US Army Corps of Engineers®

Engineer Update

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Corps at work in Africa

By Joan Kibler
Transatlantic Programs Center

With the new administration's focus on peacekeeping, politics, and economics in Africa, the U.S. Army Corps of Engineers continues providing engineering assistance to further our nation's policy objectives in this important region.

Since the early 1950s, the Corps has provided engineering capabilities and technical advice for projects in Africa, either through Defense Department or State Department initiatives. Transatlantic Programs Center (TAC) and its predecessors accomplished most of the work.

Early projects were primarily in northern Africa but, in the past 15 years, the focus has shifted to Sub-Sahara Africa under a variety of programs.

"These programs promote democracy, improve the standard of living for African military and civilian populations, and increase the capacity of those nations to provide their infrastructure needs," said Roger Thomas, TAC's Business Operations Manager. "The U.S. and its allies recognize the need to strengthen the ability of African nations to manage their own affairs and defend their independence, security, and national interests. Improving the capacity of a nation to care for its population and defend itself from outside aggressors promotes democracy and stability. This is often referred to as capacity building, and it may apply to human, institutional, or infrastructure capacity."

The Corps is involved in projects which fulfill social needs or improve the Africa country's infrastructure. Typical infrastructure projects include roads, schools, health clinics, and sanitation facilities.

"Work throughout Africa requires the Corps to effectively coordinate with U.S. organizations, such as various agencies within the Departments of State and Defense, the commanders-in-chiefs of the major unified commands responsible for Africa, the country teams and, of course, the host nations," Thomas said.

U.S. European Command (USEUCOM) is responsible for most of Africa, except for U.S. Central Command's area (Egypt, Sudan, Djibouti, Kenya, Ethiopia, Eritrea, Somalia, and Seychelles) and Madagascar, which is in U.S. Pacific Command.

"Significant coordination also occurs within the Corps, whether it's in Headquarters, with North Atlantic Division as it services the European Command, or with other Corps organizations offering specific expertise," Thomas said.

TAC has worked in more than 30 African nations.

Africa civic action program

The civic action program assisted African military organizations with activities that increased the standard of living for both military and civilian populations.

"With the host nation performing much of the work, this program also provided training in construction techniques and contributed to the demilitarization of troops as they eased into civilian life," Thomas said.

Typical civic action projects included:

- Clinic renovations in Lesotho and Senegal.
- Water wells in Cameroon and Botswana.
- Bridge construction in Mauritania and Cameroon.
- Biodiversity projects to protect flora and fauna and to assist anti-poaching enforcement in Cameroon, Central African Republic, Ghana, Chad, and Niger.
- Schools in Sierra Leone and Cape Verde.

Blood transfusion centers help ensure a safe, reliable blood supply in Kenya. (Photo courtesy of Transatlantic Programs Center)

- Low-cost housing in Madagascar and Cameroon.
- Clinics in Malawi, Cote d'Ivoire, Rwanda, and Botswana.

"TAC works closely with the country teams in the U.S. embassies and with host nation military officials in completing these projects," said Douglas Hopper, TAC's Africa project manager. "We assist in evaluating the projects by conducting site visits, providing technical assistance to complete the work, procuring materials, equipment and supplies, and conducting quality assurance."

One successful civic action project was at Korup National Park in Cameroon, one of the most ecologically diverse areas in Africa.

"The local government needed to resettle villagers who lived within a 400-square-mile park, and the Corps installed a bridge across the Mana River that would safely facilitate the relocation efforts," Hopper said.

The bridge was also necessary because villagers often died crossing the river during the rainy season.

TAC helped local military and park officials determine the requirements and site for the bridge, and helped procure and ship it, Hopper said. "The U.S. Embassy's Defense Attaché Office (DAO) awarded a local contract to install the bridge and provide ancillary materials. The DAO also provided customs support and logistical assistance to the Corps and the contractor."

After further coordination with the DAO, TAC helped build low-cost housing, a small elementary school, community facilities, and outside latrines for the first group of villagers from the park. Individual mobilization augmentees (IMAs, reservists assigned to TAC) conducted a site visit and inspected this construction project.

Following the bridge dedication ceremony, the DAO said that the project "is another example of the value of the longstanding military-to-military relationship between Cameroon and the U.S."

"While the civic action program is now being phased out in favor of other assistance programs, it is a model for helping these nations develop capabilities to manage their governmental affairs and protect their national interests," Thomas said.

Humanitarian demining

Millions of uncleared mines scattered across Africa inflict a tremendous toll on inhabitants, inhibit repatria-

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Listening sessions define water concerns

By Becki Dobyns
and Mark Gmitro
Headquarters

The nation's 10 major water resources challenges are the focus of a U.S. Army Corps of Engineers report following a series of listening sessions held nationwide last summer and fall. The Corps held 16 public listening sessions from June to November 2000 to define and understand national water resources issues.

The report grouped 3,400 concerns identified by listening session participants into 10 general challenges.

Marine transportation system — Transform the marine transportation system to meet 21st century demands.

Restoring and protecting the environment — Restore degraded environment resulting from past development and seek to protect the environment in new development.

Managing watersheds holistically — Achieve balance between social needs, economic development, and the environment within an entire watershed.

Floodplain and coastal zone management — Protect Americans from severe storms and natural disasters to minimize social, economic, and environmental impacts.

Responding to disasters — Plan for, prepare for, and respond to emergencies resulting from natural disasters and technological emergencies.

Community water infrastructure — Consider and plan for the implications of aging water resources infrastructure, urban growth and development, and water supply and treatment on a community's ability to be prosperous and sustainable.

Regulating dredge and fill activities — Ensure fair, adequate, and efficient permitting to protect wetlands and other waters of the U.S. from development and improper use.

Recreation — Provide recreation opportunities for all Americans and their guests on national lands and waters.

Project processes — Ensure significant communication, information, public input, and analysis for successful project development.

Institutional changes — Streamline and improve federal water resources authorities, laws, policies, and funding to better align the federal government's priorities, goals, and objectives.

The full report, the executive summary, and reports from each of the listening sessions are available online at http://www.wrsc.usace.army.mil/

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Engineer Day Message

Corps supports Army past, future

This year is the 10th anniversary of the Persian Gulf War, and the 10th anniversary of the official end of the Cold War when the Soviet Union dissolved into the Russian Federation. The U.S. Army Corps of Engineers played an important role in winning both those conflicts. We helped build the facilities that supported soldiers during the Gulf War, and helped rebuild Kuwait after the war. And throughout the 50 years of the Cold War, the Corps built the infrastructure that contributed to America's victory in that undeclared conflict.

As we enter the new millennium, the Corps continues to support the Army that will protect our way of life in the future. Although it is nearly impossible to imagine how the Army will be equipped, organized, and trained in 2032, the Army Transformation program is already shaping the Army for that era.

The laboratories of the Engineer Research and Development Center are designing new concepts in base-camp protection, rapid deployment by sea and air, advanced telecommunications, and battlespace simulation. At Fort Lewis, Wash., where the first Initial Brigade Combat Teams are organizing and training, Seattle District is managing construction of maintenance facilities, barracks, deployment facilities, and a recently completed Mission Support Training Facility, which will house the latest in tactical training technology.

But we are not neglecting the Army of today. In the past year, the Corps has built prepositioning facilities in Qatar and Kuwait to support deployments in that region, built the new Womack Army Medical Center at Fort Bragg, N.C., renovated maintenance shops at Ray Barracks in Germany, and built new family housing at Schofield Barracks in Hawaii.

Since becoming the 50th Chief of Engineers on Oct. 23, I've testified several times before Congress, and it gave me great pride to defend the dedication, integrity, and hard work of the Corps' people.

Even though I've been an Army engineer for more than 30 years, and was stationed in Portland District in the late 1970s, I'm still learning what the 49 Chiefs before me learned — the remarkable resilience and adaptability of our people.

Park rangers in Little Rock District are taking Spanish to better serve the growing number of Hispanic visitors. Corps civilians are training with soldiers to learn skills to work in field environments and exercises; for example, the Installation Support Office in Kuwait recently underwent chemical warfare training to take part in an anti-terrorist training exercise. Portland District personnel at The Dalles Dam responded to a herbicide spill, installing oil spill booms in a creek to prevent the poison from reaching the Columbia River. And Corps folks recently rode out a 6.8 earthquake in Seattle, and were back at work the next day.

All this shows that people are the foundation of the Corps' effectiveness, value, and reputation. That's why people are also the foundation of the updated Strategic Vision, and the first of the three focus areas – people, process, and communication.

The Corps of Engineers has a history of service to the Army and to this nation that can be traced back 226 years. The Strategic Vision is just a written version of the principles that have guided us through the years. If we continue to hire top-notch professionals, continue learning as an organization and as individuals, and continue to develop leaders at every level, we will continue that tradition of service into the coming century.

Essayons!

ROBERT B. FLOWERS
Lieutenant General
Commanding

Insights

'Because it's the right thing to do'

By Col. Lowell Moore
Chaplain, U. S. Army Corps of Engineers

On a recent trip, I was sitting in a restaurant trying to relax and enjoy my lunch, but an obnoxious customer two tables away was talking so loudly that he interrupted my daydreaming. Annoyed that I couldn't even daydream in peace, I looked up to see what kind of guy would be so loud and inconsiderate of the other customers.

It was obvious that the speaker was not just talking to the unfortunate people who were stuck with him at his table. Not only was he talking loud enough for everyone in the room to hear, but he kept glancing around the room to get the reaction of the other customers. Since I was unable to avoid hearing what he was saying, I began listening to his one-way conversation.

Nobel prize?

This guy was elaborating in great detail about how wonderful he was, and the wonderful deed he had done by helping a little old lady with a walker on and off the elevator. Don't get me wrong; I'm all in favor of helping little old ladies. But the way he was telling it, you would think that he was nominating himself for the Noble Peace Prize.

It took about 10 minutes for him to tell how he held the elevator door while she struggled in; how he got the walker completely inside the elevator so the door would close; and how he even went two floors out of his way just to see that she was able to get off the elevator.

In fact, he did such a sensational job of telling the story that I began to feel guilty for being so critical of the loud and boisterous manner in which he was telling this story of kindness and mercy. I was about to conclude that he wasn't such a bad guy after all when he added, "I did it because you never know when you're going to need help,

and I want someone there for me."

With that statement, he lost what little respect he had wrenched out of me during the previous 10 minutes. He had just admitted that, although he had done a good deed, he did it for a selfish reason.

In secret

There are many people who believe there is some mystic scorekeeper in the universe who keeps a tally of all the good things we do, and when we earn enough goodie points, we get favors in return. There may be some truth in this, but not in the way many think.

In Matthew 6:2-4, Jesus advises his disciples to never announce charitable acts to the world to get the praise of men, because that's all the reward they would get. He advised them to give their charity in secret, and God would reward them.

So I don't think praise should be our motivation for doing good. I would have admired this guy a lot more if his act of kindness was done just because it was the right thing to do, and not to make a few more goodie points for himself.

I see a lot of good being done by the members of our Corps family. Our Combined Federal Campaign giving is commendable; our blood drives are successful; there is a lot of sharing sick leave with other Corps members who experience severe health problems; and we are quick to help others who have a fire or other disasters.

Right thing to do

The signs of care are everywhere, but I don't hear the people praising themselves for their generosity. These acts of kindness are even more commendable because they are not being done for praise or to earn goodie points. They are being done just because it is the right thing to do. I believe these are great examples of what Jesus was talking about.

This selfless service by the Corps family is part of what makes the Corps such a great place to work. I encourage us all to continue in this great Corps tradition of caring; to let our caring be seen through charity; and let our charity be done just because it is the right thing to do.

However, if you *do* feel compelled to brag about your good deeds, please don't do it with a loud, obnoxious voice in a crowded restaurant. There may be other customers trying to daydream.

(The views expressed in this article are those of the author and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of Army, the Department of Defense, or the U.S. Government.)

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A renovated medical clinic in Lesotho. (Photo courtesy of Transatlantic Programs Center)

A bailey bridge under construction across the Mana River in Cameroon. (Photo courtesy of Transatlantic Programs Center)

Africa

Continued from page one

tion of refugees, and delay recovery attempts. The humanitarian demining program has been underway since 1993 and provides mine removal expertise and assistance.

"The demining program has involved design and construction of education centers to train the local militaries in the safe detection and removal of anti-personnel mines," Hopper said. "We worked with the U.S. Liaison Office (of the U.S. embassy) in Eritrea to determine requirements for awarding a design-build contract for a national demining headquarters, and facilities for two regional demining headquarters. We also provided equipment for the national demining training school in Chad, and we completed site visits and programming documents for feasibility studies of future facilities in other African nations."

Humanitarian assistance

The Corps is also involved in other humanitarian assistance projects.

A new community training and counseling center for the Kenya Red Cross is being built in Ukunda. Hopper said the Red Cross plans to use the facility for training and counseling to support:

- Health care, first aid training, and HIV/AIDS awareness.
- Family planning.
- Drug and alcohol education.
- Assisting immunization campaigns.
- Emergency and disaster relief coordination.

When USEUCOM requested quality assurance assistance for a project in Ghana, TAC asked Lt. Col. David Cress, an IMA engineer officer, to be the contracting officer's representative. The project involved repairing the Sirri Earth Dam, destroyed during the September 1999 flooding in Ghana. Five villages with about 10,000 people used the dam for potable water, irrigation, fishing, and watering livestock.

After serving as the contracting officer's representative for the dam, Cress assisted the Ghana National Disaster Management Organization by conducting dam safety awareness classes. He also monitored two biodiversity projects and conducted site visits and evaluations for potential projects in Ghana.

Cress is one of several TAC IMAs who have deployed six times in the past two years to gather pre-design data, inspect construction, and advise embassy officials. Besides Ghana, they've worked in Angola, Botswana, and Cameroon.

Exercise-related construction

TAC also supports the exercise-related construction (ERC) programs of the major unified commands. These projects provide low-cost infrastructure improvements to support military exercises, such as site adaptation, security fencing, and concrete foundations for K-span structures.

"Although ERC is generally to benefit U.S. forces deployed to participate in military exercises, corollary benefits may accrue for the host nation and foster improved relations," Hopper said. "ERC facilities may also be used for storing supplies in support of disaster relief operations in host countries."

Hopper said that ERC projects could be built by Army engineer troops, construction contracts, or by a combination of the two.

U.S. Agency for International Development (USAID)

USAID is helping communities recover from the August 1998 bombings in Kenya and Tanzania. It enlisted design and construction assistance from the Corps for the $37 million program and, two years ago, TAC assigned a senior-level engineer and contracting officer to work with USAID staff in Nairobi, Kenya.

"The work is repairing or replacing commercial buildings damaged by the bombings," said Dr. Roger Brown, TAC engineer serving in Kenya. "The rehabilitation work consists of structural assessments and working with contractors to monitor the reconstruction and repair work."

Brown said the work includes repair and rehabilitation of a 27-story bank building in Nairobi, and replacing four buildings in Dar es Salaam, Tanzania.

"We also rehabilitated an existing building and added a new wing for USAID's interim office building in Nairobi," Brown said. "This was necessary for security upgrades required as a result of the bombing, and this contract was set aside for American contractors only."

Ron Breen, contracting officer, also assists USAID and has issued more than 300 grants for financial assistance to businesses and people affected by the bombs. He supports bomb response programs that include cooperative agreements, contracts for counseling for those who survive bomb victims, educational assistance to children of bomb victims, and disaster preparedness programs in both Kenya and Tanzania.

The Corps also assists USAID with designing and building five blood transfusion centers throughout Kenya to ensure the availability of safe, reliable blood. Two centers are complete and will be dedicated by the U.S. ambassador. The remaining three centers are under construction.

"These clinics are critical to the local populations because of the prominence of AIDS and HIV," Brown said.

Emerging assistance

"The Corps has worked with several federal agencies to discuss and define infrastructure requirements in Africa," Thomas said. "Additionally, along with the Departments of State and Defense, Corps Headquarters and TAC have participated in discussions with host nation officials. For various reasons, country-to-country agreements take quite a while to develop. If asked to assist with the needs of Africa, the Corps can provide expertise in areas such as infrastructure development, water resource development and management, environmental assistance, and technical support."

Water

Continued from page one

iwr/waterchallenges/. The reports are also available in hard-copy form from the Institute for Water Resources (IWR). Call the IWR at (877) 447-6341, or e-mail them from their web site.

The listening sessions had two objectives — first, to provide citizens an opportunity to voice concerns about pressing water resources needs, problems, and opportunities that impact their lives, communities, and future sustainability. Second, for citizens to express their thoughts on the federal government's role addressing those concerns.

A cross-section of concerned stakeholders participated in the workshops (nearly 1,300 attendees) including representatives from federal, state, and local agencies, tribes, environmental organizations, port authorities, private companies, legal professionals, livestock/farming operators, navigators, journalists, and homeowners. The listening sessions were open to the public and designed to be a combination of small group and large group sessions. Corps representatives limited their participation to note-taking, and consensus on water resources issues was not sought.

The information collected from the listening sessions has multiple uses. First, the draft Civil Works Strategic Plan was revised to incorporate input from the listening sessions. The Corps' recommendations for the 2002 Water Resources Development Act to the Office of Management and Budget will include many proposals from the listening sessions. Finally, the report is a resource for Congressional members and their staffs regarding the participants' view of the proper federal role in addressing water resources challenges.

During the next several months, Headquarters will begin a more focused dialogue with national non-government organizations (NGOs) on water resources issues to enhance relationships and understanding. These NGOs include those with strong water resources ties (such as the American Association of Port Authorities), environmental groups (such as The Nature Conservancy), and organizations with elected officials (such as the National Association of Counties).

The focus will be on the federal roles that were identified last summer and to dialogue on what legislative issues they believe the federal government should consider. As with last year's listening sessions, the purpose is to listen respectfully and not suggest solutions or push an agenda.

Old computers find new life in schools

By Elizabeth Slagel
Huntington District

Computer technology is progressing at an astounding rate. Corps of Engineers employees now work with Pentium II and III computers that make their old 486 systems look like a cast-iron stove.

But that progress has also created a tremendous market for used computers, and Corps employees may find it hard to believe that the computers they worked with 10 years ago are still being used.

That's right. Those seemingly useless 486 machines are real fixer-uppers for young curious minds wanting to learn more about electronic systems. Accredited schools find a variety of recycling uses of excessed (outdated and ready for disposal) Corps computers for educational purposes, and have done so for nearly 10 years now. Executive Order 12821, signed by then-President George Bush senior in 1992, allows federal agencies to donate education-related equipment, like computers, to qualifying schools.

In Huntington District, for instance, property disposal specialist Frank North handles a folder full of requests that come in from local schools requesting hand-me-down computers. When 25 to 30 computers and computer-related equipment are ready to be disposed of, the first school on the list gets the donation, then their names goes to the bottom of the file. When more equipment is available, it goes to the next school.

During fiscal year 2000, this system provided 892 excessed computers to schools. Ninety-five percent of computers go to schools within the district's geographical area, but some have been sent as far away as an Indian reservation school in South Dakota.

North said not all the equipment could be plugged in and run. "Fifty percent of the computers they can use. They use parts out of non-usable ones to fix others."

Jim Hale, Superintendent of Wayne County Schools in West Virginia, estimates there are 75 Corps pre-owned computers in his county. All of the computers are still being used, even the 386 machines the schools received nearly 10 years ago.

His secret is a handy service provider who strips, upgrades, and cleans the hard drives of any unneeded material. He also gives rough-looking computers a new look with new cases that gives a brand-new appearance for $15.

After the necessary equipment is installed and spruced up, the computers go directly to the high schools. As they age and high school students exhaust their use, they go down to the middle and grade school individual classrooms.

A problem Hale and many other education administrators face is using limited funds to keep up with rapid-growing technology. The days of solely reading, writing, and arithmetic are gone. Schools like Wayne County have their own computer networks serviced by their own students. They offer programs like Cisco, a network curriculum online with opportunities for students to become certified network programmers.

Programs like these and the desire to be global make computers essential. As Hale puts it, the educators just can't get their hands on enough computers. "We just had to grab every computer we could get."

Students at Wayne County High School explore an old computer donated by Huntington District. (Photo courtesy of Huntington District)

While most institutions would turn their nose up at such outdated machines, Hale and his staff keep finding ways to milk their hand-me-down equipment for all it's worth. Wayne High media specialist and librarian Carolyn Hale devised a system to check out computers to students who have no home computer for word processing or to practice for ACT exams.

Wayne senior Bryan Blankenship is taking home a 386 machine just to toy with it. "I'm going to open up hardware, add some stuff if I can get hold of it. Just experiment," he said.

It's this kind of experimenting that makes kids like Blankenship valuable, Carolyn Hale added. Although Blankenship, a Cisco student, is not sure if he's interested in computer science as a career, his skills have led to a part-time job with a computer contractor.

Carolyn Hale said, "We try to utilize industry standards and standard office hardware so when our students go into the world of work they have knowledge of these programs."

Students in the Wayne High School computer lab are working on computers that are very slow with the Internet. Administrators look forward to the next offer from the Corps of maybe some Pentium Is and IIs.

Hale said, "During the last five years the Corps has done a large part in meeting our computer needs. They've made a major impact in our schools."

North calculates that in fiscal year 1999, Huntington District recycled $2.3 million worth of computers into education systems. To date in this fiscal year, the district has farmed out $542,000 worth of computers to schools.

Natural resources gateway coming

By Kathleen Perales
and Bonnie Bryson
Engineering Research
and Development Center

Imagine a place where you can learn about the Natural Resources Management (NRM) program. A gateway which connects the people, programs, policies and practices of the NRM program in one location. A place that provides access to the recreation, environmental stewardship (formerly natural resources), and environmental compliance business areas of Headquarters' Natural Resources Management Branch, the NRM centers of expertise, and research and development.

Does such a place exist? Well, we're working on it!

Welcome to CorpsLakes.usace.army.mil and the NRM Gateway, now under development and review. (The NRM Gateway was released April 17 at the National Environmental Development Workshop in Portland, Ore.) Under the auspices of the Recreation Management Support Program, the Recreation Leadership Advisory Team (RLAT) set out to create such a location for the recreation business area. Their concern — potential for loss of corporate NRM knowledge in a dynamic environment. Their desire — a place that could provide access to emerging trends, improve access to agency information, share best management practices, train new staff, improve internal communications, and improve responsiveness to the customer.

During the scoping process, a gateway steering committee from RLAT was established and quickly determined that the first priority was identifying the target audience. The internal NRM community was the target. The Engineer Research and Development Center (ERDC) took on the role of design and development.

ERDC's first step was to examine existing industry standards and determine how to satisfy the needs of RLAT and the field they served. An integrated approach to the people, programs, policies, and practices began and a knowledge management frame was employed. Using the National Recreation and Park Association agency accreditation standards as the framework, and the Army's Fort Excellence website as a guide, the process got underway.

This was a phased development. The first focus of the NRM Gateway was recreation for an internal audience, so a recreation technical coordinator was selected to organize all the information for the gateway, and a process evolved to identify and post information covering the existing regulations, programs, and activities of related task forces.

The NRM Gateway's development differs from how other websites are created. Field subject matter experts were identified for each of the committees and task forces in the NRM program, and additional topic areas were found in the engineer regulations. In one summer, a framework was established and a prototype developed for one topic area. The site was presented to the RLAT for consideration last October. The verdict was to proceed.

So priorities were set and the first content development workshop was conducted last February. The workshop bought together subject matter experts and gave them a forum for synergy in developing the website. Learning from each other, they shared their knowledge and understanding of NRM programs. The first workshop for recreation SMEs included representatives for the User Fee Task Force, Visitor Assistance Program, Interpretive Services and Outreach, Cooperative Law Enforcement Agreements, Career Development, Recreation Facilities Standards Task Force, Volunteer Program, and the Recreation Leadership Advisory Team representatives. Environmental Stewardship sent a representative to observe and serve as a bridge for their future participation.

What we have to date is the start of an integrated knowledge management system for the recreation business area. The next content development workshop is scheduled for July. We are still in Phase I of the recreation program area, and will not be complete until all existing task forces and programs are on-line. Our vision is to bring in the environmental stewardship and environmental compliance elements along with developing the first Corporate Knowledge Management module across the NRM program.

The environmental stewardship technical coordinator is Dr. Michael Loesch of Great Lakes and Ohio River Division. The assignment of an environmental compliance technical coordinator is pending.

We invite you to visit CorpsLakes.usace.army.mil, and your comments and ideas are welcome.

(Kathleen Perales is the NRM Gateway project leader. Bonnie Bryson is the recreation technical coordinator.)

Mine waste removed from Indian land

By Sheri Hronek
Omaha District

A grizzled gold miner working a claim makes good movies, but not a good environment in the 21st century. Today many old mines dot the west and the Rocky Mountains, creating new drama for people who live there, especially American Indian tribes.

The Environmental Protection Agency (EPA) and Omaha District are working together to clean up problems resulting from old mining efforts. One Superfund project is King Creek in the Fort Belknap Community near Hays, Mon. The creek flows through land of significant cultural importance to the local tribes.

Tailings

King Creek is filled with tailings from mining. The tailings are being removed from the creek, and 18 tribal members have been trained and employed as crew members. Tailings are waste from grinding mined materials to separate ore from rock. They may contain cyanide, arsenic, or other materials depending on the type of mining. Tailings look like beads, uniform in size and color, and relatively easy to spot.

The King Creek tailings contain arsenic and vanadium, and they are being removed to reduce risk to those living in the area.

"Originally the tailings were impounded behind manmade dams on land owned by the mine," said Mary Darling, the Corps' project engineer. "Past floods caused various dams to fail, and they washed down on the reservation and stopped at the beaver ponds. The beavers would rebuild and raise the dams two feet, dirt would wash into the ponds, then there would be another flood and more tailings. So there are false bottoms to the ponds, and it was difficult to know when we had excavated all the tailings."

Mining for gold and silver in the Little Rocky Mountains began in 1884 and continued until 1941. In 1979, Zortman Mining, Inc., (ZMI) received a permit to operate a cyanide leaching operation. ZMI filed for bankruptcy in 1998, and current reclamation at the mine is directed by the Montana Department of Environmental Quality. This reclamation project gave the EPA/ Corps project a cost-saving solution to the disposal of tailings.

The Fort Belknap Community initiated the King Creek project, requesting the EPA investigate the tailings and metals in the water. "The tailings and the effect on water quality were one of our biggest concerns," said Dean Stiffarm, the tribe's environmental liaison. Children played in the creek, which includes a swimming hole once used by the tribal members. "We've discouraged people's use of the swimming hole."

Local emphasis

Training 18 tribe members will have long-range impact. "We hope when King Creek is done, we can get them hired with other contractors," Stiffarm said.

Representatives of EPA Region 8, the Corps, and IT Corporation (the environmental contractor) made their first site visit in October 1998, and subsequent visits to take samples.

The project team presented alternatives to the public and the Tribal Council. In November 1999 the council accepted the plan to remove tailings and dispose of them at the original mine site. Tailing deposits exceeding six inches deep were to be excavated, and the natural stream grade reestablished. Work began last June and was completed last October.

The project took a design/build approach. The Corps designed the project, and IT Corporation and the tribal crew executed the plans.

"No one had any idea how many tailings there were," Darling said. "We could've spent a lot of money just determining the volume of tailings, but we decided it was better to go in and use the money for removal."

An excavator shapes the streambed in King Creek. (Photo courtesy of the Cold Regions Research and Engineering Laboratory)

Project data was transmitted to Dan Pridal, a Corps hydrologist. He developed the work drawings in Omaha District and transmitted them back to the Montana site. Sometimes Pridal worked weekends developing plans so the crew could have them Monday morning. Gordon Lewis of Omaha District doubled as field engineer and on-site construction representative during stream reconstruction and landscaping.

"After the field survey showed all tailings were removed, Omaha District developed a preliminary design for restoration, including channel alignment, channel profile, cross section, and the riprap required," Pridal said. "We generally tried to do this in a few days. IT provided the date for the design based on when the field crew would be available. We transmitted the preliminary design via fax to the field. The IT field engineer looked it over, staked the alignment, and looked for construction issues."

Cooperation

Pridal noted that conference calls were also held to resolve design issues. "We'd make any changes required and send out new plans. Some areas went rather quickly with a total time of five to seven days. The Cumberland reach probably took about three weeks to resolve. Generally, the work was fast paced. Sometimes it was difficult to stay ahead of the construction crew. The IT site engineer and the Corps on-site personnel were invaluable in providing data to do the design."

"The crew, the contractor, and Corps representatives have been really easy to work with," Stiffarm said. "Any request or suggestion we had they took into consideration."

"The EPA, the Corps, and the contractor performed miracles to keep everything on schedule and within budget," said Pridal. "Following excavation, IT and the Corps also worked hard to provide a stream restoration that meets the needs of the Fort Belknap Indian Community."

The site is holy to the tribe and is used each year for an intertribal Pow Wow and a Sundance. The Pow Wow usually draws about 5,000 persons from throughout North America. Construction on King Creek was shut down last summer to allow for the Pow Wow and Sundance.

"They worked with the tribe and went beyond anyone we've ever worked with to accommodate the tribe," said Ina Nez Perce, the tribe's environmental protection manager. "During the Pow Wow they stopped work. They stopped work during the Sundance. They've really worked to respect the traditional way of life here."

"We have an excellent crew," Darling said. "This is their tribal land, and they help make judgment calls on what should be taken out. They'll be able to use their training for further reclamation work in the area."

"Fort Belknap Indian Community is an important participant in the project," said Rusty Rimmer, project engineer for IT Corporation. "We and the Corps always involve them in decision-making and ask for their recommendations. After all, the land is theirs. We're trying to clean it up and restore it in a way that they want."

Excavated tailings were transported to Landusky Mine (the original mine) for disposal.

Success factors

"Several things made it possible to do this project," said Rosemary Rowe, EPA's project manager. "One was the mine at Zortman-Landusky. It was undergoing reclamation, and we took the tailings there for disposal as part ofthe reclamation. That saved us money because we didn't have to build a repository for those tailings. That made it feasible to do the project."

Rowe also said the tribe's in-kind donations also helped with the project. "They provided us with topsoil and rock to rebuild the creek bed after the tailings were removed."

A third factor was hiring tribal members to work on the project as truck drivers and equipment operators.

"We pursued this project through an interagency agreement with the Corps; that's one mechanism we have under the Superfund," Rowe said. "The Corps' Rapid Response group has been exceptionally responsive and moved everything forward quickly. For us, this is a fairly short-term project, so it's been good to move things through quickly."

Restoration

The project cost 2.6 million, and about 92,400 cubic yard of tailings were hauled to the mine site. In all, 3,835 feet of channel and bank were restored, including sediment retention dams and road crossings with culverts.

A Montana landscaping firm provided a revegetation workplan using native plants. The tribal crew did the work, including planting 2,200 plants. They worked 12,760 man-hours, reducing project costs and ensuring the work complied with Fort Belknap's interests.

(Sheri Hronek is a contract writer for Omaha District.)

Military Construction

Building Infrastructure for the Peacekeepers

District is Air Force agency-of-choice

By Jennifer Wilson
Little Rock District

Little Rock District has a good working relationship with the Air Force's Air Education and Training Command (AETC), which operates Little Rock Air Force Base (AFB) and other bases. The district has become an agency of choice for the command, and its work and teams have been recognized with national awards from AETC.

"We look for creative solutions to design and construction issues," said Jim Pfeifer, Air Force project manager for the district. "For example, when the base requested an international expert in defense fuels to continue a fuels project, and the base's Army contract had expired, the district located and borrowed a contract from the Navy. We were told this was the first Army/Navy/Air Force collaboration of this type."

Little Rock District is responsive to the air base. The district office is just 30 minutes away from the base, and an on-base construction area office is on-call for warranty and other fast-response issues.

"The district has a team relationship with the Air Force," Pfeifer said. "Important decisions are made with input from the base and the command rather than being imposed upon the customer."

That teamwork has paid off for Little Rock District, which has $37 million under construction for AETC, including towers at six bases, and $11 million under design.

The new air traffic control tower at Little Rock Air Force Base gives Air Force controllers a state-of-the-art working facility. (Photo courtesy of Little Rock District)

Center of expertise

Just as the district began design work on a replacement tower for Little Rock Air Force Base in 1998, the Air Force released its Air Traffic Control Tower Design Guide.

"Our team worked through the guide and applied the design guidelines to the new tower," Pfeifer said. "So this tower was the first one to be designed under the new guidelines. It was a prototype for other tower designs."

Because of Little Rock District's grasp of the design guidelines, AETC requested the district to handle all their tower replacement work, and the district became the program manager of a $40 million tower replacement program. The district has worked closely with the Corps districts that are geographically responsible for each base and the users of each base to ensure a quality product and good working relationships.

So, while the tower at Little Rock AFB was built, towers at Tyndall AFB in Panama City, Fla.; Laughlin AFB in Del Rio, Texas; Altus AFB in Altus, Okla.; Luke AFB in Phoenix, and Randolph AFB in San Antonio were in various stages of design or construction.

The district released Little Rock AFB's new air traffic control tower to the 314th Operations Support Squadron (OSS) in February. It cost $3.75 million, has 760 square feet of usable space in the cab, and is 50 feet taller than the one it replaces. The new tower allows controllers to see the entire airfield for the first time and contains state-of-the-art touch-screen equipment, replacing the older push-button technology.

"The new tower vaults airfield operations at Little Rock Air Force Base well into the 21st century in flight safety, operational efficiency, and overall communications upgrades," said Lt. Col. Mark Baker, 314th OSS commander. "In car terms, we've taken a classic '57 Chevy and replaced it with a 2001 Mercedes sedan in comfort, capability, and reliability."

Maj. Richard Ham, 314th OSS airfield operations flight commander, said the old tower's roof leaked, the temperature inside was hard to control, and it was too small for current operations. The former tower was built to accommodate four people, but it was common to have up to 10 people working at the same time.

The district continues its control tower work by providing design review for towers at Cannon and Beale AFBs, and has prepared a lessons-learned list for use nationwide.

AETC has been so happy with the tower program that Pfeifer received the Civil Engineer, Civilian Project Manager Award in the Design Category for 2000. The district team also received the 2000 District/Division Agent Award from AETC.

There when you need us

Little Rock District's Real Estate Division also serves as the base's real estate agent. In a current project, the district is creating a buffer area around a drop zone used by the base to train C-130 crews.

(The C-130 is a four-engine tactical cargo plane. A drop zone is a large open field where soldiers or cargo loads can parachute in, or where aircraft can practice landings and take-offs from short unpaved runways.)

Little Rock AFB is the world's largest C-130 base. Its primary mission is training crews from all branches of the military and 22 allied nations in flying the C-130. Black Jack Drop Zone is just off Highway 5 near Romance, Ark. Increasing development around this main drop zone for the Air Force has been a growing concern of the command for several years.

"The consequences of one of our training platforms landing on a person, vehicle, or structure could be devastating, so we initiated a formal study by the Corps that examined the likelihood of such an event," said Col. Dale Pangman, 314th Operations Group commander.

Because of the base's training mission, some aircrews make mistakes. Of the 50,000 airdrops made on Black Jack since 1994, 23 have fallen outside the drop zone, usually due to aircrew error, wind gusts, or parachute glide variations. Because of the missed drops and increased development, the study recommended a buffer area be created around the drop zone to protect residents and allow training to continue.

"This new acquisition is for approximately 345 acres that will be acquired in perpetual easement for a safety zone," said Helen Herr of Little Rock District's Real Estate Division.

That means that landowners would still own the land and maintain mineral, agricultural, grazing, timber, hunting, and storage rights. But landowners would not be permitted to build a structure that would present a hazard to aircraft.

"Black Jack is vital to the mission of Little Rock Air Force Base, since it is the only drop zone in the state controlled exclusively by the Air Force," Pangman said. "We need Black Jack Drop Zone to train about 2,000 students every year."

Little Rock District, in partnership with officials from the air base, held a public meeting in the area to tell people about the land acquisition. The acquisition process is currently underway.

"It (the meeting) wouldn't have been pretty if Little Rock District's team of experts hadn't been there," Pangman said. "I've never worked with anybody from the Corps of Engineers before. What professionals!"

Continued on next page

Hawaii soldiers welcome barracks

Article by Michelle Cain
Photo by Kimberley Jyo
Honolulu District

Construction of a $152.2 million, five-year Phase I project of the U.S. Army's Whole Barracks Renewal Program in Hawaii began in 1996 at Schofield Barracks, and will wrap up this year. It includes building soldier community buildings, barracks, a dining facility, Directorate of Public Works (DPW) shop facilities, and road infrastructure upgrades.

"It's a pretty sizeable phase," said Davbide Lindsey, project manager.

Part of the project, contracted to Dick Pacific Construction Company, includes building three battalion headquarters buildings and three company operations buildings. The project has a scheduled contract completion date in December, but the battalion headquarters buildings are virtually finished (well ahead of schedule) and were turned over to the 25th Infantry Division's 2nd Brigade in February.

When asbestos was found in one of the barracks areas, that project was moved up from the FY05/06 timeframe to the FY01 contract, said Lynette Oh, DPW master planner. This created a need for swing (temporary) space.

"With F Quad having to vacate quickly, they moved into swing space that was designated for someone else and 2nd Brigade was still there," said Oh. "In essence, 2nd Brigade had to move out sooner."

Completion of 2nd Brigade's three battalion headquarters was accelerated to allow the units to move into their new buildings ahead of schedule. This required the cooperation of everyone involved in the project, said Oh.

A partial turnover took place "because we wanted to help out the 25th ID and DPW, we turned the battalion headquarters over early," said Lindsey.

Lindsey gives much of the credit for the early turnover to the Schofield Barracks Resident Office and to the contractor, Dick Pacific.

These three battalion headquarters buildings are part of Phase I of the Whole Barracks Renewal project at Schofield Barracks.

"I think that all the people involved are working well together," he said. "The resident office has a great deal to do with the success, as does the contractor. He has to keep his people out there working, with no delays."

"Dick Pacific has been very responsive to our needs," said Kimberly Jyo of the Schofield Barracks Resident Office, the project's quality assurance representative. "They were able to schedule their work to complete the three battalion headquarters buildings early in the year to accommodate the needs of DPW. "The communication has been good; they've kept us informed of work scheduling, problems, and outstanding issues."

Oh said the relationship between the organizations is important in order to produce the desired results.

"They're good contractors," she said. "At the same time, you have that good working relationship between the Corps and the contractor; the day-to-day coordination and communication with the people who are doing the work."

Support to DoD

MILCON

This is a positive move for the battalions involved.

"Sooner is better than later," said Lt. Col. Michael Coss, commander of the 1st Battalion, 14th Infantry, one of the three battalions that will occupy the new buildings. "We're going to move eventually anyway, so it's good to have that new battalion headquarters that obviously will be fully modern and have all of the state-of-the-art capabilities for a resource center and battalion classroom, things that we don't have now. It will provide us a better environment to teach classes and hold other meetings that right now we either do out in the quad or in an old abandoned mess hall, which is just not the right environment to foster learning."

Whole Barracks Renewal is an Army-wide program to build new barracks and renovate existing ones using modern design standards that provide a larger living space for single soldiers, thus improving their quality of life and increasing military readiness. Hawaii currently has 38 barracks buildings on Oahu that are part of this program; half were built before 1922. Most have open-bay living areas and common latrines.

In the new design standards, only one or two soldiers will occupy a room, living space will increase 30 percent, and each room will have a bathroom and closet. Separate community buildings will provide storage, laundry, and dayrooms.

Coss says this is an improvement for his soldiers. "I think it's going to have a tremendous impact. In the old design they have no privacy. In the new one they have complete privacy and the ability to arrange their rooms the way they want."

Master Sgt. Larry Chapman, acting Command Sergeant Major of 1st Battalion, 14th Infantry, agrees.

"The new barracks is a focus that the Army has had for many years," Chapman said. "It's going to provide for our soldiers, and it also points out that the Army's number one priority is our soldiers and their quality of life."

The individual companies won't move until the company operations facilities are completed.

"We're anxious for that to occur so that all of the headquarters are over in the new area, as well as the final barracks getting built for the soldiers," Coss said. "I'd like to get the other half of my battalion out of these old barracks as soon as possible."

Raising the soldier's quality of life is the goal of the Whole Barracks Renewal. "If the customers are happy in the end, then we have met our goal," said Oh.

Air Force

Continued from previous page

Working to meet needs

Little Rock District recently awarded an $8.1 million design-build contract for the Little Rock Air Force Base Physical Fitness Center.

"This whole project from the beginning to now has been a team effort between the district, the customer, the base civil engineer, the users, and the contractors," said Mark Freedle, Chief of Design Branch's Mechanical-Electrical Section. "It's taken all of us working together."

W.G. Yates and Son Construction of Memphis is the prime contractor, and The Pickering Firm is the architectural-engineering firm.

This is the district's third design-build contract to award for the air base.

Design-build contracts are becoming more and more popular with the district's military customers. Since a contract is awarded earlier in the life of the project, design-build contracts allow customers to obligate their funds quicker.

Typically, design-build contracts begin with a basic concept that is developed by the customer and the designers. A Request For Proposal (RFP), which for this project consisted of plans that were between 15 and 30 percent complete and a manual of contract requirements, is developed and advertised. Then the contract is awarded to a firm who can complete the design and construction work.

But the customer wanted to do something a little different with this project.

"In the past, we've prepared the RFP in-house, but the customer wanted to use an architectural-engineering firm that had designed a fitness center remodel at another air force base to prepare the packet," Freedle said. "They had worked with them before and had good success, so they wanted to use them again."

The district's design team developed the scope of work, then worked with Perino Technical Services Inc. and their architectural-engineering firm partner, C.H. Guernsey & Company, to review their RFP and develop a product that satisfied the base customer.

"The contractors delivered," Freedle said. "They designed a neat, workable floor plan for this high-profile project."

The RFP was so good, it was recognized with a 2001 AETC Concept Design Award. AETC is the command that oversees operations at the air base.

During the next phase of the project, the district will work with the design and construction contractors.

"We'll spend the next couple of months answering questions that they might have as they go through the RFP and work on the design," Freedle said. "We'll continue conducting technical reviews to ensure the customer gets the best possible product, and we'll continue in our contract and construction management roles."

A pre-work conference was held at the end of April. The project is scheduled to be complete by September 2003.

The tower at Little Rock Air Force Base was one of six the Air Force asked Little Rock District to replace. (Photo courtesy of Little Rock District)

Egypt gets new medical center

By Julie Shoemaker
Transatlantic Programs Center

Transatlantic Programs Center (TAC) is helping the Egyptian Ministry of Defense provide improved, expanded medical care for its military by obtaining complex medical equipment for a new 742-bed International Medical Center being built near Cairo.

"This facility is sponsored by the Egyptian Ministry of Defense for all Egyptian military members and their families," said Maj. Gen. Said Abdel-Fattah Ibrahim, the International Medical Center (IMC) commander. "This state-of-the-art medical facility for Egypt and the region will provide a medical environment that will be comfortable for people in the Arab culture, particularly for highly specialized procedures that before had required patients to leave the country to receive."

The 742-bed International Medical Center in Egypt is 98 percent complete. (Photo courtesy of Transatlantic Programs Center)

Full care

The IMC will provide a full range of specialized patient care in cardiology, neurology, surgery, renal dialysis, cancer treatment, pediatrics, plus outpatient services. The hospital, the site also has an oncology (cancer) center, housing for medical staff, nursing school, administrative buildings, vehicle maintenance, a mosque, and two helipads.

"The project resulted from meetings between the U.S. Office of Military Cooperation and Egypt's Field Marshall General Mohamed Hussein Tantawi," said Khaled Masoud, chief of TAC's IMC Office. "Original considerations were that the Corps would do a turn-key operation including design, construction, and equipping the IMC. But discussions led the plans in another direction — Egypt would do the design and construction; the U.S. would outfit the hospital with state-of-the-art equipment.

"This decision was made because our Egyptian customers were concerned about the time it would take to complete this medical facility and the typically high costs of building such facilities," Masoud said. "They decided to perform many tasks concurrently to shorten the schedule and opted to do the design and the construction management with their in-house military forces."

Fast track

"The IMC has been a true fast-track project," said Terry McGiverin, TAC program manager. "Typically, tasks are done sequentially with each task depending upon completion of a prerequisite task. Generally, the order is medical planning, design, construction, equipment procurement, equipment installation, operations and maintenance training, and hospital operation. With much of this effort occurring simultaneously, the coordination effort is tremendous to keep U.S. and Egyptian agencies informed and working cooperatively toward the same goal."

"This type of project is highly complex," Masoud agreed. "The interrelationship between the equipment medical planning and the design, particularly the utilities supporting the equipment, is key to success. The Corps' reputation in design and construction of medical facilities opened the door for TAC, and the Medical Facilities Office in Corps Headquarters played a major role in the early stages.

"Adding to the complexity of this program are the extensive U.S. code requirements of the state-of-the-art-equipment and tasks involved with serving as contracting officer representatives," said Masoud. "There are hundreds of equipment contracts with stringent pre-installation requirements and hundreds of equipment vendors and dozens of specialized physicians requiring coordination. And all of this is done in a different cultural setting."

The coordination web includes stakeholders at various levels. As IMC commander, Said is responsible for all facets of completing the IMC. The government of Egypt is responsible for engineering and construction and close coordination with engineering department designers, contractors, and 35 medical department heads.

Coordination

TAC's major coordination efforts include the Office of Military Cooperation in Egypt; the Egyptian freight forwarder, Panalpina, Inc.; Defense Supply Center Philadelphia (DSCP), part of the Defense Logistics Agency; the architect/engineer firm of Rogers, Lovelock and Fritz, Inc.; the Corps' Medical Facilities Office which provided guidance on medical planning and typical layouts for Department of Defense clinics; and the Washington Group (formerly Morrison Knudsen, Inc.), for tracking shipping, receiving, warehousing, and installation scheduling.

Support to DoD

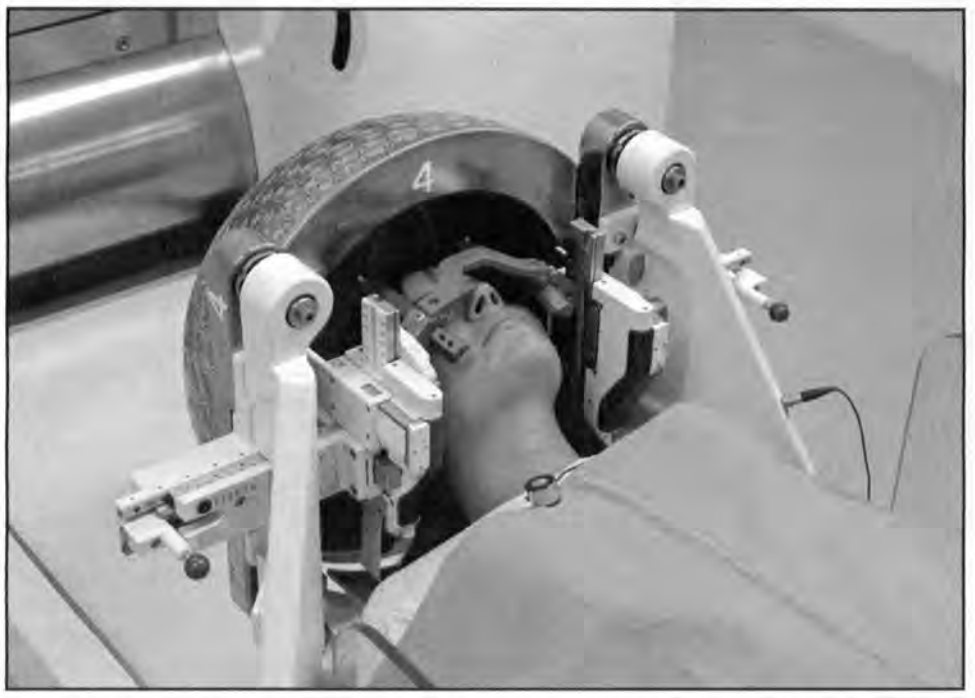
MILCON

The DSCP has supported the Corps by providing all of the medical products and technical acquisition support necessary to meet the opening deadline.

TAC has outfited the facility with equipment and supplies totaling nearly $120 million, said McGiverin. "Some 900 different items or 45,000 pieces of medical equipment and supplies were procured. They include state-of-the-art monitors, CAT scan and magnetic resonance imagery systems, surgical instruments and disposable supplies, and beds."

Continued on next page

The gamma knife focuses 201 beams of radiation, allowing tumors to be treated without incisions and with minimal effect on surrounding tissue. (Photo courtesy of Elektra Inc.)



A patient undergoing gamma knife surgery must be securely held in a precision cradle for the radiation beams to properly focus. (Photo courtesy of Elektra Inc.)

The Ambulatory Health Clinic will give state-of-the-art care to servicemembers and their families at McGuire Air Force Base, N.J. (Photo courtesy of New York District)

New clinic will improve patient care

By Vince Elias
New York District

The Ambulatory Health Care Clinic (AHCC) at McGuire Air Force Base, N.J., was officially opened with a ribbon-cutting ceremony in April. The McGuire Resident Office administered construction of the $35 million clinic. The AHCC opened after two years and four months of construction and a move from the Walson Air Force Clinic at Fort Dix, N.J.

"The Ambulatory Health Care Clinic is not only equipped with new state-of-the-art equipment, but as a brand-new facility it offers better working conditions and greater convenience for both patients and staff," said Capt. Meredith Adams, TRICARE and customer service director.

The Walson clinic will close. The AHHC will take Walson's five floors and combine them into two well-designed levels. "This change allows us to incorporate exciting new initiatives into the new health care center," said Capt. Chris Selby, AHCC Development Director.

Not only were new services added, existing ones were upgraded. Senior Airman April McRea, a physical therapy technician from the 305th Medical Operations Squadron, said their redesigned section boasts a variety of new equipment – an ultrasound machine, bed tables, a traction unit, and a whirlpool. "When you have newer equipment, it makes the patients feel like they're getting better care."

McRea said that the more compact workspace also provides greater efficiency than the previous facility, and that patient privacy areas were actually roomier, allowing technicians to maneuver more comfortably around the patients. She added that the new building was "not as gloomy," which would help patients recover faster.

Senior Airman Chito Anicete, a flight medicine technician in the 305th Aerospace Medicine Squadron, mentioned that another advantage to the new AHCC is quicker flight line emergency response. "It helps to be so much closer to the rest of the base."

The AHCC proximity to the rest of McGuire is a major plus for patients as well, according to Senior Airmen Seth Malcolm, a Joint Airdrop Inspector with the 305th Operations Support Squadron. "It'll be a lot easier to get away from work to get checked out."

Design and construction

The new clinic is located at the Air Force's largest base in New Jersey. According to Stella Marco, Programs and Project Management, the project was completed ahead of schedule, and was one of many of New York District's latest military programs success stories.

A mammoth structure rising beyond the shadow of its predecessor, the new AHCC actually opened its doors on Feb. 1. New York District contracted with an A-E firm to design a multi-year, multi-phased hospital project for McGuire Air Force Base. It was the largest design contract the district had ever awarded, and the design took four years to complete.

The resident office and the Health Facilities Project Office (HFPO) worked with the contractor to determine when to make mission-oriented design changes — during construction without delaying work, or after the project was turned over. This coordination during the construction and turnover of the medical center was facilitated by the co-location of HFPO and the field office. As the facility neared completion, the transition phase geared up.

Features

The new clinic is double the size of the old hospital and is designed with interstitial space. This is a utility space between occupied floors that permits maintenance work without interrupting hospital operation.

The center's open-mall layout is a big advantage. The layout facilitates patient flow. The patients come in, and if they need the pharmacy or lab services, they don't have to go from one end of the building all the way to the other.

The new clinic started receiving patients in April. A staff of several doctors, nurses, and others will serve thousands of patients, including active and retired soldiers and their families living in and around McGuire AFB.

New York District's important military construction mission doesn't end with the AHCC. It includes projects in engineering, design, and construction of hospitals, dental clinics, gyms, child development centers, commissaries, munitions production systems, control towers for air and water traffic control, administration buildings, and indoor and outdoor training facilities.

Egypt

Continued from previous page

Gamma knife

One piece of sophisticated equipment is a gamma knife. According to Masoud, the IMC's gamma knife will be one of only two in the Middle East.

This medical instrument is not actually a knife. It emits 201 finely focused beams of gamma radiation which intersect at the precise location of the disorder and treat it with minimal effect on the surrounding tissue. The gamma knife also avoids the usual risks of surgery or an incision.

"Gamma knife surgery maximizes patient comfort and can be used to treat lesions that before were either inaccessible or had been treated unsuccessfully by conventional surgery, chemotherapy, and/or radiation therapy," said Robert Lamanque, assistant project manager. "Gamma knife surgery is unique because there is no surgical incision. Consequently, the risk of surgical complication is greatly reduced. Patients usually receive only a mild sedative, thus eliminating the side-effects and danger of general anesthesia."

Equipment

Besides the gamma knife, Lamanque said many other pieces of sophisticated equipment were purchased for this hospital.

"There will also be surgical lasers, scanners, and computerized patient monitor and data storage devices, which all speak volumes of the highly sophisticated level of medical treatment that our client, the government of Egypt, is making available to its patients. I'm proud that Transatlantic Programs Center has contributed to this worthwhile humanitarian project."

DSCP will have a biomedical engineer on staff for installing all this sophisticated equipment, according to Masoud. "Technical representatives from vendors of complicated equipment, such as General Electric and Hewlett Packard, will install their equipment. The Washington Group will install the remaining equipment."

Almost complete

The one-million-square-foot IMC is 98 percent complete. Equipment and supplies have been stored in a special climate-controlled warehouse nearby awaiting installation. TAC will assist with installation and commissioning of the systems.

Utilities are going through inspection before final acceptance for medical equipment installation. The hospital opening is planned for next April. Full operation is contingent upon equipment training, hospital staffing, and other factors that the government of Egypt is finalizing.

"Flexibility and follow-through are the keys to being the agent of choice for this type of project," said McGiverin, referring to the many simultaneous details.

Part of this project involved technology transfer, according to Masoud. "The Egyptian staffs have very good engineers who have excellent knowledge of the local codes. This project afforded them the opportunity to learn about state-of-the-art medical planning and design, while affording us the opportunity to learn more about international engineering applications."

Said expressed his appreciation to the team that is helping to make the international medical center a reality. "All the team members came together to achieve the goals of this complex project. They have my special thanks."

"This facility will definitely be the jewel of medical care in Egypt and the Middle East," said Masoud. "We are very proud to play a major role."

In Japan, it's different

Government of Japan calls MILCON shots in their country

By Maureen Ramsey
Japan Engineer District

Last year, fire fighters at Akizuki Army Depot got a new facility to perform their mission, and vehicle maintenance on Sagami Depot got a new home. Last month, Camp Zama Army base opened the new Yano Fitness Center. And less than two years from now, students at Arnn Elementary School on Sagamihara Housing Area will learn in a new environment.

Soldiers, Department of Defense civilians, and their families stationed in Japan enjoy some of the Army's best facilities thanks to the Government of Japan (GoJ).

As a demonstration of its support of a strong U.S.-Japanese alliance, and as a voluntary initiative to share the burden of stationing U.S. Forces in Japan, the GoJ established the Japan Facilities Improvement Program (JFIP) in 1979.

"What's really unique about JFIP, is that it isn't bound by any formal agreement or treaty like host nation programs in Korea and Europe which mandate how much each government will pay," said Lt. Col. W. Tyrone Allen, Japan Engineer District's (JED) deputy commander. "The Government of Japan voluntarily initiated the program, and it determines the funding levels."

During the past two decades, the U.S. estimates that the GoJ has contributed more than $17 billion worth of quality of life and operational facilities for use by U.S. forces here. Facilities built to date include:

- 10,796 family housing units.
- 21,825 rooms for enlisted service members and officers.
- 123 headquarters and operations buildings.
- 34 medical and dental clinics.
- 65 schools and child care centers.
- 81 aircraft shelters and hangars.
- 140 warehouses.
- 124 maintenance shops.
- Numerous storage tanks that hold nearly 170 million barrels of fuel.

Unlike stateside districts that manage Army and Air Force construction projects, JED is the Department of Defense executive agent and oversees the program for all Army, Navy, Marine Corps, and Air Force bases in Japan. Representatives from the district, U.S. Forces Japan, and the GoJ's Defense Facilities Administration Agency work closely to identify, design, and build JFIP projects.

"There have a number of technical forums and special committees that JED U.S. personnel participate on," Allen said. "For instance, because the GoJ will only build to one standard, all the services send representatives to our technical working group. There the individual services hammer out their differences and come to a consensus on standards. Japan is the only place in the world that I can think of where Army, Navy, Air Force, and Marines enjoy the same kinds of facilities. The high-rise on Camp Zama is the same as those found on Yokota Air Base or Yokosuka Naval Base."

The JFIP process closely parallels the stateside U.S. military construction (MILCON) program. The major difference is the funding. Under MILCON, the U.S. government funds and awards contracts for design and construction. Under JFIP, the GoJ funds and awards the necessary contracts. JED's mission is to oversee and coordinate throughout the design and construction phases to ensure the completed facilities for all U.S. services meet U.S. standards and requirements.

Yumiko Iijima of Japan Engineer District talks to a contractor during construction of the Yano Fitness Center at Camp Zama. (Photo by Doyal Dunn, Japan Engineer District)

A project usually takes five to seven years to complete from the installation or user's initial submission of a project request through the approval process and construction. The completed facilities are high quality, and include state-of-the-art equipment and construction technologies, according to Fawzy Makar, resident engineer of the Kanagawa Resident Office.

The program is not without some challenges.

"Our biggest challenge in the field is that we, the U.S. government, do not have contracts with the contractors," Makar said. "The GoJ does. Our job is to ensure the facilities being constructed meet U.S. standards and the user's operational requirements."

Makar oversees Camp Zama, Sagami Depot, Sagamihara Housing Area, Camp Fuji and Naval Air Facility Atsugi projects. He pointed out a few more differences between U.S. MILCON and JFIP projects.

In the U.S., contracts are usually awarded to a single prime contractor. In Japan, they award multiple separate contracts for each project (one for each design discipline or construction trade) with no prime contractor. For instance, the new Yano Fitness Center had 17 contractors, each with its own schedule.

Another difference is that the GoJ often awards construction contracts while parts of the project are still under design. This significantly increases the need for engineering coordination during construction. And U.S. projects normally have a one-year warranty period, while JFIP projects enjoy a two-year warranty.

Despite the differences, Makar said he would put completed JFIP projects up against any comparable U.S. funded project.

Army JFIP projects currently under construction include an auto/craft shop and gas station at Torii Station, a barge berth at Yokohama North Dock, utilities upgrades on Camp Zama, Arnn Elementary School on Sagamihara Housing Area, and the Directorate of Public Works shop/admin facility and storm drainage on Sagami Depot.

The GoJ has not yet awarded the construction contracts for Sagamihara and Chapel Hill housing projects. The GoJ should award the demolition contracts for the projects this summer.

In any case, the housing that is built will be first-rate. "That's the GoJ's commitment to us," said Allen.

Glenn Yano works out in the completed Yano Fitness Center. The fitness center is named for Sgt. 1st Class Rodney Yano, a Medal of Honor recipient. Yano is his brother. (Photo by Maureen Ramsey, Japan Engineer District)

Military Construction

Building Infrastructure for the Peacekeepers

'Compost pile' cleans up explosive contamination at former ammo plant

By Kimberlee Turner
Louisville District

The Joliet Army Ammunition Plant in Will County, Ill., about 40 miles southwest of Chicago, is the world's largest application of bioremediation of explosives-contaminated soil. The 24,000-acre plant, built during World War II to produce one million pounds of TNT each day, was placed on the National Priority List in 1989.

Louisville District is directing the environmental cleanup and land disposal actions of the former arsenal property for the Operations Support Command. The project is estimated to cost $92 million and span 10 years. The Corps contractor, Montgomery Watson, is handling the largest portion of the cleanup, which involves excavating, hauling, site confirmation, and on-site bioremediation of about 260,000 tons of explosives-contaminated soil.

The bioremediation recipe is simple — wood chips, corn mash, and stable sweepings are added to the contaminated soil to achieve a high organic and nitrogen content, which breaks down the contamination.

One challenge of the project, according to John Cummings, Montgomery Watson's site manager, is continuing the operation of the bioremediation facility during the winter.

"We needed to maintain the self-heating process of the compost pile at a constant temperature of 140 degrees," said Cummings. "If it's too cold, the bacteria become inactive and the soil does not respond to the added ingredients. Due to the cold temperatures in the Chicago area, we weren't sure how this process would work, but have been pleased with the results since the facility was built last May."

Members of the Corps of Engineers and the Environmental Protection Agency discuss the effectiveness of the Allu AS38 compost turner at the Joliet remediation facility. (Photo courtesy of Louisville District)

For Louisville District, coordination of the environmental cleanup and the transfer of real estate has been key to success.

"The project's achievements can be directly attributed to the team's effort," said Melody Thompson, project manager. The district's Real Estate Division and Environmental Engineering Branch have been instrumental in preparing and coordinating the deed transfer, as well as a memorandum of agreement (MOA) integrating the environmental issues with real estate actions.

The MOA between the Army, the Joliet Arsenal Development Authority, and CenterPoint Properties, the largest developer in the region, paved the way for development of the contaminated property after its cleanup and transfer.

With the creation of the Joliet Arsenal Development Authority by Illinois, the Authority promoted and successfully transferred 2,000 acres of the property for industrial development. CenterPoint Properties plans to develop Deer Run Industrial Park on 1,787 acres in Elwood, Ill. The Island City Industrial Park near Wilmington has 1,000 acres that will also be an industrial development.

CenterPoint Properties has a 20-year plan to develop Deer Run Industrial Park to include warehouse and manufacturing space, a power plant, and an inter-modal railroad facility. The preliminary economic analysis, prepared by the University of Illinois, revealed the industrial park has a potential of attracting more than 21,000 construction related jobs, 8,000 permanent jobs, $3 billion in payroll, $108 million in sales taxes during seven years, and $27 million in annual property taxes upon completion.

To date, the Army has transferred 15,080 acres to the U.S. Forest Service for the Midewin National Tallgrass Prairie, more than 2,000 acres to Illinois, and 982 acres to the Veterans Administration to establish the Abraham Lincoln National Cemetery.

For 2001, pending transfers include 455 acres to Will County for a landfill, about 10 acres to the U.S. Forest Service for an administration and maintenance facility, and 218 acres to the Joliet Arsenal Development Authority. The 5,000 acres remaining are planned for remediation and transfer to either the Joliet Arsenal Development Authority or the U.S. Forest Service by 2011.

Lessons learned available to all on-line

By Dana Finney
Construction Engineering
Research Laboratory

A new approach to mining information from Corps-wide business processes will make finding help with specific problems as easy as doing a web search. The Engineer Research and Development Center (ERDC) designed "Corporate Lessons Learned" (CLL) as a feature that can be integrated into any automated system. Efficiency will be improved through access to lessons learned, good work practices, and success stories.

ERDC's Construction Engineering Research Laboratory (CERL) first fielded CLL as part of the Design Review and Checking System (DrChecks). Its success in that system led Headquarters to adopt CLL as the standard approach for collecting expert information.

Lessons learned. The lessons-learned module, a feature to be added to existing programs, gives users the opportunity to submit potential lessons-learned as they do their jobs. No additional software is needed to capture lessons-learned at the source and submit the new item to the correct subject matter database (repository).

Experts at the district, division, or Headquarters level evaluate submittals and either approve or reject them. Authors receive automatic e-mail with status updates.

The CLL global address book (registry) keeps tabs on all lessons-learned topics across the Corps. All Corps users and authorized partners will be able to retrieve and apply relevant lessons-learned using new tools to be integrated directly into existing information systems, and using a stand-alone search engine.

Money saver. Besides improving business processes, CLL saves money by avoiding repetitive errors. When CLL was used with DrChecks, an independent study of lessons developed in one district showed a conservative saving of $23,000 in construction costs per lesson per year for that district. The saving came by reusing lessons developed from prior projects. While this number was based on a limited study, if taken Corps-wide and used across multiple business processes, the savings could be substantial.

Example. At Seattle District, mechanical engineer Hugh Markey has used CLL (available at his site with DrChecks) to avoid several design errors. In one case, a lesson learned identified how to correctly place the backflow prevention device for a fire suppression system in relation to the domestic water line. In another, Markey's team found critical information about using plastic pipe in mechanical systems.

"We used to specify only copper or galvanized steel pipe for above-ground applications, but now there are some cases where plastic pipe is acceptable – either PVC or CPVC," Markey said. "But you have to carefully check its usage. We found a lesson where a contractor used PVC for chilled water and CPVC for building heating water where both systems contained propylene glycol. There's a chemical reaction between the pipe and propylene glycol that can cause the pipe to fail. From that information, we no longer allow plastic pipe to be used in those applications."

For a 20,000-square-foot building, the estimated cost to replace failed pipe would be about $20,000, not counting related costs for damage or relocating occupants for repairs. An intangible, but vital, benefit is in accountability to Corps customers. "Having the lessons helps us prevent errors in the design documents and provides the best quality product for the owner," Markey said.

Candidates. Other Corps-wide information systems and business processes that are candidates for an embedded CLL feature are the Resident Management System, Project Management Information System, and Whole Barracks Renewal Program.

CERL's CLL module is named "best of breed" in Engineer Regulation 5-1-11, "U.S. Army Corps of Engineers Business Processes." In addition, CLL received the Department of Defense Office of Quality Management "Quality Management Best Practice" award in January 2000.

For more information about CLL, please contact Deane Holt at Headquarters, (202) 761-5982, Deane.E.Holt @HQ02.usace.army.mil, or Bill East at CERL, (217) 373-6710, Bill.W.East@erdc.usace.army.mil.

'Is that your final answer?'

Louisville District man tackles 'Who Wants to be a Millionaire?'

By Todd Hornback
Louisville District

He has danced as a hippopotamus wearing a tank top and a pink tutu. He proved his frugality by skipping haircuts, growing his hair to hip length, and saving the money for a family vacation. Now, he has added his name to the growing list of winners on America's top-rated television game show — *Who Wants to be a Millionaire?*

For two episodes in December, Steve Brown of Louisville District sat in the hot seat at the *Who Wants to be a Millionaire?* studios. Through months of phone calls, answering questions, and perseverance, Brown can now give a behind-the-scenes look at the game show that reaches more than 17 million viewers.

At his first taping, Brown won the Fast-Finger Round by answering the following question in 4.28 seconds:

Put these major world cities in geographical order starting in the south.

A: Cairo
B: Helsinki
C: Johannesburg
D: Berlin

His answer: C, A, D, and B.

Brown waited for the winner of the round to be named.

"I don't know how long it was, but it seemed an eternity," he said. "When I heard my name, I said to myself, 'Okay, let's boogie." With a jubilant cheer, he headed for the hot seat to try for the million-dollar prize.

Journey

Brown, an avid reader, started his journey to the *Millionaire* show in January 2000. He called the show's 800 number more than 50 times to answer three questions as the first step for eligibility. He reached that level three times. After answering correctly, and having his name drawn randomly, Brown went to the next level. Again, he called another 800 number and answered five questions.

"If 10 or more people answer all five correctly, then there's a random drawing among them," Brown said. "In my case I only answered four of the five questions correctly, but apparently there weren't 10 people who answered them all, or else I wouldn't have been selected."

An associate producer from the show called him back and announced he had been selected. After explaining logistics, the co-producer asked, "Any questions?"

"No," Brown replied.

"Then welcome to *Who Wants to be a Millionaire?* See you in New York."

Before leaving, Brown told his coworkers, and arranged for his "Phone a Friend" lifeline. "You can have up to five people on your list, although you're allowed to call only one," Brown said. He had friends lined up for fine arts, literature, science, classical music and opera, and history.

The show's logistical tapestry to get Brown and his wife, Margie, to New York City wove together pre-made flight plans, hotel reservations, limousine service, and a personal associate producer for each *Millionaire* contestant.

For Brown and his wife, their first day in New York City included the traditional sightseeing tour, but at 6:30 the next morning, they were waiting in the studio in contestant isolation. To keep any contestant from having an unfair advantage, the contestants were not allowed to bring in books, magazines, radios, or electronic devices.

Following breakfast for the contestants and their family members, the associate producers interviewed contestants for about 90 minutes to get background material for Regis Philbin to use on the show.

In another 90-minute session, the contestants rehearsed for the show, including entering the stage and working the fast finger keypad. A staff member told the contestants to plan their strategies, ignore Regis Philbin because he does not receive answers before taping, and to enjoy the experience.

Steve Brown of Louisville District won $32,000 on *Who Wants to be a Millionaire?* (Photo courtesy of Louisville District)

After rehearsal, the contestants went backstage for makeup and wardrobe.

Brown and the other contestants watched the taping of one show, then it was their turn. They entered the studio, waved to the audience, sat in their pre-assigned seats, and watched Regis Philbin as he finished with a contestant in the hot seat.

A lot more happens on *Who Wants to be a Millionaire?* than is seen on TV screens at home. The carryover contestant completed her run, then Brown's group began their Fast-Finger Round. One finger question was thrown out because of a computer malfunction. Another contestant answered the second question and won that round, with Brown as the second fastest.

The hot seat

After that contestant finished in the hot seat, there was a third question that no one answered correctly. In the fourth Fast-Finger Round, Brown answered correctly with the fastest time and headed for the hot seat.

At this moment, the cameras stopped rolling. Regis Philbin took a break to practice pronunciation for the next round's questions and answers (but he is not given the correct answers), while the *Millionaire* staff instructed Brown on how to get into the hot seat.

"The hot seat is heavy and uncomfortable; you have to practice getting into the chair," Brown said.

When the taping resumed, Philbin asked Brown his occupation and he replied, "I'm a contract specialist. I buy things like $900 hammers." After the audience laughed and Philbin confirmed that he was joking, they started the game questions.

Brown whipped through the early questions quickly, giving his answer followed by the traditional response "and that's my final answer." Those questions were:

- Big rig is a common nickname for which of these vehicles? *(18-wheel truck)*
- What does it mean to see eye to eye? *(In agreement)*
- What would you be looking for by using the Dewey Decimal System? *(Library book)*
- Balls for which of these sports are sold in pressure-sealed cans? *(Tennis)*
- Name the only state that has three words in its capital's name? *(Utah)*
- In baking, shortening is a type of what substance? *(Fat)*
- The "Hunchback of Notre Dame" is set in what city? *(Paris)*

Brown used one lifeline at the $8,000 level. The question was, "In the movie 'Dumb and Dumber,' what did the vehicle resemble?" Brown said, "I didn't see this movie, so I looked at the audience and they looked like a smart group." He polled the audience and followed their suggestion, correctly answering "a dog."

Brown correctly answered the $16,000 question (In mathematics, what does a parabola look like? *A curve),* and the $32,000 question ("Who was arrested for his 'Seven Words You Can't Say on Television?' *George Carlin).*

Then came the $64,000 dollar question:

Which of the following U.S. Presidents attended college?

A: George Washington
B: Grover Cleveland
C: Harry Truman
D: Thomas Jefferson

Brown had an idea but wasn't sure, so he phoned his history friend, Jim Reynolds. After a correct answer *(Thomas Jefferson),* the horn went off and the episode ended.

"I'm sorry..."

At the next filming, almost three weeks later, Brown brought his wife and his four sons, Joel, Adam, Nathan, and Peter. No one under 18 is allowed in the studio, so only two of his children could attend the taping.

In the hot seat, Brown faced higher stakes. The $125,000 question was:

"What is the scientific term for the process when trees lose their leaves during autumn?"

A: Abscission
B: Sublimation
C: Deracination
D: Transpiration

Brown used his 50/50 lifeline, and the answers left were A and C. By using logic and Latin derivatives, Brown chose *deracination.* Philbin replied, "I'm sorry, that is incorrect." The correct answer was *abscission.*

After Brown's return to Louisville District, his office threw him a welcome back party with gifts and banners, but he kept his $32,000 winnings secret until after the episode aired on national television.

Brown said that his coworkers supported him from beginning to end. Janet Crum, a procurement technician, told Brown before he left for New York City, "You're going to win big; too many things have come together. Just go and have fun."

Strategy

What are his thoughts about participating in the show?

"The game is as much strategy and how you use your lifelines as luck and how much you know," Brown said. His strategic tips include:

- Don't use the lifelines too early.
- Use the audience for pop culture questions, not specialized knowledge.
- Use the 50/50 lifeline when you're fairly sure of the answer and just need confirmation (unless, as in his case, it's all you've got left).

"I had the time of my life," Brown concluded. "It was a once-in-a-lifetime experience. My only disappointment is that I can never go back. Once you win money, you can't go back. I tell people to go for it. The phone call is free. It costs you nothing, so you have nothing to lose."

Corps work improves life in Samoa

Article and Photo
By Stanley Boc
Honolulu District

The U.S. Army Corps of Engineers' work in the U.S. territory of American Samoa improves the quality of life for islanders in many ways. Honolulu District's team of engineers and scientists provide a variety of important projects and services. They have overcome the challenges of the islands' remote location and rugged terrain, damage from devastating tropical storms, and constant erosion caused by the ocean.

Corps civil works involvement with American Samoa dates back to the 1970 River and Harbor Act that authorized investigation of the islands' water resources to include navigation, flood control, and related matters. This act set the precedent for civil works activities in American Samoa. The first major project was development of Ofu small boat harbor in 1973. Since then, Honolulu District has completed 20 shore protection and navigation projects totaling more than $29 million.

Samoa life

American Samoa is about 2,600 miles south of the Hawaiian Islands and is the southernmost U.S.-controlled territory. Its total landmass is only 76 square miles and consists of five rugged volcanic islands and two coral atolls. The two largest islands are Tutuila and Tau. The population of American Samoa is about 40,000 with most people living on Tutuila, where the capital city of Pago Pago is located.

Tuna fishing and tuna processing plants are the backbone of Samoa's economy, with canned tuna the primary export.

American Samoa's needs are many and its resources are few. That makes the district's assistance especially valuable. The district brings with it a complete engineering, contracting, and construction package through the "one door to the Corps" philosophy — access to all of the Corps' labs and technical expertise.

Corps projects in American Samoa cover a broad range of assistance.

About 27 percent of the shoreline of American Samoa is critically eroded. Shore-protection and road construction projects fight this perpetual damage and are vital to protecting the islands' infrastructure.

Water transportation in American Samoa is important for commerce and serves as the territory's prime transit system. District small-harbor projects keep the economy moving and provide refuge to small vessels from storms.

Honolulu District has also conducted drainage, flood insurance and hurricane studies, trained American Samoa government engineers, prepared a shoreline inventory update, and identified suitable rock quarry sites that supply materials for road construction and shoreline protection work. Additionally, the district's regulatory program helps protect the islands' environment.

Agreements

Before 1988, limited work in American Samoa was done under a variety of Corps authorities. However, many badly needed projects could not be justified economically. Corps civil works projects require a positive benefit/cost ratio (the economic benefits to the U.S. must outweigh the costs) that American Samoa's limited economy could not support.

Recognizing this problem, the district and the American Samoa government (ASG) developed and signed a memorandum of agreement in 1988 that enabled the district to provide engineering, construction, and environmental services through the Corps' Work for Others program.

Under this agreement, Honolulu District developed a comprehensive shore protection plan. It included training ASG engineers in revetment design, revetment construction inspection, rock quarry site evaluation, and construction equipment identification and purchase. The idea was to develop a shore protection action team that would design and build revetments full-time. The Department of Interior funded this effort with a $5 million grant. The results included developing and teaching shore protection and inspection training courses, equipment selection and purchases and, ultimately, construction of two revetments.

This shore protection revetment protects Route 1 on Tutuila Island in American Samoa. (Photo courtesy of Honolulu District)

In 1995, the district and the American Samoa Government, with the support of the Federal Highway Administration (FWHA), signed an agreement that expanded the participants' roles and enabled the Corps to build roads and shore protection projects in the islands that are 100 percent FWHA funded. Since 1995 the Corps/FHWA/ASG partnership has completed four projects costing about $12 million. In addition, the ASG recently requested an additional $8.3 million in shore protection projects under this agreement.

Coordination

Proposed projects and their priorities are determined through coordination between the Corps and the FHWA, with the final decision made by American Samoa government officials, including Governor Tauese P.F. Sunia and ASG Department of Public Works Director, Dr. Toafa Vaiaga'e.

As funds become available, these FHWA projects come to Honolulu District as work orders. The district staff, led by project manager Stanley Boc, designs, awards contracts for, and manages the construction. HED's partners are involved throughout the process. Key participants are FHWA Territorial Representative Glenn Yasui and ASG Department of Public Works' Suppiah Maheswaran, general manager of the Civil Highways Department.

"Federal Highways needs the help of engineering management organizations and the Corps," said Yasui. "Our partnership is mutually supportive, and we're achieving meaningful progress."

Projects

Tauese recently stated in a project dedication ceremony that "the people of American Samoa were again pleased...in the trust that has been developed with the U. S. Army Corps of Engineers over the years."

Major projects completed through the Corps/FHWA/ASG include the Nuuuli Shore Protection (Route 1) on Tutuila. As part of that project the Corps oversaw building a 1,700-foot revetment completed in 1996, and an additional 900-foot revetment completed in 1997. Road widening, placing utilities underground, and guardrail installation were included in this project.

Phase I of the Tau Road project, a 3.7-mile-long concrete road between Faleasao and Fitiuta was completed last September for about $5.1 million. Construction to lengthen the Faleasao Harbor's turning basin on Tau, build a new breakwater, and add bollards (a post to fasten mooring lines around) was completed in the same month.

Among the highway projects that Honolulu District will build for the ASG that are either underway or soon scheduled for fiscal year 2001 are building revetments for shore protection at Amaluia and Faganeanea, both on Tutuila.

Challenges

As one may imagine, working in a remote area like American Samoa has its challenges. Sometimes just getting to a project site is challenging for the designers and contractors. Limited, and sometimes undependable, airline service creates problems. Many times long hikes to a project area are necessary, making site visits far more physically demanding than they would be in the U.S.

Likewise, logistics are a problem. Contractors can not just run to the hardware store to get something, because there are no hardware stores on the outer islands of American Samoa. Everything needed for a project must be planned for, ordered, and shipped into the project site. If anything is forgotten it will cause weeks, sometimes months, of delays.

McConnell Dowell, American Samoa Ltd., has done much of the actual construction. The New Zealand-based firm has extensive construction experience in the region. They have overcome the transportation and logistical challenges, trained and developed local workers, and done excellent work.

The partnership between Honolulu District, American Samoa and the FHWA has brought valuable assistance to the island territory, and the district looks forward to continuing this tradition of quality service.

Career has roots deep in childhood

Manager learned lessons from summer fun with brothers

By Dan Bentley
Tulsa District

The dam work at the Tenkiller auxiliary spillway site continues to progress. The excavation work under Phase I is complete, and the contractor has started placing concrete. The first mass placement took place on Aug. 7, 2000.

I visit the site regularly to observe the construction. I spent several years at Copan, north of Bartlesville, during its dam construction and always enjoyed watching the many phases come together. I thought it was my Copan experience that drew me to the Tenkiller construction, until just the other day when I remembered some dam work from 40 years ago.

It's true that many times you never really recognize some of the significant events that will shape your life while they are happening. A few days ago, I stood atop the wall of the 57-foot deep excavation at the Tenkiller site and watched the construction workers busily going about dam building. They looked small from my vantage point, and suddenly I was taken back to another dam project on a much smaller scale.

One hot summer day in the early 1960s, three little boys stood on the creek bank that separated their back yard from their Granny and their Pappa's. The brothers were clad only in cut-offs made from last year's school jeans. They were barefoot and shirtless, just as they were on any given summer day. Their upper torsos, their arms, and their legs were colored a deep dark bronze from several weeks of playing in the summer sun.

Some of that same sunlight filtered down through the tree leaves and branches overhead. It flickered and danced over the waters of the slow-moving shallow stream. The creek had always been a place to play, catching frogs and chasing crawdads, but on this day the three young brothers were contemplating it for something else all together. They needed a swimming hole to escape the summer heat. The nearby coal strip-mines were strictly off limits by order of their mother. The youngsters were making plans to transform the creek by building a dam.

The boys had never heard of Navigable Waters of the U.S., or of Section 404 permits. It wouldn't have mattered. The problem was no swimming hole, and the solution appeared to be a dam. With an old wheelbarrow from their Pappa's shed and some shovels, rakes, and hoes borrowed from near the garden fence, the boys started to work.

First attempts failed. Readily available silts and gravel from the creek bottom were first used to build the dam. It washed away quickly as the creek waters rose behind the new structure, piped through it, and collapsed it.

The boys weren't familiar with impermeable materials, but it didn't take long to realize that the blue clay from the high bank just downstream would work best. They had never heard of borrow areas, but they knew that with the wheelbarrow and their shovel they could take the clay from where it was and move it to where they wanted it to be.

They had no knowledge of placement lifts or compaction, but soon learned that it was best to place the clay in thin layers and pack it into place with a little water to make it stick together. None of them had ever seen a sheep's foot roller, but they were quick to learn that the ball and heels of their bare feet could stomp the clay to a good compaction.

The first finished dam made a pool of water waist deep and provided a place to wallow.

The first summer shower that came along overtopped the new dam with enough water to breach it. The boys had no knowledge of spillways, but the wash-out exposed the need for some way of controlling the flow. First attempts at controlling the overtopping were several sections of an old garden hose that siphoned the water over the dam. It failed. The boys' dad was a mechanic. There were several old radiator hoses available. The boys buried the hoses through the dam near its top to spill the creek water below the downstream toe of the dam. It worked for a while until the next summer storm.

Something better was needed that could handle the higher storm flows. A section was cut out near the bank, and armored with old house shingles. Their edges were bent down and buried into the new spillway to prevent undercutting from the flowing water. It worked and kept the dam from washing away after each small summer shower.

Life was good. The boys spent their days playing in the water and maintaining their new dam and tiny lake. There was even enough water to irrigate the sweet corn, tomatoes, and purple hull peas in their grandparent's garden.

Summer began to fade, and it was time to go back to school. The heavier fall rains washed away the summer dam, but it became summer tradition to build it back year after year.

Each year in May, when their mom declared it to be barefoot weather, the work began. Each year the dam would be a little higher to accommodate the boys' growing frames. The annual dam project was finally abandoned as the brothers got older and their mother lifted the ban on strip-mine swimming.

The boys learned much about dam building, common sense, and cooperation. One brother became a mechanical engineer, one became a counselor, and the other became a lake manager with the U.S. Army Corps of Engineers.

As I stood at the Tenkiller work site the other day watching the dam building, I realized that the young boy was still with me. He is forever clad in his summer cut-offs, and is always excited and anxious to see the dam building and waterworks. He stands here inside me just behind my weathered face. He looks out through my eyes with awe and wonder at the dam building before him and remembers his work some 40 years ago.

I'm sure that I'll take him to the auxiliary spillway site many times during its construction to let him see its progress.

Or, maybe I should say that he will take me.

(Dan Bentley is the Tenkiller Lake Manager.)

Dan Bentley at the Tenkiller auxiliary spillway project. (Photo courtesy of Tulsa District)

HR corner

Board reviews Corps training, development

By Francis Nurthen
Headquarters

The U.S. Army Corps of Engineers (USACE) established the USACE Learning Advisory Board (ULAB) to review the adequacy of training and development within the Corps and to ensure it is properly aligned with the USACE Vision and Strategic Goals.

Composed of general officers and senior executive service leaders Corps-wide, the board will delve into such 21st century challenges as the aging work force, baby boomer retirement, and doing a better job of providing developmental opportunities as motivational incentives for employees.

The ULAB provides a higher level of emphasis on employee development, said Dr. Susan Duncan, Director of Human Resources, who co-chairs the Learning Advisory Board along with Brig. Gen. Pete Madsen, South Pacific Division commander.

Madsen believes in the value of employee development programs and says the ULAB will assist USACE in becoming a "learning" organization attuned to improvement in business practices, learning from customers, and from one another.

The work of the ULAB is essential to both recruiting and retaining a quality workforce, said Gary Andrew, Chief of the USACE Professional Development Support Center and executive secretary of the ULAB.

During the May ENFORCE discussions about creating a learning organization, Duncan and Madsen described the leader's role in creating a learning organization as designer, teacher, and steward who can build shared vision and challenge prevailing mental models.

ULAB members see leaders as those responsible for building organizations where people are continually expanding their capabilities to shape the future. "Ultimately, leaders are responsible for learning and for creating the learning environment." Duncan said.

The USACE Learning Advisory Board will meet quarterly. Look for future reports of their activities both on the web and in this publication. If you have any topic or suggestions for the ULAB, please feel free to contact Gary Andrew by e-mail, or at (256) 895-7400.

Around the Corps

Air Force awards

The Air Force has named ***Seattle District*** as its Design Agent of the Year. The nomination came through Air Combat Command, and the awards ceremony will be in August in Washington, D.C.

The Air Force honored the district for exceeding design milestones on complex and high-visibility construction projects valued at $23 million, for its commitment to deliver projects for the original budget without design cost growth, for completing design below cost on or ahead of schedule, and fostering a strong team environment.

The district also mastered an innovative design-build technique that allowed the team to involve stakeholders early. The parties developed design criteria into a comprehensive Request for Proposal that is ready to award within five months of initiation, less than half the normal time required.

The team at the ***Mountain Home Resident Office*** was recognized for developing a strong team environment and relationships. They conduct monthly line-item reviews, where action plans are developed to address design issues. They hold project-specific partnering meetings on all large projects, adopting a life-cycle management style that keeps design personnel engaged throughout the project's duration.

The Air Force named ***Joel Rogers*** as Civilian Project Manager of the Year in Construction. Rogers was selected for consistently resolving complex problems, for effective listening skills, and for using all the tools of the trade to ensure fiscal responsibility.

The Air Force named ***Colleen Chamberlain*** of Far East District their Civilian Project Manager of the Year in Design. In August Chamberlain will be recognized in an awards ceremony in Washington, D.C. This award is given to the person who provided the best management in project execution during the previous fiscal year.

"I was fortunate to win because of the generous people, team environment, and the 'can-do' attitude of FED," Chamberlain said. "I've worked as a project manager in other districts, but I've never worked with a better team of professionals. Fast-track execution is one reason that makes working in FED different. Because our work supports frontline U.S. servicemembers, we have to execute quickly. What I learned in FED in one year would take a PM three years to learn stateside. FED has also just developed the first interactive LAN-based Project Management Business Process Manual. It makes the learning process easier and quicker for all functional staff. Also, the Korean culture is centered around teamwork and the willingness to do what's needed to get things done."

Correction

The correct address for the USACE-wide Registry of Skills reported in the March *Engineer Update* is https://ros.usace.army.mil:8096.

Architects convention

About 75 USACE architects joined 17,000 attendees at the 2001 American Institute of Architects (AIA) National Convention and Expo in Denver May 14-20.

USACE events included meetings of the Architectural Design Advisory Committee and Facilities Standardization Committee, and the USACE Architects Training Workshop with Maj. Gen. Milton Hunter, Deputy Chief of Engineers, as keynote speaker. AIA events included the day-long AIA Public Architects Training Workshop, the Federal Agency Interview Program, and the AIA convention itself, which offered more than 155 seminars. The design and construction expo featured more than 600 exhibitors.

Leadership award

The Dallas/Fort Worth Federal Executive Board presented Deborah Perrin from the Fort Worth District the Outstanding Leadership award during its annual Public Service Excellence Awards Program ceremony.

The group honored Perrin for her extensive positive leadership impacts on Fort Worth District's culture, her ability to supervise and lead a diverse technical staff, and her dedication to mentoring and employee development.

Perrin chairs Southwestern Division's Emerging Leaders Program, has been a member of Fort Worth District's Commander's Advisory Board, and spearheaded the district's new Leadership Development Program.

A Shinto ceremony opened the Yano Fitness Center at Camp Zama, Japan. (Photo by Doyal Dunn, Japan Engineer District)

Yano Fitness Center

A Shinto ceremony asking the gods and the warrior spirit of Sgt. 1st Class Rodney Yano to bless those who use the facility highlighted the opening of the Yano Fitness Center at Camp Zama, Japan.

The 63,000-square-foot building features a 25-meter heated pool, a children's wading pool, a solarium, a weight training area, a cardio room, saunas, a whirlpool, three racquetball courts, and a gymnasium capable of hosting three basketball courts. The 17th Area Support Group outfitted the facility with new equipment.

The center was dedicated to Sgt. 1st Class Rodney Yano, who was posthumously awarded the Medal of Honor for gallantry in action in Vietnam. A park in Hawaii, the helicopter school at Fort Rucker, Ala., the Library and Ed Center at Schofield Barracks, Hawaii, and a U.S. Navy vessel also bear Yano's name.

Hoge Award

Eric Halpin, the Installation Support Manager for Savannah District's Fort Bragg Engineer Team, won the Nick Hoge Professional Essay Competition for 2000. The award was presented at a ceremony on May 3.

Halpin won for his essay titled "Outsourcing and the Commercialization of Army Values." It can be read on Civilian Personnel Online at http://cpol.army.mil/.

Halpin performs on-site project management liaison between Savannah District and the Fort Bragg Public Works Business Center. Before this assignment he held similar positions at Fort Benning, Ga., and Savannah District. Halpin currently lives in Fayetteville, N.C., near Fort Bragg with his wife Susan, and their children Sean and Erin.

Three rivers

Managing the water resources of the American Southwest has always been a challenge for those who want to preserve the delicate ecology and breathtaking beauty of the arid region. During the 1990s, as development increased pressure on the urban environment, the value of previously untapped water and habitat resources became apparent to city leaders and planners.

Such was the case in Phoenix, where the Tres Rios Arizona Feasibility Study was conceived to restore wetlands and riparian habitat, provide flood control for a residential community, and create a recreational and educational network of open space and trails.

The Tres Rios (three rivers) project was named for the Salt, Gila, and Agua Fria rivers that run through Phoenix. All have played roles in the city's economic expansion, and each has borne the heavy price associated with industrialization and population growth.

"We have a degraded river channel that's been drastically altered by human activities," says Michael Langley of the environmental consulting firm of Jones & Stokes, which prepared the environmental impact statement for Los Angeles District. "There's been a lot of population growth, and the people would like to see the rivers restored as an amenity for the town."

The Corps had been studying the area since the early 1990s to alleviate water-quality problems. And when flooding occurred in Holly Acres in 1993, the Corps' involvement increased to find alternatives to bring the area into compliance with federal flood control mandates and water quality standards.

In 1996, when the Water Resources Development Act was modified to make ecorestoration a primary purpose, the Corps started a feasibility study to submit to Congress for project funding. Jones & Stokes studied a 5,600-acre site about 9.2 miles long and one mile wide. Besides the convergence of the three rivers, one of the city's wastewater treatment plants discharges about 150 million gallons of clean, treated effluent into the site's water each day. This effluent, plus some groundwater, will be used to re-create wetlands and riparian habitat.

Court ruling

The Federal District Court for the Southern District of Texas (Houston) has agreed with the position taken by the U.S. Army Corps of Engineers that the Corps has authority to work on the Trinity River.

A suit filed by the Sierra Club accused Fort Worth District of violating a 1973 injunction barring the Corps from taking any action on the Trinity River and Tributaries Project and any of its components, including the Dallas Floodway Extension Project. The Corps argued that in 1987, the Fifth Circuit Court vacated the 1973 injunction and dismissed the case, clearing the way for the Corps to reevaluate the Dallas Floodway Extension and proceed with a flood damage reduction project for southern Dallas.

In partnership with Dallas, the Corps is currently designing the Dallas Floodway Extension Project that includes a chain of wetlands and levees to reduce flood damages in southern Dallas. Construction is expected to begin later this year.

Still pending before the court is another suit that challenges the environmental and economic justification of the Dallas Floodway Extension Project.

Research award

A cartographer with the Topographic Engineering Center recently won an award in the Third Annual Graduate Research Exposition sponsored by the University of Maine (UM). Valerie Carney won for academic content in the Engineering Category.

Carney's poster submission "Improving Uncertainty Management Through Readily Accessible Metadata," describes the research and development of an integrated environment where links or relationships between spatial data and their quality-related metadata (descriptions of data sets) will be established. The linking of spatial data and metadata will allow users to easily access data quality information, plus the capability to automatically update metadata. This work will substantially improve existing GIS technology, giving spatial data users immediate access to up-to-date metadata.

Carney is pursuing a doctorate at UM's Department of Spatial Information Science and Engineering.

Be prepared to survive overseas

By Maj. Joe Szoboszlay
Headquarters

*(**Editor's note:** Many U.S. Army Corps of Engineers employees work overseas. While most are quite safe, there's a remote chance they might be caught by a crisis, disaster, or military action. This article details the experiences of one Corps employee. The events occurred more than 10 years ago, but the lessons still apply today.)*

Mohammad Khan of Transatlantic Programs Center (TAC) was working on the flight training center at Al-Jaber Air Base in Kuwait when the Gulf War started. He was the office engineer and second in command at the Kuwait Resident Office. The rest of the staff was two U.S. citizens and three non-U.S. citizens. All lived in Kuwait City, about 40 minutes from their work site.

Kuwait radio and television announced the Iraqi troop buildup on July 31, 1990, but there was no indication by either the Kuwait or U.S. governments that an invasion was imminent, so most U.S. and Kuwaiti citizens did not take the build-up seriously.

Except Khan.

On the evening of July 31, he phoned the Office of Military Cooperation (OMC-K) at the U.S. embassy in Kuwait, and was told not to evacuate.

Invasion

The first indication something was seriously wrong came about 2 a.m. on Aug. 1. Khan and his wife were awakened by sporadic automatic weapons fire in Kuwait City that continued for several hours. At 5 a.m., Khan called the OMC-K. To his shock, he learned that Kuwait had been invaded. All embassy employees, U.S. citizens, and contractors were advised to stay in their homes until they received further guidance.

Fortunately, the Iraqi forces did not immediately cut the local telephone service. Local calls remained operational for three days, although international calls were immediately severed by the Iraqi intelligence service.

The resident engineer was out of the country when the invasion occurred, so Khan had to assume responsibility for the safety of the others and their families. He used the notification roster to reach the other employees and, within an hour, had notified all employees including support contractors. He told them to cease operational work, remain home, and await further orders.

The next morning, Aug. 2, the OMC-K called Khan and asked him to report to the embassy. He did not see any Iraqi checkpoints that trip, since they were set up later. Embassy personnel issued Khan small amounts of cash and food. He returned home, called the other employees, and asked them to drive to his house where he doled out the food and money.

Increasing danger

By Aug. 5, Iraqi forces ended local telephone communication and set up checkpoints throughout the city. The most hazardous areas were near the foreign embassies. Initially, Iraqi checkpoints allowed free access to the embassies, but as the occupation continued, harassment at these checkpoints became severe.

Khan possessed a Pakistani passport (his country of origin), a U.S. embassy identification card, and a Corps identification card. He decided to destroy the Corps card for two reasons. The Iraqis were detaining all foreigners with U.S. Department of Defense connections, and the U.S. embassy in Kuwait did not recommend that American citizens or employees leave the country. For security reasons, Khan's decision was the right one.

On Aug. 5-20, each time Khan visited the embassy, harassment and interrogation by the Iraqis increased until he decided that more trips would be unsafe. His final guidance to other Corps employees was to evacuate Kuwait by any means possible. Communication between Corps employees was too dangerous to continue, and

Mohammad Khan was responsible for four other Corps workers and their families when the Iraqis invaded Kuwait 10 years ago. (Photo courtesy of Transatlantic Programs Center)

food and money supplies were virtually exhausted. Even local stores were bare due to looting by Iraqi forces.

For safety reasons, Corps employees could no longer stay in Kuwait. Even the commercial aircraft were destroyed at Kuwait International airport. Three options were available — escape to the Saudi Arabia border, escape through southern Kuwait, or travel north to Baghdad in Iraq. In Baghdad, they could try to obtain a commercial ticket to another country.

Escape to Baghdad

Weighing the three options, Khan and his wife decided to head for Baghdad. On Aug. 30, they drove out of Kuwait City. The first leg on the trip was successful. Upon arrival to Baghdad, Khan immediately went to the U.S. embassy and received additional money and food. The State Department advised him to attempt to leave the country by any means possible. At the embassy, security personnel gave Khan a fourth escape option — he could attempt to drive to Turkey and cross the border.

The $500 Khan received from the American embassy was enough to pay for hotel accommodations and food for three days. During this time, Khan tried to obtain exit visas for commercial travel to Jordan. Each attempt was unsuccessful due to Iraqi bureaucratic obstacles.

When their money ran out, Khan was forced to return to the U.S. embassy in Baghdad for more money and food. This occurred without incident.

A gamble

Khan decided that if he and his wife were to have any chance to escape, he would have to try something new. Using his fluent Arabic language skills, he learned that exit visas were done by phone calls between the airport ticket office and the Interior Ministry.

Khan and his wife returned to the airport and calmly and assertively told the ticket agent that the Interior Ministry had approved his request and he was there to buy the airline ticket. No double checks of his exit visa request were performed, and they escaped on a one-way flight to Amman, Jordan.

So what happened to the other Corps families? One family also escaped through Baghdad within three days of Khan's departure. Another family attempted to drive to Baghdad, but they were involved in a serious traffic accident and returned to Kuwait for treatment. They were released shortly afterwards, when Rev. Jesse Jackson flew to Iraq and secured the release of about 30 U.S. citizens.

Lessons

The experience of Corps employees caught in the invasion of Kuwait contains valuable lessons for those who might find themselves in similar situations.

Credit cards. In war zones, credit cards do not work and are not honored. Do not rely on plastic.

Vehicle travel. War zones will have military or security checkpoints. Each time you use your vehicle, you place yourself and your family in danger. You must carefully make the decision when to drive and when not to.

Security support. Security support to Corps employees varies from country-to-country. In some cases, Corps employees who are U.S. citizens are protected by diplomatic immunity, and they have black passports. If this is the case, the Embassy Regional Security Officer is responsible for your security outside U.S. military compounds. In other cases, the U.S. commander in the area is responsible for your security. Check with your security manager.

Also check the security support for Corps employees who are *not* U.S. citizens. In most cases, you will find there is *no* security procedure for non-U.S. citizens. If this is the case, work with your program manager through the installation and diplomatic security channels.

Non-combatant evacuation operations (NEO). All Corps employees working overseas must complete emergency plans. This plan will maximize your chances of evacuation and survival. Do *not* cut corners with the plan. For example, all NEO plans ask dependents to keep cash and food supplies at their residences. If you keep your money in a foreign bank or use a credit card, you will be cash-poor in a crisis.

Test your NEO plan. Overseas installations are required to test their evacuation plan yearly. Ensure that some Corps employees are involved in these exercises. Share the lessons-learned and improve your NEO plans. Ensure that NEO plans cover both U.S. and non-U.S. employees.

Communications. Most communications will be severed in an occupied country. Use any means (e-mail, home phone, cell phone, radio, Palm Pilot) to communicate with each other. Expect communication to be monitored; do not compromise the location of other team members.

If you cannot communicate two-way, have a radio ready and listen to BBC, Armed Forces Network, or other news media for current information. All radio traffic of the occupation forces should be considered suspect.

Passport. In most cases, diplomatic passports are not issued to Corps employees. If you by chance have a diplomatic passport, also keep a blue tourist passport in your possession. Embassies are often used for intelligence collection, so hostile countries often associate diplomatic passports with spies. If you have an official passport, your tourist passport may be safer to use. But you must decide which passport to present when the occasion arises.

Insurance. Carry enough insurance to cover damage or loss of your vehicle or house. Khan had to leave his new car in Baghdad. When he and his wife returned to Kuwait, they found their apartment ransacked and their belongings destroyed. But Khan's planning paid off, and he was reimbursed for most of his losses.

Teamwork. A consolidated effort will maximize your success. Have a leader to make decisions, and work as a team as long as possible. If your leader decides to break up the group into separate cells, make sure you have a plan.

During a war, disaster, or other crisis in a foreign country, you will likely be on your own. In most cases, the cavalry is *not* riding to the rescue. To survive, you and your family need to follow Khan's example — have a plan, and cooperate with the other Corps employees.

(Maj. Joe Szoboszlay is the Corps Intelligence Officer.)