

Products & Services



US Army Corps
of Engineers®
Far East District

GUIDE 2015-2016



www.pof.usace.army.mil

BUILDING STRONG IN KOREA !

What is it?

How does it work?

What assistance is available?

What does it cost?

Point of Contact?

04 Architect-Engineer Services

04 After Action Review

05 Biddability, Constructibility, Operability, and Environmental Reviews

06 Computer Aided Design and Drafting

06 Construction Surveillance

08 Charrettes

09 Planning Charrettes

10 Cost Engineering

11 Door to the Corps of Engineers

12 Environmental Project Services

13 Environmental Testing Services

13 Environmental, Health and Safety Training

14 Fire Protection and Life Safety

15 Force Protection Surveys

16 Geographic Information Systems

17 Geotechnical Engineering Services

18 Groundwater Resource Development

18 Indefinite Delivery, Indefinite Quantity Contract Construction

19 Installation Master Planning

20 Materials Testing Services

21 Project Management

22 Project Management Plan

23 Project Orders

24 Quality Assurance Services

25 Reimbursable Engineering Services

26 Supervision & Administration

27 Technical Design Review

28 Value Engineering Studies

29 Value Engineering Change Proposals

July 2015

The Far East District has a rich history and enjoys its reputation as one of the premier engineering organizations in the Pacific. We are committed to providing services and facilities that exceed our client's expectations. This Products and Services Guide outlines our most often requested capabilities.

Under our Project Management Business Process (PMBP) it is important that all team members, clients and FED employees have a broad working knowledge of what FED can do and be able to communicate it freely. No single listing would ever be complete; however this guide serves as a starting point to highlight those products and services we most often provide throughout Korea.

Every member of the FED team is an access point to the District. This reference identifies the most appropriate point of contact to answer initial questions or provide a link where you can obtain further assistance for your initiative. It allows those with the "what can FED do for me" question to quickly connect with someone knowledgeable and responsible in the particular area of concern. Each Products and Services category provides a brief outline of the type of assistance available, how to obtain it, and initial cost estimates.

With a complex mission of support to U.S. Forces Korea and a wide variety of mission specific clients, our intent is that the FED Products and Services Guide will serve you as one door to the Corps.

Architect-Engineer Services

What is it?

The Far East District uses Architect-Engineer (A-E) contracts to supplement our in-house staff to meet our customers' needs for design, studies, master planning, and construction management services.

How does it work?

You identify the basic requirements for services, provide us with funds, and request a contract. FED maintains pricing agreements with a number of A-E firms that allows a streamlined contracting process. When a contract is required for a particular project, there is no lengthy advertising and selection procedure. We select one of the A-E firms with whom we have a forward pricing rate agreement based on experience and workload among other factors and request a proposal. Since there is no need to reestablish basic rates every time, we only have to agree on level of effort for each contract action through negotiations.

Contracts for A-E services are generally firm-fixed-price (FFP) or indefinite delivery contracts (IDCs), depending on a project's size, complexity, and estimated cost. FFP contracts are awarded for large, complex, unique or high-cost projects, while IDCs are used for smaller, less complex, routine or lower-cost projects. Once a pre-design meeting is held, an A-E contract can be executed usually within two to four weeks depending on complexity of the design.

There are no limitations for FFP contracts for A-E services whereas IDC's have a maximum capacity of \$500,000 per task order (including any future modifications) and a cumulative maximum capacity of \$1 million.

What assistance is available?

The Project Manager assigned to your project will provide technical assistance in preparing project scopes.

What does it cost?

The procurement costs vary as a function of the size and complexity of the project and the contract type. Contact the POC with your specifics for further information.

After Action Review (AAR)

What is it?

The purpose of an After Action Review (AAR) is to determine whether the products and services delivered met or exceeded the quality requirements expected by the customer. The results of the AAR will be used to decide upon changes in our processes to assure continual improvement in the quality of our products and services. Evaluations and analysis on each project helps to ensure that the products and services provided to our customers continue to improve and our organization institutionalizes the lessons learned from previous projects.

How does it work?

The AAR recognizes what went well so that these procedures can be repeated in future projects. The AAR identifies what did not meet the customer's requirements or what needs correction. These items are analyzed to determine whether the proper process and procedures were followed and where changes should be made to improve future projects. The PM Process Team maintains a central database for Lessons Learned generated from each AAR. This database can be utilized when starting a new project and this institutional knowledge can be applied to future projects.

Biddability, Constructibility, Operability, and Environmental Reviews

What is it?

Biddability, Constructibility, Operability, and Environmental (BCOE) reviews are conducted prior to contract solicitation and award. The BCOE review is intended to ensure efficient construction that is environmentally sound, to ensure existing site conditions have been considered in the design, to minimize cost and time growth, to avoid unnecessary changes and claims, as well as to ensure safe efficient operations by the user. This review focuses on the ease with which the contract documents can be understood, bid, administered, and executed and how well the completed facilities can be operated and maintained.

How does it work?

BCOE reviews are emphasized throughout the planning and the design process. Normally, they are conducted at the 30 percent and 90 percent (substantial completion) design stages, with a final back-check review to ensure all comments have been resolved and that all corrections have been incorporated.

What assistance is available?

FED's Quality Assurance Branch is a multi-disciplined team of Mechanical, Electrical, Civil and Architectural engineers who are well versed in construction means and methods. Our expertise includes construction management, construction testing, and Contractor Quality Control, and Government Quality Assurance.

What does it cost?

The cost of a BCOE review is usually included in the FED management fees.

What assistance is available?

All PDT members, including the customer, are invited to participate in the AAR so that every perspective is represented in this evaluation and in recommending changes. Customer survey forms with written responses on each project are for overall analysis to identify areas to focus on for organizational improvement. These survey forms can be discussed at the AAR to obtain a better understanding of the customer's expectations for the project.

What does it cost?

There is no extra fee for conducting the AAR.

Computer Aided Design and Drafting

What is it?

The FED designers provide Computer Aided Design and Drafting (CADD) services focused to deliver optimum products and services to customers; delivering completed design projects according to the Architectural/Engineering/Construction CADD standard and assisting in the preparation of Electronic Bid Set (EBS). We can also help you with your particular needs to meet your own CADD and GIS system requirements and let you tap into the Far East District's full automation capabilities.

How does it work?

The Design Branch CADD Manager serves as the liaison to the Engineering Division Project Delivery Team member serving between offices and all elements of the design team including project manager, technical coordinator, functional chiefs, designers contacting officers and other team members with particular focus on compatibility with the installation's automation requirements. The PDT performs a variety of technical support duties required in the development and delivery of the Engineering Division planning, design, and execution of all in-house and Architect-Engineers (AE) projects.

What assistance is available?

Our FED designers are experienced in all phases of Microstation computerized drafting and design. They can produce drawings and renderings in both two and three dimensions and convert products from other formats, such as AutoCAD, to the Microstation format. Our FED staff is also experienced in producing electronic bid sets (EBS) from CADD drawings and electronic specification (SPECINTACT) files. EBS solicitations are currently utilized for all construction projects designed by in-house forces as well as those prepared by our SOFA Architect-Engineer firms. EBS reduces reproduction, labor, packaging, storage, and mailing costs.

What does it cost?

CADD engineering design support, including EBS preparation, is primarily funded by direct project funding and is already included in the project design cost. Costs for the preparation of CADD products not generated by a project design vary with the complexity and requirements of the project. FED is prepared to provide a comprehensive scope of works and fee proposal for specific CADD support projects on request.

- LPP In-kind (Land Partnership Program)
- YRP (Yongsan Relocation Program)

How does it work?

The Far East District has field offices on major U.S. military installations throughout Korea. The District's construction representatives at these installations coordinate contractor access and permits, and provide surveillance through on-site quality verification inspections to ensure the construction meets U.S. safety and quality standards. The field offices also provide follow-on warranty assistance and coordination with MND and their contractors. In addition, FED field offices work with the using agency and MND to implement changes to improve the projects as well as money saving ideas. No construction management is provided; just inspections to ensure compliance with agreed design and safety standards and:

- Resolves quality, safety and design issues early and at appropriate levels to prevent delays in project completion
- Reduces use of O&M dollars to fix or maintain a Host Nation constructed facility

What assistance is available?

The Far East District responsibilities include:

- Monitoring of construction to ensure compliance with design, sound construction practices, and safety standards
- Coordination and resolution of any quality or safety issue with ROK Ministry of National Defense (MND)
- Approval of shop drawings and materials submittals
- Coordination between MND and installation during construction
- Monitoring operational testing conducted by MND
- Conducting preliminary and final inspections in coordination with the MND and the service sponsor representatives
- Tracking correction of deficiencies
- Transmitting as-built drawings to service representatives
- Acting as the single POC with MND on construction matters
- Assisting the services in exercising warranty agreements

What does it cost?

The Far East District conducts construction Surveillance as part of services provided in support of the Host Nation funded construction program in Korea. Costs for these services are funded by Planning and Design funds.

- CDIP: - FED receives three percent of annual CDIP Programmed Amount (generally) for construction surveillance
 - MILCON Planning & Design funds are provided to FED by HQ USACE (called Host Nation Support)
 - Army programs these Host Nation Support MILCON P&D funds for all services' HNFC projects
- ROKFC In-Kind: FED receives three percent of PA from MND
- LPP In-Kind: FED receives two percent~three percent of PA from MND
- YRP: FED receives 1.6 percent from MND

Construction Surveillance

What is it?

Construction surveillance is required for all Host Nation construction in accordance with DoD Directive No. 4270.34, dated January 12, 2005.

Construction surveillance is provided by FED on the following Host Nation construction programs:

- CDIP (Combined Defense Improvement Project)
- ROKFC In-kind (Republic of Korea Funded Construction)

Charrettes

WHAT IS IT?

The charrette process is focused planning and an intensive on-site decision-making session. A facilitator leads a team of interested stakeholders to concentrate their efforts on specific design problems and arrive at solutions during each session. A project design team remains on-site for the duration of the charrette. This team accomplishes four main goals:

- (1) All those influential to the project develop a common vested interest in the design and support its vision;
- (2) The input of these players is documented during each session, which later eliminates costly redesign and the need for prolonged discussions that often delay design reviews;
- (3) The team members work in a complementary fashion to develop a product that addresses all aspects of design;
- (4) A better final product is obtained more efficiently and cost effectively. The charrette process can be used to develop programming documents, parametric designs and concept designs.

HOW DOES IT WORK?

In the process of developing the Project Management Plan (PMP) the project delivery team (PDT), including the customer, will agree upon the strategy for design and whether to use the charrette process. The requirements for a charrette will be included in the design scope of work. A topographic survey and soils analysis should be accomplished before the charrette. A place is arranged near the project site to assure the participation of the stakeholders. A Partnering Agreement is signed by all participants, which records all the requirements and agreements made during the course of the charrette, and the plans upon which the final design will be accomplished.

WHO IS INVOLVED?

The stakeholders include all members of the PDT as well as those with a vested interest and are empowered to make decisions for the project. Stakeholders should include at least the commander of the unit that will use the completed project, installation engineer, using agency, master planner, fire chief, utility chiefs, and representatives for communications, force protection and security.

WHAT DOES IT COST?

The extra cost for a charrette depends on the type of charrette, the size and complexity of the project, and the involvement of specialty consultants. For most design projects this extra cost is only for the facilitator and the TDY costs of the designers. The costs to gather information and produce a concept design during a charrette are not extra costs, because they would also be included in a design without a charrette. The costs for a charrette are itemized in the Resource Plan of the PMP.

Planning Charrettes

WHAT IS IT?

It is a workshop to produce a draft DD Form 1391 programming document ready for the installation commander's signature and certification by the customer's Major Command (MACOM), the U.S. Army Information Systems Engineering Command (USAISEC), and the U.S. Army Corps of Engineers Major Subordinate Command (Pacific Ocean Division), and Headquarters, U.S. Army Corps of Engineers (USACE). DD Form 1391 is not only a requirement for proposed Military Construction, Army (MCA) and Army Family Housing (AFH) projects, but is also required for Host Nation Funded construction.

HOW DOES IT WORK?

FED schedules a charrette per the MACOM's request to develop DD Form 1391. User needs and expectations (defined as functional and technical requirements) are accurately documented, the facility and site requirements are described in sufficient details to develop a project scope, and a reliable project cost is developed based on the requirements. The ECB 2002-16, DD Form 1391 Preparation Planning Charrette Process is followed to establish the wide variety of responsibilities and roles.

WHO IS INVOLVED?

The participants are an interdisciplinary team of stakeholders brought together to reach consensus on the site, scope, and cost estimate for a project. There is broad participation by the user, installation staff, FED staff, technical criteria specialists, and others with vested interest in the success of the project.

WHAT DOES IT PRODUCE?

The deliverable is a complete draft DD Form 1391, to include Tabs A through J, ready for the installation Commander's signature and certification by the customer's MACOM, USAISEC, POD, and USACE.

WHAT DOES IT COST?

The cost depends on the amount of effort required to complete the desired product. It will vary depending on scope and complexity of the project at-hand. FED and A/E labor costs for the charrette are funded by Army appropriation P&D funds (Planning & Design) for Military Construction Army (MCA), HNFC funds for Host Nation Funded Construction (HNFC) projects, or Operation and Maintenance Army (OMA) funds for O&M projects.

What is it?

The Cost Engineering Section Branch prepares construction cost estimates of all types ranging from budgetary estimates based on very little design detail to formal government estimates. Estimates include DD Forms 1391, ENG Forms 3086, parametric cost estimates, as well as detailed cost estimates. The Cost Engineering Section Branch also prepares estimates for firm fixed-priced contracts, indefinite delivery/indefinite quantity contracts, best value contracts, construction contract modifications, and delivery orders. The Cost Engineers have extensive experience preparing estimates for Yongsan Relocation Program (YRP) 30 percent Criteria Packages, Republic of Korea Funded Construction (ROKFC) projects, as well as ROKFC In-Kind, and Land Partnership Plan (LPP) In-Kind projects using the Korean Ministry of National Defense EMS 2005 computer-estimating program. Other services include, DD Forms 1354 (Transfer and Acceptance of Military Real Property), and Network Analysis Systems for construction scheduling and management. The Cost Engineering Branch routinely prepares cost and time studies and analyses, such as comparing the advantages and disadvantages of using different construction materials, equipment, and construction methods.

How does it work?

You identify your requirements, and we customize our assistance to meet your cost estimating needs.

What assistance is available?

Cost Engineers will attend meetings, conduct site visits, and do whatever is necessary to assist the customer define the scope of work of their project, and develop a reliable cost estimate. The Cost Engineering Branch will also work with the customer and provide the cost engineering services necessary to develop a successful project.

What does it cost?

Cost engineering services are based on the number of man-hours required to furnish the service and any incidental costs, such as travel. The amount of effort required depends on the size of the project, its complexity, and the number of submittals required by the customer.



DOOR TO THE CORPS OF ENGINEERS



What is it?

If you need Corps of Engineers expertise or assistance that is not available at the Far East District, then we offer seamless access to the services of the entire Corps, including Centers of Expertise and Laboratories. We will find the optimum way to provide Corps' support and arrange for assistance.

What does it cost?

Fees are negotiated based upon the actual products and services required, to include travel when needed. The Corps' Centers offer an initial one-day free consultation.

How does it work?

You contact us with your request for service, or ask for help to identify the Corps' capabilities. We then survey the Corps' Districts, Divisions, Centers and Laboratories to develop a Corps' proposal tailored to your needs. We help identify the products or services that you require, develop the scope of work, and arrange TDY support.

What assistance is available?

We offer you the synergy of the Far East District's engineering expertise and management services, supplemented with the specialized expertise and research capabilities of the entire Corps of Engineers. Links to the various Corps' web sites are available at: <http://www.usace.army.mil/>

- Engineer Research and Development Center
 - Topographic Engineering Center, Alexandria, VA
 - Cold Regions Research and Engineering Laboratory, Hanover, NH
 - Construction Engineering Research Laboratory, Champaign, IL
 - Coastal and Hydraulics Laboratory, Vicksburg, MS
 - Environmental Laboratory, Vicksburg, MS
 - Geotechnical and Structures Laboratory, Vicksburg, MS
 - Information Technology Laboratory, Vicksburg, MS
- Centers of Expertise
 - Army Range and Training Land Program (RTLTP)
 - Intrusion Detection Systems
 - Ordinance and Explosives Center
 - Protective Design Center
 - Transportation Systems Center (TSMCX)
 - Utility Monitoring & Control System (UMCS)
 - Aircraft Hangar Fire Protection
 - Mechanical Energy Systems
 - Photogrammetric Mapping
 - Seismic Mitigation & Hazard Reduction
 - Shared Energy Savings (SES)
 - Third Party Contracting (TPC) for Energy or Fuels

Environmental Project Services

What is it?

The Environmental Governing Standards (EGS) for U.S. Forces Korea require a variety of environmental concerns to be addressed. Safe drinking water, wastewater, hazardous wastes, asbestos, and underground fuel storage tanks all require constant attention. Spills and releases of regulated substances require rapid identification and assessment so that good decisions can be made to allow for appropriate mitigation and cleanup. Environmental issues such as soil and groundwater contamination from releases of hazardous chemicals or the presence of lead-based paint or asbestos in existing structures are concerns at USFK installations, which can impact design and construction of new facilities. Review and oversight of contractor environmental work requires specialists who are familiar with the EGS and the technologies available.

What assistance is available?

The Environmental Section consists of experienced environmental engineers, chemists, and geologists who are dedicated to providing professional environmental services to the District's supporting commands. The primary environmental missions are:

- Asbestos and lead paint surveys
- Preliminary assessments, site investigations, and environmental mitigations
- Groundwater monitoring and protection
- Consultation on environmental issues
- Preparation and review of plans, reports, and designs
- Surveys, plans and reports supporting Installation programs, such as cultural and natural resources

Depending on the size and nature of a project, the Environmental Section uses in-house staff, contractors, or a combination of both. The Section can provide in-house execution of projects based on a scope of work and fee proposal for a specific site. In-house capabilities include the sampling of soil, water, asbestos, lead-based paint, and hazardous waste, and construction of monitoring wells. The Section has the capability to analyze various media samples using a fixed laboratory or field screening methods. The Section provides thorough critical review of in-house and contractor plans and reports and works to ensure that the products fully meet the user's expectations.

What does it cost?

The cost for environmental projects is site dependent, with key variables being project site size, number and type of media of concern, and number and types of contaminants of concern. Environmental projects involve multiple disciplines, to include chemists, engineers, and geologists, and thorough scoping and planning to ensure objectives are achieved. The Environmental Section is available to provide a scope of work and fee proposal for specific environmental projects upon request.

Environmental Testing Services

What is it?

Material testing is an integral part of environmental projects. Identifying the type and concentration of contaminants of concern in various media on U.S. military installations is essential to ensure the protection of workers, USFK military, and civilian personnel, and for proper environmental stewardship of the installation. Reliable and high quality asbestos and chemical analyses are required for to support abatement actions, human health risk evaluation, and remedial action decision-making.

What assistance is available?

The Environmental Laboratory of the FED Environmental Section tests for asbestos in air and bulk samples in support of asbestos surveys and abatements. Phase Contrast Microscopy (PCM) and Polarized Light Microscopy (PLM) methods are used. Chemical testing identifies petroleum hydrocarbons and fuel-related compounds such as benzene, ethyl benzene, toluene, and xylenes (BTEX) in soil, water, and waste. Analyses are performed using state-of-the-art sample preparation and analytical systems. The Environmental Laboratory holds current accreditations with the National Environmental Laboratory Accreditation Program (NELAP) and the American Industrial Hygiene Association (AIHA). Analyses provided by our staff are typically used for time critical applications that cannot wait for results from US labs and those that require quality assurance of a contractor's performance. In addition to testing performed by our in-house laboratory, the Section utilizes qualified in-country and stateside contract laboratory services to meet diverse project requirements that may include a multitude of chemicals in various media.

What does it cost?

The cost for chemical testing varies based on media to be sampled, the tests required, and the turnaround time required for the results. Contact the FED Environmental Section for specific costs for analytical testing.

Environmental, Health and Safety Training

What is it?

Maintaining an adequately trained workforce is difficult for any manger but is particularly challenging for environmental managers in Korea. There is a myriad of OSHA and EPA required initial and refresher courses. Failure to receive and keep current with these training requirements may make employees ineligible and ill-equipped to perform their environmental-related duties. While these courses are offered frequently in all major U.S. cities, the training must be imported to Korea.

What assistance is available?

The District arranges for professional environmental, health, and safety training for District staff and opens this training to other organizations and SOFA contractors. Trained professionals are selected based on the quality of their training and expertise. Each spring, the Environmental Section organizes and sponsors classes in Seoul and other locations for HAZWOPER (Hazardous Waste Operations and Emergency Response), Confined Space Entry, and Asbestos Inspectors, Planners and Supervisors. Refresher classes are offered annually, and initial classes are offered according to the demand. All classes are offered in English and selected classes are also provided in the Korean Language subject to demand. Specialized courses are also brought in according to project requirements.

What does it cost?

Training costs vary from year to year and are based on the duration of the class and the expected number of students. For training schedules and costs, please contact the Far East District, Environmental Section.

Fire Protection and Life Safety

What is it?

The International Building Code (IBC), the National Fire Protection Association's National Fire Code (NFC), military codes, and the Fire Service Law of Korea set minimum building fire and life safety criteria and standards for construction on the peninsula. These codes apply to both new construction and existing buildings to differing degrees. Building life safety consists of design and construction features, active or passive fire protection, and other building aspects necessary to minimize the danger to life from fire, smoke, fumes, or panic. Minimum criteria for means of egress, number of exits, classification of occupancy, hazards of contents, fire barriers, fire escapes, door hardware, interior finishes, fire alarms, fire-suppression, emergency lighting, ventilation and numerous other code requirements must be considered in every design.

How does it work?

Call or e-mail to consult with us on any issue regarding the requirements and choices in the design of a project's life safety design features or passive or active fire protection systems. We also provide construction and installation support ranging from shop-submittal reviews to functional acceptance tests.

What assistance is available?

We can provide surveys, analyses, reviews, designs, testing, and inspections to determine compliance with the applicable codes and regulations. The fire protection engineers in Engineering Division have up-to-date knowledge of all applicable fire protection and life safety requirements and can readily provide evaluation and guidance. The fire protection team consists of one U.S. registered fire protection engineer (Regional Technical Center in Hawaii) an in-house Certified Fire Protection Specialist, and in-house Registered Professional Engineers. We also have established relationships with the Federal Fire Department and with the Korean Fire Department to facilitate problem identification and resolution. Depending on the scope and nature of the project, a review of fire protection will take just a few hours to a few days. An estimate of the time requirements will be provided quickly upon request.

What does it cost?

The cost for life safety and fire protection design and project reviews is included in the cost of the FED services. The cost for services not associated with the design or review of a project will depend on the complexity and size of the requirement.

Force Protection Surveys

What is it?

A heightened awareness of the terrorist threat has prompted the Department of Defense (DoD) to seek effective ways to minimize the likelihood of mass casualties from terrorist attacks against DoD personnel in the buildings in which they work and live. In order to address the Antiterrorism/Force Protection (AT/FP) requirements, DoD has established guidelines for construction standards to assets and protect personnel in all inhabited structures. Force protection surveys can identify requirements on your planned and existing facilities and infrastructure.

How does it work?

This DoD standard includes minimum construction requirements that will be incorporated into new construction and major renovations regardless of the threat level. These minimum standards involve requirements for sitework, parking, and roadways, building layout, superstructure, mailrooms, and mechanical and utility systems, including, but not limited to minimum standoff distances to controlled and/or no-controlled perimeters. Where minimum standoff distances are not available we can perform analyses to determine the wall, roof, window, and door requirements needed to withstand the overpressures and impulse pressures generated by the expected explosive weights. In the presence of specific threats we can provide a full range of services to identify and evaluate the consequences of the threat, determine vulnerabilities, and develop appropriate protective measures to protect assets from those threats. These measures could include any combination of active and passive vehicle barriers and construction to resist blast loads and/or forced entry. AT/FP is a growing issue worldwide and particularly for U.S. forces overseas. FED is prepared to undertake every part of the effort: training, studies and assessments, identification of vulnerabilities and consequences, and specific design and construction to protect your installation, facility, or assets.

What does it cost?

AT/FP is part of the project programming and/or design cost. Fees for non-design related work are negotiable based on project size, scope, and complexity.

What is it?

A geographic information system (GIS) is a computerized system for the input, storage, management, analysis, and presentation of geographically referenced data. A typical GIS is used to access and manipulate spatial imagery (e.g., existing condition maps, CADD drawings, and aerial photos) and related attribute data (e.g., fuel storage tank data). GIS applications currently employed by U.S. military organizations in Korea include facility management, master planning, and the management of engineering, environmental, real estate, range control, and cultural/natural resource data. The full power and efficiencies of GIS are realized when compatible software platforms and accepted database standards are applied, so that data can be shared seamlessly across organization lines. GIS users in Korea continue to collaborate and work towards ensuring and maintaining system compatibility.

What assistance is available?

The Data Management Section is dedicated to advancing GIS technology for both District and supporting command requirements. Expanded GIS resources are readily available through partnerships with other USACE Districts and Centers of Expertise (CX) and local contractor support. The Section has a Web-based GIS (ESRI ArcGIS Server) that is open to intranet users in the POD. The GIS presently includes these features for USFK installations: digital base maps, aerial photos, and satellite imagery; topographic and geologic maps; Global Positioning Satellite (GPS) coordinate bench marks; soil boring and water well data, and linked geotechnical and environmental reports. The Section periodically shares data and works projects with GIS counterparts at IMCOM, USFK, Air Force GeoBase, Area DPWs, Navy Public Works Officer, Training Support Activity in Korea, and the Public Health Command.

These GIS-related services are offered:

- GIS development and database updating for others.
- Expanding District GIS for posting of customer and project data.
- Sponsor GIS meetings and organize training courses.
- Promote GIS database standards and common methodologies.
- Remote sensing image acquisition and analyses.
- Special geospatial analyses and presentations.

What does it cost?

The cost for preparing GIS products varies with the complexity and requirements of the project. The Section is available to provide detailed scopes of work and fee proposals for specific GIS requirements on request.

What is it?

Geotechnical engineering is the application of soil and rock mechanics, engineering geology, civil engineering, and other related disciplines to engineering and environmental projects. It concerns the interrelationship between the geologic environmental and facilities being built. Geotechnical engineering is typically performed during these project phases:

- planning: anticipate the requirements for achieving stable and cost-effective construction
- design: perform site investigations and related geotechnical analyses
- construction: ensure that design recommendations remain valid for the actual ground conditions encountered

The geotechnical engineer analyzes ground support for building foundations, road and airfield pavements, underground facilities, and earthen structures, performs stability analyses for slopes and retaining walls, and determines drainage requirements for subgrade structures. Costly, post-construction foundation problems are avoided by performing adequate geotechnical engineering during the planning, design, and construction phases.

What assistance is available?

The Geotechnical Branch provides complete geotechnical engineering services in support of U.S. military construction projects in Korea. The Branch is staffed with experienced civil engineers, geologists, surveyors, materials engineering technicians and field personnel, performing foundation and pavement designs, topographic surveys, sub-surface exploration, geologic and geophysical surveys, groundwater hydrology, laboratory and field materials testing, and construction quality assurance. The Branch's Materials Testing Laboratory is Corps-validated to conduct tests on soil, rock, concrete, concrete masonry block, asphalt, reinforcing steel and other construction materials in accordance with standard testing procedures. The Branch operates state-of-the-art exploratory drilling equipment. Contract drilling, topographic surveying, and design options are available to augment in-house assets. The Environmental Section lends expertise on projects involving ground contamination issues. Stateside Corps resources are also utilized on projects requiring unique technical capabilities.

What does it cost?

The cost for geotechnical engineering services varies with the complexity and requirements of the project. The Geotechnical Branch is available to provide detailed scopes of work and fee proposals for specific project requirements on request.

Groundwater Resource Development

What is it?

An adequate and dependable supply of clean water is an operational necessity on U.S. Forces Korea (USFK) military installations. Water is currently supplied from either off post municipal sources or groundwater extracted from below the facility. Many USFK installations depend on groundwater to satisfy a significant proportion of their daily water requirements. However, over-pumping and the introduction of surface contaminants are compromising groundwater resources throughout Korea, to include aquifers beneath U.S. military bases. Ensuring a continued supply of potable water will be a major issue faced by USFK in the future. The development of finite groundwater resources must be planned and controlled to mitigate resource depletion and to avoid contact with sources of ground contamination.

What assistance is available?

The Geology and Hydrology Section has performed groundwater development on USFK installations since 1965. USFK expects FED to continue supporting both peacetime and mobilization water requirements. Groundwater resource development consists of these activities: evaluate potential well sites based on expected yield, environmental concerns, hydrogeologic analyses, and logistics; well drilling and connection into the local water distribution system; annual well maintenance; and periodic evaluation of total aquifer usage. In-house personnel fully equipped with state-of-the-art drill rigs and supporting equipment are used to perform well drilling and maintenance. The Section currently maintains 149 wells on 24 USFK facilities, and constructs new wells yearly to augment or replace existing wells. The 149 wells deliver approximately 9.6 million gallons of drinking water each day. The Environmental Section provides expertise on ground contamination issues and is involved in testing groundwater from newly completed wells. The USACE Center of Expertise at Vicksburg, MS (ERDC-WES) provides additional technical expertise in support of the District's groundwater development mission.

What does it cost?

The cost for groundwater development is site dependent, with key variables being well depth to achieve the desired yield, connection distance between well and existing water distribution line, and wellhead protection requirements. Annual well maintenance typically involves a two to three day effort per well by a maintenance team. Current charge rates for well drilling and maintenance are available on request. Groundwater development involves multiple disciplines (e.g., geologists, environmental specialists, engineers, and chemists), and requires advance planning and close coordination with installation personnel to ensure that project objectives are clearly defined. The Geology and Hydrology Section can provide a comprehensive SOW and fee proposal for specific groundwater development requirements on request.

IDIQ Construction

What is it?

IDIQ Construction is an indefinite delivery, indefinite quantity contract that can be used by installations to execute sustainment, restoration, and modernization projects. An IDIQ contract differs from a traditional construction con-

tract in at least two ways - it covers all types of construction, sustainment, restoration, and modernization projects and the contract is in place before the customer identifies specific requirements.

One of the benefits of IDIQ Construction is its ability to eliminate the time-consuming, costly aspects of separate contracts for each project. Also, because this is an IDIQ contract, the government is only obligated to award tasks in the amount of the guaranteed minimum. This provides the contractor with a continuing incentive to do timely, high quality work, since the contractor will continue to receive task orders only so long as their performance is satisfactory. As a result, response times are reduced and quality control is enhanced, leading to increased customer satisfaction.

Because of its ability to obligate and execute very quickly, IDIQ Construction supports budget crunches, emergencies and urgent situations, command priorities and year-end execution.

Prepriced items are limited to work plan fees, labor cost, overhead rates and escalation factors for option years. There is no unit price book – additional contract line items (CLINs) will be added to the payment schedule to be negotiated as task orders are finalized.

How does it work?

Three contractors competitively bid projects that are then accomplished through individual task orders issued under the successful bidder's contract. This eliminates the need for separate contracts and many of the detailed specifications and formal drawings normally required for each project.

What does it cost?

Each task order will be awarded on a negotiated, firm fixed price that is mutually agreeable. The prepriced work package fee is between 6 and 12 million won (\$6,500 and \$13,000). FED's in-house fees are approximately \$12,000, but may be higher, depending on the effort involved in assisting the installation with preparation of the scope of work.

Installation Master Planning

What is it?

The Far East District's planning professionals can help you prepare any aspect of master planning which includes analysis of facility and utility requirements, land use, site plan development, and DD Form 1391 project documentation for MILCON, Host Nation, and O&M/SRM funded Construction.

How does it work?

We help you to identify facilities requirements on your request and tailor the support from our capabilities, including:

- User and staff interviews
- Planning charrettes
- Site survey

- Economic analysis
- Cost estimate
- DD Form 1391 preparation in DD Form 1391 Processor-ready format

We submit the draft master planning documents for installation review and incorporate your comments then prepare DD Forms 1391 based on the approved master plans. We transfer the form to the installation engineer organizations for signatures and submission to higher headquarters.

What assistance is available?

We are available to conduct surveys for facility and utility requirements and provide technical reviews, gather data, and assist in the submission process. The Far East District experts work in close coordination with your programmers and complement your effort with our familiarity with the programming process. Once the master plan and programming documents are in your command chain we can access the forms for update by working through your installation planners.

What does it cost?

Rates are negotiated on an at-cost basis according to your requirements. A Master Plan and DD Forms 1391 can be prepared by our in-house staff or by an A/E firm at a slightly higher cost. A front page DD Form 1391 prepared by our in-house staff would normally cost between \$5,000 and \$10,000 per project. A planning charrette is required for full DD Form 1391 preparation in the DD Form 1391 processor-ready format. The cost would be negotiated based on the complexity of the project.

Material Testing Services

What is it?

Testing of soil, rock, concrete, concrete masonry block, asphalt, reinforcing steel, and other construction materials is performed during project design and construction phases to determine material engineering properties and to ensure compliance with project specifications. Testing is accomplished within a fixed laboratory facility and at the project site when in-place material engineering properties need to be defined. Typical applications for materials testing include: characterization of soil and rock during foundation and pavement design and environmental site investigations; road and airfield pavement evaluations; concrete and asphalt mix designs; slope stability and earthwork analyses; evaluation of borrow fill sources; and quality assurance during construction. Materials testing as performed in accordance with required testing standards and professional practice is essential to accomplishing quality design and construction.

What assistance is available?

The District Materials Testing Laboratory (MTL) is a Corps-validated operation that performs a wide range of physical materials testing for the design and construction of U.S. military facilities in Korea. Typical project testing includes soil classification, consolidation, and shear strength testing during design, and fill control testing (density, compaction,

and classification) and concrete strength testing during construction. The MTL also inspects and validates contractor quality control (CQC) laboratories during project construction. When potentially hazardous and toxic materials (e.g., fuel-contaminated soil) requires both physical and chemical analysis, the MTL coordinates with the Environmental Section for chemical testing by in-house or contract laboratory resources. Unusual testing requirements (e.g., alkali-silica reaction in concrete) can be accomplished using available stateside Corps and contract laboratories.

What does it cost?

The District MTL has established standard charge rates for each laboratory test and for technician labor in performing quality assurance field tests. Current MTL charge rates are available on request. The MTL often works in conjunction with other project activities within the Geotechnical and Environmental Engineering Branch, to include exploratory drilling for the recovery of subsurface samples. The MTL can provide a comprehensive scope of work and fee proposal for specific materials testing requirements on request.

Project Management

What is it?

Project management services are available to transform customer ideas into viable construction projects, engineering questions into detailed reports, and engineering requirements through the processes to completed engineering services.

How does it work?

You identify your requirements and request our services. A life cycle Project Manager (PM), with assistance from the entire Project Delivery Team (PDT), including the customer, will:

- Develop the scope of work and define customer expectations.
- Document the scope, schedule, cost, procurement strategy and PDT members in the Project Management Plan (PMP).
- Provide detailed design scope for the design contract.
- Negotiate design fees and award contract with qualified Architect-Engineer firm.
- Coordinate design submittals and review process.
- Monitor funding and allocation of resources.
- Perform regular line item reviews with the customer on the status of their projects.
- Coordinate the construction contract solicitation, evaluation and award process.
- Monitor construction progress, resolve issues and manage project changes through beneficial occupancy and warranty.

What assistance is available?

The Far East District has PM teams dedicated to serving each customer and location. A PDT is assigned to each project, and a PMP is prepared to document the customer's requirements. The project is executed according to the PMP and its approved revisions through all phases of the project.

What does it cost?

The cost for project management depends upon the size and complexity of the project. The Resource Plan in the PMP provides the detailed costs for each phase of the project.

Project Management Plan

What is it?

The Project Management Plan (PMP) serves as a planning, communications and quality management tool for a project. The PMP encompasses all aspects, phases and resources for the full life-cycle management of a project, and records the agreements made by the Project Delivery Team (PDT) members. A Program Management Plan (PgMP) serves the same purpose for managing a group of projects for a single customer.

How does it work?

A PMP will include at least the following:

- Title page
- Statement of project requirements
- Project scope
- Work breakdown structure (WBS)
- Resource plan
- Quality management
- Risk analysis
- Change management
- Project closeout
- Table of contents
- List of PDT members & stakeholders
- Project funding
- Project schedule
- Organizational responsibilities
- Acquisition strategy
- Safety & OH hazard analysis
- Communications

Other topics can be added to the PMP if agreed upon by the PDT, such as a contingency plan, value engineering, partnering, etc. The project will be executed in accordance with an approved PMP. When a change is required, then the PDT revises the PMP before initiating the change.

What assistance is available?

The PDT includes those that are responsible for the success of a project, including the customers, project manager, designer, design reviewers, contract specialists, construction project engineers and quality assurance representatives. Each PDT member is empowered to speak for their office, accountable for the quality of the products and services provided by their office, and expected to communicate with other PDT members for the efficient coordination of project actions with other offices.

What does it cost?

By jointly and thoroughly planning at the beginning of a project, the PMP can save money for the project by doing the right things the right way the first time. This is our way to assure a quality project at minimum cost. There is no extra fee for developing a PMP or PgMP.

Project Orders

What is it?

Project orders offer customers a simple tool for buying the services of the Far East District's in-house staff. Project orders can be accepted at any time, but are especially beneficial to customers at fiscal year end. You can obligate expiring funds to meet your bona fide needs and the Far East District can complete the work in the next fiscal year.

How does it work?

You identify your requirements on DD Form 448 (MIPR) and sign a statement certifying that the work is a bona fide need of the current FY. You assign a completion date for the project (such as September 30 of the subsequent fiscal year). The Far East District must produce the product or provide the service substantially in-house and start the effort within 90 days of acceptance of the project order.

What assistance is available?

Services that can be offered by our staff, include:

- All engineering and architectural services
- Cost estimating, including programming new projects
- Surveying
- Well drilling and well maintenance
- Environmental surveys and services

Limitations?

The following limitations apply to project orders as set forth in ER 37-1-26:

- Can not be accepted solely for AE design review.
- Can not be accepted for S&A on construction projects.
- Must be a legitimate bona fide need of the current fiscal year.
- Must be produced substantially in-house by the accepting Corps activity.
- Must have a definite completion date and funds to cover the entire project.

What does it cost?

Fees for District services are negotiable based on the scope of the project.

Quality Assurance Services

What is it?

Quality Management incorporates all activities necessary to achieve the product established by the contract requirements. Obtaining quality construction is a combined responsibility of the construction contractor and the government. Quality Assurance (QA) is the system by which the government fulfills its responsibility to ascertain that the contractor's quality control system is functioning and the specified end product is realized. QA services offered by FED include bid documents, shop drawing and submittal reviews, site visits, shop inspections and materials testing (water, paint and asbestos containing materials, asphalt, concrete, etc.).

How does it work?

The process starts well before construction and includes reviews of the plans and specifications for Biddability, Constructability, Operability and Environmental responsibility. The QA process includes concurrent reviews by field office and QA personnel as well as conducting plan-in-hand site reviews and coordination with using agencies. The QA process also includes preparation of QA plans, reviews of contractor quality control plans, enforcement of contract clauses, maintenance of quality assurance and quality control inspection and work records, and acceptance of completed construction.

What assistance is available?

The Far East District has Area, Resident, and Project offices located on Army and Air Force installations throughout Korea. The field office staff provides the basis for the array of QA services offered by the Far East District. Our successful experiences gained in the Host Nation and U.S. funded construction programs exemplifies the dedication of our pool of highly qualified professionals toward the full spectrum of Quality Assurance activities. In addition to the professionals in the field offices the Quality Assurance Branch located at the District compound provides additional support for the review of submittals as well as site quality assurance inspections. FED's Quality Assurance Branch is a multi-disciplined team of Mechanical, Electrical, Civil and Architectural engineers who are well versed in construction means and methods.

What does it cost?

The cost of QA services is included in the supervision and administration fees.

Reimbursable Engineering Services

What is it?

FED is not centrally funded (except for a few military positions). FED's only source of funding is from our partners who reimburse us for our engineering services on their design and construction projects. Over 500 Department of the Army Civilians and Korean National employees' salaries and other indirect costs are paid by the project funds provided during design and construction.

How does it work?

As a "full service District" FED provides all the services necessary for project management, studies, designs, design reviews, contracting, and construction. Typical project related services included in the project cost are:

- Safety and Occupational Health
- Resource Management
- Legal Counsel
- Public Affairs
- Information Management
- Topographic Surveys
- Soil Borings
- Materials laboratory testing for quality assurance
- Commissioning new mechanical/electrical systems
- Training for operations and maintenance of new systems

What assistance is available?

The full cost of a project is itemized in the Resource Plan of the PMP, to which the customer's concurrence is obtained before design begins on the project.

What does it cost?

Project initiation costs (seed funds) are requested to ensure funds are available to begin working on a new project. These funds are usually sufficient to attend a pre-design meeting at the project site, prepare the Project Management Plan (PMP) and design contract documents. Subsequently, we request the full amount of funds required to award the design contract and provide engineering and management services until the project is ready to be funded for construction.

Funds for Supervision and Administration (S&A) during construction are either set at a flat rate of 6.5 percent of contract cost for MILCON funded projects, 7.5 percent for O&M funded projects, and based on actual costs for other types of funded projects, such as NAF or ROKFC. The Information Paper on S&A provides more details on these services.

What is it?

The Far East District offers a full spectrum of construction management services: construction oversight, quality assurance and contract administration. Our area and resident offices carry out these services and are led by Area and Resident Engineers. These individuals serve as the onsite Administrative Contracting Officer with the authority to ensure contract compliance by the contractors. They are supported by their staff of project engineers, quality assurance representatives, and engineer technicians and are located on Army and Air Force installations throughout Korea. The Quality Assurance Branch and Construction Services Branch located at the District compound also provide support to the area/resident engineers in performing S&A duties.

What assistance is available?

We offer complete construction management services to include:

- Management and monitoring of construction schedules and budgets
- Development of scopes of work and cost estimates for delivery order type contracts (IDIQ)
- Quality assurance and safety site inspections
- Review of shop drawings and material submittals
- Change order development and negotiations
- Establishment of warranty procedures and assistance to services in exercising warranty requirements
- Coordination of installation and user requirements during construction

What does it cost?

Cost for S&A are charged either as a “flat rate” or “at cost” rate. The flat rate means that S&A income accrues as a percentage of the actual construction placement regardless of the actual cost of S&A for a particular project. “At cost” means the Corps is reimbursed for the actual cost incurred in performing S&A activities for a particular project. The Military Construction Program (MILCON) S&A rate is charged at a flat rate of 6.5 percent, the Operations and Maintenance (O&M) flat rate is 8.0 percent. Exempt projects such as NAF, DeCA, and ROKFC are examples of at cost programs; their S&A rates usually average around 6.5 percent, similar to MILCON, but may vary.

What is it?

Experience has proven that it is good engineering practice to ensure that all design packages have a technical review by independent professional architects and engineers to ensure that acceptable standards of quality are met and that the government receives maximum value for the costs incurred. These technical review services can be accomplished either by our in-house staff or Regional Technical Center.

How does it work?

Independent Technical Review and Quality Assurance processes are part of the Far East District Quality Management Plan, and included in our Engineering and Design services. Technical review can also be provided for designs, studies, and other documents prepared by other organizations on request. The scope of this review can be a complete design package or a specific area of project’s system.

What assistance is available?

FED will perform the technical review with experienced in-house staff, use to Regional Technical Center, or even call on Centers of Expertise (CX) in other Corps of Engineers Districts and Divisions if necessary. Technical experts will ensure life safety, fire protection, provision for the disabled, functional performance, structural soundness, sustainability design and development ratings, pleasing aesthetics, compliance with codes and criteria, accurate cost estimates, value engineering, bidability and constructability, compliance with statutory scope limitations, etc. are properly addressed in the design. The technical review of most projects or specific areas of design normally takes from just a few hours to a few days depending on the nature of the work, size of the project, and the quality of the design and documents provided.

What does it cost?

The review cost is normally included in the total cost of the FED services. The cost for independent technical reviews will depend on the complexity and size of the project.

What is it?

A value engineering (VE) study uses an established process to evaluate projects over \$2.0 million in total project cost for efficiency and to find alternatives for problem resolution. This process is designed to have team members quickly learn about the project or problem and produce viable alternatives and solutions through a creative atmosphere that results in a higher quality product at a lower life cycle cost.

How does it work?

Our VE teams follow the following six-step process when evaluating projects or problems:

- **Information:** The team reviews and defines the current conditions of the project and identifies the goals of the study.
- **Function Analysis:** The team defines the project functions using a two-word active verb/measurable noun context. The team reviews and analyzes these functions to determine which need improvement, elimination, or creation to meet the project's goals.
- **Creative:** The team employs creative techniques to identify other ways to perform the project's functions. further development.
- **Evaluation:** The team follows a structured evaluation process to select those ideas that offer the potential for value improvement while delivering the project's functions and considering performance requirements and resource limits.
- **Development:** The team develops the selected ideas into alternatives or proposals with a sufficient level of documentation to allow decision makers to determine if the alternative should be implemented.
- **Presentation:** The team leader develops a report and/or presentation that documents and conveys the adequacy of the alternatives developed by the team and the associated value improvement opportunity.

Implementation: When the study is complete, the Value Engineering Officer (VEO) sends completed proposals to the designers and customers to review and render final decisions on whether or not to accept the proposals. Once the decisions are made, the designers are instructed to incorporate the accepted proposals into the project's design.

What assistance is available?

The Value Engineering Officer (VEO) will help you set up and manage a study. The study team is normally comprised of members from your staff and specialists from USACE or industry.

What does it cost?

Cost of a study varies depending on how long the study is expected to be, team member composition, and study location. The VEO will help to prepare an estimate of the cost.

Value Engineering Change Proposals

What is it?

The value engineering change proposal (VECP) program allows construction contractors to propose VE changes to ongoing construction contracts. The VECP is prepared totally by the contractor with no assistance from the government.

The Federal Acquisition Regulations require that the government include the VECP clause in all construction contracts.

How does it work?

Contractors may submit a VECP at any time so long as the process will not delay completion of the project.

FED's technical professionals review the VECP and when it is found acceptable, the proposal is presented to the customer. If the customer accepts the VECP, the contract amount is reduced by 45 percent of the negotiated net savings.

What assistance is available?

The Value Engineering Officer (VEO) will assist customers with any concerns arising from VECP.

What does it cost?

Funding for the administration of the VECP process is already included in FED's contract administrative funds (S&A) provided by the customer at the award of the contract.



**US Army Corps
of Engineers®**
Far East District



www.pof.usace.army.mil



BUILDING STRONG IN KOREA!