hours each day but shut down for 1.5 hours of maintenance during each 12-hour shift. The wash rack system also recycles about 400-800 gallons of water each day.

“The vehicles undergo an agricultural inspection upon arrival to the States,” said Cummings. “The goal is to ensure that the vehicles leaving KAF don’t carry soil, vegetation or insects that could potentially endanger U.S. ecosystems.”

Shindand Air Base

“USACE oversaw about \$111.6 million worth of construction at Shindand Air Base, which is the headquarters and main training installation of Afghanistan’s air force,” said Nabil Abourialy, the lead engineer for USACE projects in Regional Command-West which includes Herat, Farah, Ghor and Badghis provinces.

“At Shindand, U.S. Forces already had a fairly secure base to operate from but we expanded it.”

The construction of a perimeter wall which tripled the size of Shindand Air Base was completed in July 2011 and included 52 guard towers, perimeter roads, lighting and other antiterrorism and force protection measures. Abourialy said that with the expansion, the U.S. Forces on Shindand were able to relocate and make room for more runway, apron and airfield management facilities.

A strategic airlift apron, taxiway, passenger terminal and cargo terminal project costing \$18.2 million was also completed in 2011 at Shindand. According to Air Force Col. John Hokaj, the previous commander of the U.S. Air Force’s 838th Air Expeditionary Advisory Group based at Shindand, the multi-faceted Corps of Engineers project enabled the 838th AEAG to continue regular operations while training Afghanistan’s budding Air Force.

Further, a rotary wing apron, about 133,000 square yards in size, storage facilities, solid waste management and wastewater treatment plants and an intelligence, surveillance and reconnaissance apron all constructed by the Corps of Engineers, contributed to the forces abilities to execute their mission.

At Shindand, USACE oversaw a total of 12 MILCON contracts, one of which included 28 aircraft shelters.

“The last of the hangers were finished this month and we’ve only got one MILCON project left on Shindand,” said Abourialy. That one project is a wastewater treatment plant scheduled to be complete on Jan. 31, 2013.

Airfields

Airfields are critical successful military operations and airfield construction, whether at KAF or Shindand, doesn’t just include paving runways and taxiways. Cummings said appropriate lighting and markings to distinguish runways from taxiways, tie downs, curbs, gutters, storm drainage, fuel supply points and force protection measures are necessities.



Construction of a perimeter fence at Shindand Air Base tripled the size of the base and included 52 guard towers. Force protection was a major component of the U.S. Army Corps of Engineers Military Construction program in Afghanistan. (USACE Photo)

“Kandahar Airfield and its aircraft facilities are similar to those found at many U.S. bases,” Cummings continued. “The hangers have fire suppression systems, some warehouses are climate controlled, and the personnel transiting through KAF and Shindand have terminals and waiting areas.”



Foam tests, such as this one at a newly constructed aircraft hanger on Kandahar Airfield are critical to ensuring that fire suppression systems operate as designed. The U.S. Army Corps of Engineers oversaw dozens of these tests across south and west Afghanistan in 2011 and 2012. (USACE Photo)

There are significant differences though. “We are in a contingency environment,” explained Quarles. “Our projects – the requirements, designs, specifications and costs all come together to meet very specific needs. The contracts had to be clear. Our architects and engineers had to consider the use of local materials and labor. They had to carefully monitor the work and most importantly they oversaw each phase of building to deliver the highest-quality construction.”

That’s no easy task even under the best of circumstances.

“In Afghanistan, we applied the same professional standards to our work as we do in the States,” Quarles said. “But in Afghanistan we oversee construction in hostile areas where security is a concern and logistics can be a challenge.”

A significant challenge was the border closure between Pakistan and Afghanistan that lasted about seven months; from November 2011 through June 2012.

“When the border closed, many of the materials our contractors ordered got caught up in Pakistan,” explained Quarles. For some projects, the closure meant months of delay.

“We worked with our contractors to find alternate suppliers and recover their schedules,” Quarles said. “Our project engineers and managers mentored contractors and helped them find solutions to resolve logistical delays.”

When the border reopened, construction schedules were solidified and projects moved forward.

“Today, we are very close to finishing our military construction program. We have given our Forces quality facilities and those troops who will remain in Afghanistan to assist with the transition of security responsibilities to the Afghans will continue to use them,” Quarles added.

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