The 2005 BRAC process led to major expansion and realignment of U.S. military installations, which meant significant demand for A/E/C services. Both the new the Armed Forces Reserve Center at Fort Hamilton, N.Y., (top) and the Fort Belvoir Community Hospital in Virginia were driven by BRAC.

With Change Comes Challenge…and Opportunity

In the post-BRAC environment, the military engineering community must adapt in order to continue providing essential support where it is needed next.

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Six years ago, the primary concern for the military engineering community was the environmental, design and construction support that would be needed to achieve the mandated deadlines of the 2005 Base Realignment and Closure Act (BRAC). With that effort complete, the architecture, engineering and construction (A/E/C) industry must adapt once again to continue providing essential support to the U.S. armed forces and our nation’s needs. Informed business decisions and the use of innovative tools and techniques will be essential to succeed in this environment—one dictated by a popular refrain: do more with less.

While the industry faces great challenges in the years ahead, there also will be unmistakable opportunities to improve the nation’s infrastructure, support its warfighters, optimize installation asset management and help develop new regions of interest.

PRELUDE TO CHANGE

From 2005 to 2011, the military engineering community surged environmental, design and construction services to assist the Department of Defense (DOD) in meeting multiple, time-critical missions. DOD engineering agencies responded magnificently, stretching to provide new facilities and infrastructure to accommodate BRAC, the growth of ground forces for two wars, and the global repositioning of U.S. forces.

This infusion of work came at a critical time for the A/E/C industry, which would find itself impacted by the Great Recession before the decade was out. Many firms entered the military engineering marketplace to offset the rapid decline of profitable opportunities in other markets. Often, these firms had little experience working with the U.S. Army Corps of Engineers (USACE) and Naval Facilities Engineering Command (NAVFAC) and their complex processes. Overcoming many challenges, the industry provided America’s armed forces with exceptional facilities, delivered in record time.

PRESENT CHALLENGES

The massive BRAC workload has been completed. The nation is extracting itself from war while reducing the force structure of the U.S. Army and U.S. Marine Corps. The focus has shifted to modernizing and recapitalizing weapons platforms, particularly for the U.S. Navy and U.S. Air Force, while “resetting” the Army and Marine Corps.

At the same time, Americans are realizing the adverse impact of an enormous public debt and the sacrifices needed to reduce current spending and pay down the balance. DOD is under pressure, given the size of its budget, to cut spending. The agency faces the possibility of even more draconian cuts if Congress fails to enact new fiscal controls. DOD leadership has chosen to significantly reduce the MILCON effort for some time, until force structure decisions can be finalized and the required infrastructure rationalized.

Maintenance and restoration programs
on U.S. military installations are significantly underfunded relative to documented needs. DOD’s ability to re-purpose existing facilities is limited by funding and policy constraints. USACE’s Civil Works program has a growing backlog of necessary maintenance and repair exceeding $60 billion, threatening the operation of the nation’s inland waterway systems. The tempo of military operations and demand for engineering and facility services will require careful master planning to ensure what can be done is done. The use of integrated asset management strategies to leverage limited resources will be crucial.

ADAPTING TO EXCEL

Federal engineering agencies are working to adapt to this fluid environment. Both NAVFAC and USACE are moving to “right-size” staffing in response to uncertainty in future workloads, though both foresee similar organizational structures in their future. The Air Force engineering community is making major changes, merging three field operating agencies into one to achieve greater efficiencies. The U.S. Coast Guard has completed a transformation of its shore engineering functions and soon may be called upon to provide more support to the Department of Homeland Security.

For DOD’s industry partners, a reduction in the volume of work combined with new operational imperatives means a reduced market for design and construction of facilities, and a shift to more specialized planning and asset management product offerings. The profitability of most architecture and engineering firms and design-build contractors will be increasingly dependent on sound teaming decisions and the development of strategic partnerships crafted for long-term mutual benefit.

DOD engineering agencies are looking for firms that understand their missions and operating constraints. For example, some DOD clients are being asked to rapidly provide completed facilities with limited prior planning and insufficient schedule flexibility. Successful firms and teams will be responsive and flexible, yet equally capable of delivering high-quality design and construction services quickly. Safety has become a critical success factor, and seen as an indicator of a well-functioning firm that delivers quality products.

OPPORTUNITY TRENDS

Following the major recapitalization of DOD installations by BRAC, the uniformed services must now maintain new facilities with reduced maintenance budgets and smaller public works staffs. Asset management techniques will need to be modeled on best practices in use by commercial, industrial and higher education clients. These tools offer advanced modeling of varying investment strategies for maintenance and renovation, which will yield predictive data for prioritizing resources and justifying future construction. Identifying and fixing the most mission-critical facilities first ensures warfighters will stay fully supported. These advanced tools also can be integrated with BIM, GIS and other database-driven tools to provide maximum situational awareness of facility condition and utilization.

Reducing energy consumption, water use and waste disposal are becoming significant operational constraints on DOD, leading to a push for Net Zero. The private sector can bring the latest high efficiency systems and best practices to military installations. And it can provide innovative, creative answers to reduce consumption.

The military engineering community’s ability to leverage private equity capital markets and bring turn-key solutions to DOD may be a viable alternative to some projects funded by MILCON and other appropriated capital funds. Industry can bring design-build-operate-maintain capabilities if the appropriate cash flow mechanisms can be identified and negotiated.

From a global perspective, the next decade will see completion of the widening of the Panama Canal, bringing new demands for improvements to U.S. ports. Approach channels and berths at major ports must be dredged to accommodate the draft of much larger, “post-Panamax” vessels. The military engineering community must integrate complex environmental, design and execution processes, while remaining sensitive to competition between the ports and states for limited federal funding. Achieving the maximum benefit for the U.S. economy and increasing national competitiveness also requires upgrades to transportation networks, as cargo moves by rail, road and inland waterways across the nation. USACE will be at the forefront of this national challenge, enabling environmental reviews, developing mitigation strategies and planning projects to support improvements to our ports and inland waterways.

At the same time, impacts of climate change are becoming more pronounced. U.S. infrastructure must be adapted to sea level rise and modified for greater resilience from more frequent and damaging weather events. Protecting the nation’s physical assets and its citizens from the adverse impacts of climate change requires the capabilities, innovations and cost-effective solutions that the U.S. military engineering community excels at delivering.

Climate change also is reducing pack ice in the Arctic. For the first time in recent history, the Arctic will be open to passage of commercial vessels and will see an increase in conflicting demands for resource extraction. The Coast Guard will expand operations into that region, where it will require new shore infrastructure to support a full range of missions.

The challenges and opportunities for our nation are increasing in number, complexity and scope. The robust capabilities and talent of our industry will remain central to America’s ability to meet these demands and provide the means necessary to negotiate this changing environment. We will once again lead the way to both defend and provide a better quality of life for our great nation.

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