Chapter 20

Civil Functions of the Department of The Army

I am firmly convinced that but for the existence of the Corps of Engineers peacetime organization and its resources of men, methods, training and supply and its close association with the military through the years, the history of the Pacific area in World War II would have been written more in blood than in achievement. GEN Dwight D. Eisenhower, Chief of Staff, U.S. Army Testimony before House Armed Services Committee on H.R. 3830, 1947

Section I
Introduction

20–1. Civil functions defined

A number of activities traditionally carried out by the Department of the Army (DA) are commonly referred to as civil functions. The most extensive of these functions is the Civil Works Program managed by the U.S. Army Corps of Engineers (USACE, or "the Corps"). The Civil Works Program focuses on responsible development, protection and restoration of the Nation's water and related land resources. Civil Works projects are implemented and operated for commercial navigation, flood risk management, environmental restoration, hydroelectric power, recreation, municipal and industrial water supply, and allied purposes. Civil functions also include USACE engineering and construction support to non-Defense-related activities of the Federal Government, State and local agencies; and USACE foreign activities not exclusively in support of U.S. forces overseas. Arlington National Cemetery and the Soldiers' and Airmen's Home National Cemetery complete the list of civil functions.

20–2. Authorization, congressional oversight and funding for civil functions

Financial and personnel resources associated with the Civil Works Program are principally authorized under Water Resources Development Acts (WRDAs) and funded by the annual Energy and Water Development Appropriations Acts - not the Defense appropriation. Program funding under these acts is generally $5 to $6 billion a year. Additional funds may be provided through Supplemental Appropriation Acts; one for FY 2009 provided over $5.7 billion for reconstruction and improvement of flood protection works in the New Orleans area, bringing the total estimated program for that year to above $11 billion. The Water Resources Development Act of 1986 and subsequent WRDAs require cost-sharing contributions from State and local government project sponsors for most Civil Works activities. USACE support activities for other, non-Defense agencies are reimbursed by those agencies - to include emergency response activities funded by the Federal Emergency Management Agency (FEMA). Congressional committees like the Subcommittee on Water Resources and Environment of the House Transportation and Infrastructure Committee (for the Civil Works Program) and the Subcommittee on Benefits of the House Committee on Veterans Affairs (for Arlington National Cemetery) provide legislative oversight. Although they differ from other Army programs in financing and oversight, the civil functions are an integral part of the overall mission of the Army and the service it provides to the Nation.

20–3. Relationship to warfighting competencies

The civil functions complement and augment the Army's warfighting competencies, providing the capability to respond to a variety of situations across the spectrum of conflict. They provide a valuable tool with which to support the National Security Strategy (NSS) by maintaining a trained and ready engineer force at virtually no additional expense to the DOD military budget and at minimum expense to personnel allocations. More than 3,000 Corps of Engineers employees in jobs funded by the Civil Works program have deployed for short tours in Iraq, Afghanistan and other overseas areas, many of them multiple times. Engineering expertise resident in the Civil Works program is also made available to combatant commanders through USACE's "Reachback" programs.

20–4. Leadership and organization

a. The Assistant Secretary of the Army (Civil Works). Through specific statutory provisions, General Orders from the SECARMY (SA), and internal DA regulation, the Assistant SECARMY (Civil Works) ((ASA(CW)) has been assigned responsibilities for civil functions. The ASA(CW) reports directly to the SA. Congress established the position of the ASA(CW) in Section 211 of the *Flood Control Act of 1970* , Public Law (PL) 91–611, and reaffirmed it in Section 501 of the *Goldwater-Nichols Department of Defense Reorganization Act of 1986* , PL 99–433. The *Goldwater-Nichols Act* specifies that the Assistant Secretary's duties include overall supervision of the functions of the Department of Army relating to programs for conservation and development of water resources, including flood risk management, navigation, environmental restoration and stewardship, and related purposes.

b. USACE. Most of the Army's civil functions are executed by the USACE, a Direct Reporting Unit consisting of about 600 military and 33,000 civilians, which also: 1) provides real estate services; 2) conducts research & development; 3) conducts planning & engineering studies; and 4) designs and builds military facilities for the Army, Air Force, other Federal agencies, and foreign governments. Approximately 300 military personnel and 23,500 civilian employees

in the USACE are involved in civil functions. The Chief of Engineers, who holds positions as both a principal HQDA Staff officer and a commander, commands the USACE. The Chief of Engineers and the Corps' Deputy CG for Civil and Emergency Operations report to the ASA(CW) on the Civil Works Program. Under the Chief's command are nine divisions, eight of which have Civil Works missions. Also part of the USACE are the Engineer Research and Development Center, two engineer centers, and one MTOE battalion-the 249th Engineer Battalion (Prime Power). Under the divisions there are 45 districts, 38 of which are within the United States. Division and district boundaries for the Civil Works Program within the CONUS generally follow watersheds and drainage basins, as shown in Figure 21–1. These delineations reflect the water resources mission of the Corps of Engineers. (Military Construction (MILCON) districts generally follow State boundaries.) The Corps also includes a number of overseas offices with missions in construction in support of U.S. Forces, assistance to other countries and international organizations, and support to other U.S. agencies. The Pacific Ocean Division, headquartered in Honolulu, Hawaii, includes subordinate districts in Hawaii, Alaska, Japan, and Korea. The North Atlantic Division includes the Europe District as well as five stateside districts. In January 2004, the USACE stood up the Gulf Region Division, with headquarters in Baghdad and three subordinate districts in Iraq. The USACE also stood up an independent district for work in Afghanistan. Several CONUS-based districts also carry out overseas missions, such as Mobile District's support of USSOUTHCOM. One of the engineer centers, the Transatlantic Programs Center, in Winchester, Virginia, oversees most Corps activities in Africa, and the Middle East (other than Iraq and Afghanistan). The other center, the Huntsville Engineering and Support Center, has a worldwide mission of providing engineering and technical services, including programs such as chemical demilitarization, and Cooperative Threat Reduction.

c. The role of the private sector. The private sector is an essential element of the Engineer team. Private construction firms carry out practically all of its construction work, employing about 300,000 people at a time on Corps activities. The Corps also employs private architectural, engineering and construction firms for over half of its design and all of its construction work. In FY 2008, the USACE let over $5 billion in contracts for Civil Works activities. Of this amount, $2.35 billion (46.7%) went to small businesses, including $737 million (14.6%) to small disadvantaged firms. The partnership between the USACE and the private sector represents a force multiplier of several hundred thousand architects, engineers, and builders, ready to support the Nation in times of emergency.

Section II
Civil works program

20–5. Civil works program activities

a. The program. The Civil Works Program provides for nationwide development and management of water and related land resources, including the planning, design, construction, rehabilitation, operation and maintenance of flood risk management, navigation, ecosystem and other environmental restoration, and multiple-purpose water resource projects. The Civil Works Planning function is the foundation of the overall Corps of Engineers Civil Works Program in the development and authorization of new water resources construction projects. Completed Corps projects may include hydroelectric power, water supply, recreation, and natural and cultural resource management. Collectively, they include approximately 12 million acres of land and water. In addition to this direct Federal investment program, the Civil Works Program includes an important regulatory mission in which the Corps regulates construction in navigable waters under the *Rivers and Harbors Act of 1899*. The Corps also regulates the deposition of dredged and fill material in waters of the United States, including wetlands, under the *Clean Water Act of 1972*. In addition, the Civil Works Program includes emergency flood fighting, recovery operations, and repair and restoration of flood control works — all performed under the USACE's own authority as specified in *PL 84–99.* USACE also carries out DOD's responsibilities under the National Response Plan (NRP) (see Chapter 23) as the lead planning and operating agent for public works and engineering (Emergency Support Function #3) (see Chapter 23), in support of the Federal Emergency Management Agency (FEMA) and other Federal agencies.

b. Funding sources. The Civil Works Program receives its principal funding through the annual *Energy and Water Development Appropriations Acts,* which include funds from the Inland Waterways and Harbor Maintenance Trust Funds as well as general revenues. The program also receives funding from non-Federal project sponsors who share in feasibility study and construction costs according to formulas established by Congress in PL 99–662, the *Water Resources Development Act of 1986*, and subsequent water project authorization acts. The Civil Works Program funding in FY 2008 totaled $9.469 billion. Of this amount, $5.592 billion was appropriated by Congress in the regular appropriation, $3.383 billion in Supplemental Appropriations - mostly for hurricane recovery; about $400 million by non-Federal project sponsors, $85 million from the Coastal Wetlands Trust Fund for work in Coastal Louisiana, and $9 million from license and use fees. This figure does not include $1.9 billion in reimbursable support to other agencies.

c. Economic infrastructure. (1)The USACE has been the Nation's major contributor to the development, construction, and maintenance of a sound water resources infrastructure. Commercial navigation and flood risk management are long-standing missions of the Civil Works Program. The navigation function includes improvement and maintenance of harbors handling all of the Nation's seaborne commerce and that of the Great Lakes. With funds from the Harbor Maintenance Trust Fund, the Corps maintains navigability in 190 harbors handling more than 250,000 tons of cargo per year, and 736 smaller harbors. With more than 15 million American jobs dependent on U.S. import and export trade,

the Nation's commercial ports are vital to the economic security of the United States. The Corps has built an intracoastal and inland commercial waterway network of 12,000 miles and over 241 locks and dams at 195 sites. Major segments of this network include the 1) Lower Mississippi River (1,015 miles); 2) Upper Mississippi River (936 miles); 3) Ohio River (981 miles); 4) Tennessee River (785 miles); 5) Missouri River (735 miles); 6) Arkansas and White Rivers (706 miles); 7) Columbia-Snake River System (468 miles); 8) South Atlantic Coast (1,111 miles); 9) Gulf Intracoastal Waterway (GIWW)-West (1,501 miles); and 10) GIWW–East (431 miles). Major improvements to inland waterway facilities are financed in part by the Inland Waterway Trust Fund. More than 600 million tons of commerce is moved every year on these waterways. Maintaining the system of ports and inland waterways involves removing more than 200 million cubic yards of dredged material each year USACE shares with the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), both the expertise and mandate to address the nation's vulnerabilities to flood related disasters and damages. Since passage of the Flood Control Act of 1936 established a federal role in flood management, the Corps' authorized responsibilities have expanded to include developing structural and non structural solutions to managing flood risks, inspecting the condition of existing flood management infrastructure, providing technical and planning support to states and communities, conducting advance emergency measures to alleviate impending flooding, and rehabilitating levees and other flood management infrastructure damaged by flooding. The Nation's $126 billion investment in flood control (currently termed flood risk management) (1928 through 2004, adjusted to 2004 dollars) has prevented over $801 billion in flood damages (again adjusted for inflation to 2004 dollars) - a return of more than six dollars in flood damage reduction for each dollar invested. Civil works projects seek to reduce flood-related damages with structural measures such as reservoirs, levees, improved channels, and floodwalls. Nonstructural measures, such as advice and encouragement for local zoning regulations, flood proofing of individual homes, and setting aside land in the floodplain as open space also contribute to this mission. Flood risk management efforts range from small, local protection projects to large lakes and dams. Today, 383 dams and reservoirs are maintained and operated by the Corps for the purpose of flood damage prevention. Since passage of the *Water Resources Development Act of 1986*, most of these projects have been constructed as joint ventures between the Federal Government and non-Federal sponsors. These projects, once built, are operated and maintained by the sponsor.(2)The Corps can provide flood management technical or emergency assistance through a wide variety of authorities and programs. For example, through its Flood Plain Management Services Program (FPMS), the Corps can provide information, technical assistance and planning guidance (paid for by the federal government) to states and local communities to help them address flood management issues. Typical focus areas are flood hazard evaluation, dam break analysis, flood warning preparedness, flood plain management and much more. In cases where flooding is imminent in a specific area, the Corps is authorized to take immediate advance measures to protect life and property, such as constructing temporary flow restriction structures and removing log debris blockages. The responsibility for managing the Nation's flood risks does not lie exclusively with Federal agencies, such as the Corps and FEMA. Rather, it is shared across multiple federal, state, and local government agencies with a complex set of programs and authorities, including private citizens and private enterprises such as banking and insurance industries, as well as developers. Both the Corps and FEMA have programs to assist states and communities reduce flood damages and promote sound flood risk management. However, the authority to determine how land is used within floodplains and enforce flood-wise requirements is entirely the responsibility of state and local government. Floodplain management choices made by state and local officials can impact the maximum effectiveness of federal programs to mitigate flood risk and the performance of federal flood damage reduction. However, the federal investment is protected by the execution of agreements between the federal and non-federal partners. (3)In November 2007, the Corps established a Levee Safety Program, an important step forward to ensure the public is aware of the risks associated with levees in Corps programs. The mission of the program is to assess the integrity and viability of levee systems and recommend actions to ensure these systems do not pose unacceptable risks. The main objectives are to hold public safety paramount, reduce adverse economic impacts, and develop reliable and accurate information. Within the program, a National Levee Database has been created to serve as a national source of information to facilitate and link activities, which include flood risk communication, levee certification, levee inspection, floodplain management, and risk assessments. The database presently includes levees within a Corps program or FEMA's NFIP. WRDA 2007 extended the Corps authority and allows the inclusion of all nonfederal levees on a voluntary basis. Also, a methodology for performing technical risk assessments of existing levee infrastructure is under development to serve as a consistent risk based framework to evaluate levees nationally. Additional activities within this program include the creation of national teams to focus on developing new policies in other areas concerning levee safety, such as inspections of existing levee systems, verification or establishment of existing geodetic control, minimum standards for new levee systems and interim risk reduction measures. Key policy issues in which close collaboration between the Corps, FEMA, and other stakeholders is necessary relate directly to the Levee Safety Program. Specifically, these areas include levee inventory, mapping the flood hazard, inspection and assessment of levees, operation and maintenance of levees, and emergency response and evacuations. The Corps operates 75 power plants, which represent almost one fourth of the Nation's hydroelectric capacity or three percent of the Nation's total power generating capacity. Dams built by the USACE provide water storage for drinking water, irrigation, and fish and wildlife habitat. Additionally, 423 of the projects mentioned above (mostly lakes) are developed for recreational use. These projects accommodate nearly 372 million visits a year. The Corps estimates that one in 10 Americans visit a civil works project at least once a year. Visitors to

these recreation areas generate 350,000 private and public sector jobs. USACE is the Federal government's largest provider of outdoor recreation, hosting 20% of visits to Federal recreation areas on 2% of Federal land. (4)The transportation infrastructure developed in the Civil Works Program plays a role in national defense. Ports and waterways serve as vital logistics links when large volumes of materiel and personnel must be moved around the country and around the world. The USACE works with the Surface Deployment and Distribution Command (SDDC) and local port authorities to ensure that ports are ready to support movement of military equipment and supplies when needed. This partnership was especially effective in moving nearly all the Army's equipment and supplies necessary for Operations *Enduring Freedom* and *Iraqi Freedom.* Waterways built and operated and maintained by the USACE similarly have direct military uses for strategic mobility. Units of the Texas, Oklahoma, and Arkansas National Guard have conducted successful movements over the Arkansas, Mississippi, and Illinois Rivers to their summer training sites, and the 101st Air Assault Division has conducted movements by waterway from Ft. Campbell, Kentucky to Louisiana. The USACE flood control projects also contribute to force projection by protecting important highway and railway links. Thus, through activities as diverse as facilitating the movement of materiel to protecting vital infrastructure, the Civil Works Program contributes to National security.

d. The environment.

(1) *Project activities and regulatory programs.* The Civil Works Program makes important contributions toward meeting the Nation's environmental goals by constructing projects for restoration and protection of ecosystem and other environmental functions and values. Much of this work proceeds in partnership with other Federal and State agencies or recognized American Indian Tribes, Alaska Natives, and local communities. In 2002, the Corps entered into a partnership with The Nature Conservancy to improve the management of U.S. rivers for restoration purposes while maintaining the projects' economic services. In addition, the Corps has agreements with the National Fish and Wildlife Federation and Ducks Unlimited to advance restoration of important ecological resources.

(2) *Project authorities.*

(a) Legislation passed in 1990 established environmental restoration and protection as one of the primary missions in the planning, design, construction, operation, and maintenance of water resources projects - equivalent to navigation and flood risk management. This new direction stimulated the Corps and its non-Federal project sponsors to plan and implement new projects with environmental restoration as a primary project purpose.

(b) Like other major Corps projects, Congress must authorize large restoration projects. In one of the largest environmental restoration and protection projects ever undertaken, the Departments of the Army and the Interior have been cooperating with the State of Florida to restore the hydrologic regime of the Everglades in South Florida. Congress approved the Corps' Comprehensive Everglades Restoration Plan as a planning framework as well in Title VI of the *Water Resources Development Act of 2000*, PL 106–541. The first feasibility study for a component of this project requiring specific authorization was completed in 2002.

(c) The Corps and the State of Louisiana are working together to restore and protect that State's shrinking coastal wetlands and stem an ongoing loss of 25 to 35 square miles per year. This ecosystem is vital to the Nation's environmental health for naturally filtering out water pollution and for providing critical winter habitat for 70% of the Nation's waterfowl. This ecosystem is also vital to the Nation's economy as the home of a major seafood industry. The wetlands and barrier islands also protect inland urban, industrial, and agricultural areas from hurricanes and coastal storms - including New Orleans and dozens of other communities that are home to a culture unique in America. Work in Coastal Louisiana took on added urgency after Hurricane Katrina focused national attention on the role of coastal wetlands in attenuating storm surge and wave action.

(d) In addition to specifically authorized projects such as the Everglades and Coastal Louisiana restoration projects described above, environmental restoration is accomplished through three programmatic authorities for small projects. Under Section 1135 of the *Water Resources Development Act of 1986*, PL 99–662, the USACE is authorized to modify projects it constructed earlier in the interest of making them "greener." Section 1135 also authorizes the USACE to accomplish environmental restoration when the original Corps project contributed to environmental loss. Section 204 of the *Water Resources Development Act of 1992* provided authority for beneficial uses of dredged material. This authority allows the USACE to use material from the dredging of navigation projects for environmental restoration. The third authority is Section 206 of the *Water Resources Development Act of 1996.* This provision established a program for Aquatic Ecosystem Restoration under which small projects may be constructed and no link to an existing Corps' project is required. Working toward a national goal of "no net loss of wetlands," the Civil Works Program is undertaking projects to restore existing wetlands and to create new ones.

(3) *Regulatory program.*

(a) The USACE's regulatory program has a long history of protecting the Nation's waters. The *Rivers and Harbors Act of 1899* authorizes the USACE to regulate, by permit, dredging, construction, and similar activities in navigable waters of the United States. A principal objective of this program is to ensure that waterways are improved and maintained for commercial and recreational users. Over time, the Corps' "public interest review" has become an important part of the decision process used by Corps district commanders in granting, modifying or denying permit applications.

(b) The *1972 Clean Water Act* authorized USACE to regulate, by permit, dredging and fill material discharge

activities in waters of the United States, including wetlands. This Act expanded the Corps' regulatory responsibilities beyond those contemplated in the *Rivers and Harbors Act of 1899.* Also, other environmental laws that were enacted at about the same time require Federal decision makers to consider and take responsibility for the environmental consequences of their actions. Section 103 of the *Marine Protection, Research and Sanctuaries Act of 1972*, as amended, authorizes the SECARMY to issue permits for the transportation of dredged material for ocean disposal. In its determination, the Corps ensures that the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological system, or economic potentialities. However, the Supreme Court has ruled that the USACE regulatory jurisdiction does not extend to all wetlands. Its *Solid Waste Agency of Northern Cook County* decision in 2001 excluded wetlands wholly within one state and not connected to a navigable waterway, while the *Rapanos* and *Carabell* rulings of 2006 required a "significant nexus" to a navigable waterway for the Corps to assert jurisdiction.

(c) Today the regulatory program consolidates the public interest and environmental consequence reviews into a comprehensive evaluation process for decision-making. The evaluation process promotes the balancing of environmental protection with responsible economic growth. In FY 2007, the Corps granted permission for nearly 53,500 activities in the Nation's waterways and wetlands. Of these, about 48,500 were permitted under blanket nationwide or regional permits for certain types of work; the rest required individual permits. The Corps required modifications at 2,500 of these projects, denied 406 applications, and saw another nearly 6,000 withdrawn by the applicant. The Corps regulatory program provides the public a valuable service - protection of the Nation's waters and wetlands.

(4) *Stewardship.* The Corps is steward for about 12 million acres of land and water in 42 States. Conservation of forests, range wildlife habitat, fisheries, and soils involves multiple use of resources and sound ecosystem management principles. The USACE accomplishes this through a mix of its own management capabilities, partnerships with State and local governments, volunteers, and working agreements with a wide range of interest groups.

(5) *Compliance.* The Corps conducts compliance assessments at all of its projects on a five-year cycle through the environmental compliance assessment program. The Environmental Review Guide for Operations (ERGO), the tool used to conduct assessments, is a checklist containing Federal and State environmental statutes and Corps requirements. Project and facility managers, as well as external organizations, use ERGO to systematically locate and correct environmental deficiencies.

(6) *Civil environmental activities' relationship to Army missions.* Environmental activities in the Civil Works Program are essential elements of the Army's Environmental Strategy for the 21st Century. People who learn their specialties in civil missions that concern natural and cultural resources, water quality, flood plain management or hazardous waste management help the Army go "beyond compliance" to take on a leadership role in natural resources stewardship. Civil works expertise helped the Army develop such tools as the Environmental Compliance Assessment System (ECAS) and Integrated Training Area Management (ITAM). The Civil Works Program is responsible for about half the Army's land holdings, and is familiar with balancing preservation of the natural environment with human use - a major issue facing the Army. This program is also the Army's reservoir of cultural resources expertise, which the Army has used on several priority missions.

(7) *Nonstructural Flood Risk Management.* In recent years the Corps has placed an increasing emphasis on nonstructural approaches to flood management. Nonstructural alternatives focus on efforts and measures to reduce flood damages in an area by addressing the development in the floodplain. Alternatives include such measures as floodplain zoning, participating in the National Flood Insurance Program (NFIP), developing and implementing flood warning systems (coordinated with the National Oceanic and Atmospheric Administration's (NOAA's) flood warning program) and emergency evacuation plans, and flood proofing individual structures as well as removing structures from the extreme flood hazard areas.

(8) *Environmental Operating Principles.* In 2002, the Chief of Engineers announced a set of Environmental Operating Principles to guide all the Corps' activities. The essence of these principles is that environmental concerns are integral to all Corps missions, decision-making, programs, and projects. They illuminate ways these missions integrate with environmental laws, values, and sound environmental practices, and serve as a roadmap for all USACE functional areas to follow in ensuring that the effects of their activities upon the environment are included in the decision process at the earliest possible juncture.

e. Emergency preparedness and disaster response.

(1) The USACE responds to the Nation's needs in case of natural or man-made disasters and emergencies. The USACE programs provide a wide variety of assistance to protect human life and improved property, reduce human suffering, help communities recover from the effects of disasters, and mitigate damage and future threats. Response and recovery activities supplement State and local efforts.

(2) Under PL 84–99, the USACE undertakes planning and preparedness activities for all types of natural disasters, and provides response and recovery activities necessitated by floods and coastal storms. The Flood Control and Coastal Emergencies (FCCE) appropriation funds all PL 84–99 activities. Included in these preparedness and response efforts are: 1) disaster preparedness measures; 2) advance measures to alleviate high potential flood threats; 3) flood fighting activities; 4) preservation of threatened Federally-constructed shore protection projects; and 5) life-saving rescue operations. Recovery and mitigation measures include repair and rehabilitation of damaged flood control works and shore protection projects or nonstructural projects in place of structural rehabilitation. PL 84–99 also authorizes the

USACE to provide emergency supplies of clean water to localities whose water source has been contaminated and to drought-affected areas. In addition, the USACE is authorized to provide essential services and restore essential public infrastructure for a period of up to 10 days in any area victimized by a natural disaster for which the Governor of a State has requested Federal assistance under the *Stafford Act* authority.

(3) Under The *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (42 USC 5121 et seq.) (88 Stat.143) (The *Stafford Act*), the USACE uses its engineering expertise and its response and recovery capabilities to carry out DOD's responsibilities under the National Response Plan (NRP) as the lead planning and operating agency for the Public Works and Engineering Emergency Support Function in responding to disasters and emergencies of all kinds. Under authority of the *Stafford Act*, the FEMA, now part of the Department of Homeland Security, has developed the NRP, which coordinates the execution of response and recovery operations of the 28 Federal signatory departments and agencies. Under the NRP, DoD has delegated its responsibility for Emergency Response Function (ESF) Number 3, Public Works and Engineering, to the USACE.

(4) As the lead DOD (and Federal) agency for ESF #3, the USACE has a number of standing missions, to include provision of water, ice, emergency power, debris removal, temporary housing, and temporary roofing. Other missions in the Public Works and Engineering area are assigned by the FEMA to the USACE, as needed. All of these missions are tailored to the needs of, and coordinated with the impacted State. FEMA funds all of these missions. Each mission assignment is based on the capabilities of the USACE, including its significant and responsive contracting capability. The Joint Staff, J–3, Joint Directorate of Military Support (JDOMS), coordinates DoD requirements not in the realm of ESF #3 missions.

(5) In response to the World Trade Center and Pentagon Terrorist Attacks of September 11, 2001, Corps emergency management personnel were on the scene within hours: providing structural engineers to monitor unstable buildings; supporting urban search and rescue work; providing a mobile command center and teams to support the New York Fire Department; and developing a debris management plan. Corps expertise was crucial in providing urban search & rescue, conducting structural assessments to determine when buildings were safe enough for rescuers and, later, determining when buildings were safe for occupancy. The 249th Engineer Battalion (Prime Power) provided the electric power that got the New York financial district back in business while Corps contractors removed 1.7 million tons of debris from the World Trade Center site and transported it by barge to the landfill in Staten Island. However, this work was similar to what the Corps does every year to support FEMA, State, and local authorities in natural disasters.

(6) In the aftermath of Hurricane Katrina on August 29, 2005, the USACE received over $4 billion in taskings from FEMA for recovery activities. A major success was the removal of nearly all floodwater from New Orleans and vicinity within 60 days - a task that many experts said would take well into 2006. Another major undertaking was the removal of 56 million cubic yards of debris - a figure eclipsing the record of 42 million cubic yards removed after Hurricane Andrew in 1992.

f. Homeland Security. The Corps has developed in-depth anti-terrorism/force protection expertise, including many skilled engineers with experience on Khobar Towers, in Oklahoma City, the World Trade Center, the Pentagon, and other sites. It leverages that expertise to protect critical water resources infrastructure from terrorists. Over past few years the Corps has been working with other agencies, including the Bureau of Reclamation, Department of Energy, TVA, EPA, and FBI to develop comprehensive security assessment processes to identify risks to critical facilities such as locks, dams and hydropower facilities. In the wake of the September 11th attacks, the Corps instituted increased protection measures at its projects. It restricted public access, increased standoff distances to critical structures, increased patrol activities and contract guard support, and increased coordination with local law enforcement.

20–6. Research and development (R&D)

a. The Army Corps of Engineers Civil Works Program pursues an R&D effort to take advantage of rapidly developing technologies and techniques that will promote significant monetary savings and greater reliability, safety, enhanced efficiency and environmental sustainability of its assigned civil works activities. The R&D program is formulated to support each of the assigned Civil Works missions and their supporting core of technical competencies , environmental restoration and stewardship, economics and decision support, cold regions engineering and dredged sediments management. Technology infusion is pursued, in conjunction with the Regional Business Centers and established Centers of Expertise as part of the Corps' overall efforts to maintain a trained and ready engineering force capable of responding to a wide range of contingency situations.

b. The Corps conducts Civil Works-related R&D through its U.S. Army Engineer Research and Development Center (ERDC) and its Institute for Water Resources (IWR). The ERDC is headquartered at the Waterways Experiment Station facility, Vicksburg, MS. It consists of seven individual research laboratories:

(1) Coastal and Hydraulics Laboratory, Vicksburg, MS

(2) Cold Regions Research and Engineering Laboratory, Hanover, NH

(3) Construction Engineering Research Laboratory, Champaign, IL

(4) Environmental Laboratory, Vicksburg, MS

(5) Geotechnical and Structures laboratory, Vicksburg, MS

(6) Information Technologies Laboratory, Vicksburg, MS
(7) Topographic Engineering Center, Alexandria, VA

c. The IWR is headquartered at Fort Belvoir, VA, where it provides economic and decision support-related R&D support. Its Hydrologic Engineering Center is located at Davis, CA.

Section III
Support to other government agencies

20–7. Overview of support to other government agencies

The USACE provides engineering and construction support to about 70 non-DOD Federal agencies, plus numerous State, local, tribal and foreign governments under the Interagency and International Services Program. Funds for this program are provided by the agencies receiving support. The USACE support of other entities' infrastructure programs includes support to the Department of Homeland Security by managing the design and construction of border control and detention facilities for the Customs and Border Protection Agency and emergency management assistance to the Federal Emergency Management Assistance Agency, construction of facilities in Iraq for the State Department, and renovation of health care facilities for the Department of Veterans Affairs. The USACE also supports programs and projects of other Federal agencies designed to meet important national environmental objectives. These include the Superfund Program of the United States Environmental Protection Agency (EPA) and the Formerly Used Sites Remedial Action Program for the Department of Energy (USACE receives direct Congressional funding for this program). Since September 11, 2001, the Corps infrastructure security support to others has increased.

20–8. Value of support activities

In FY 2008, the value of the engineering and construction effort managed by USACE was approximately $1.9 billion. Non-DOD entities having Corps support costing more than $40,000,000 in FY 2008 are listed in Table 21–1.

Table 20–1
Construction support for non-DoD Agencies

Major Agency Customer	Value of Support
Department of State (mostly Iraq construction)	$622,000,000
Department of Homeland Security - Border & Transportation Security (includes Border Fence)	$610,000,000
Environmental Protection Agency	$238,000,000
Department of Interior	61,000,000
Department of Energy	46,000,000

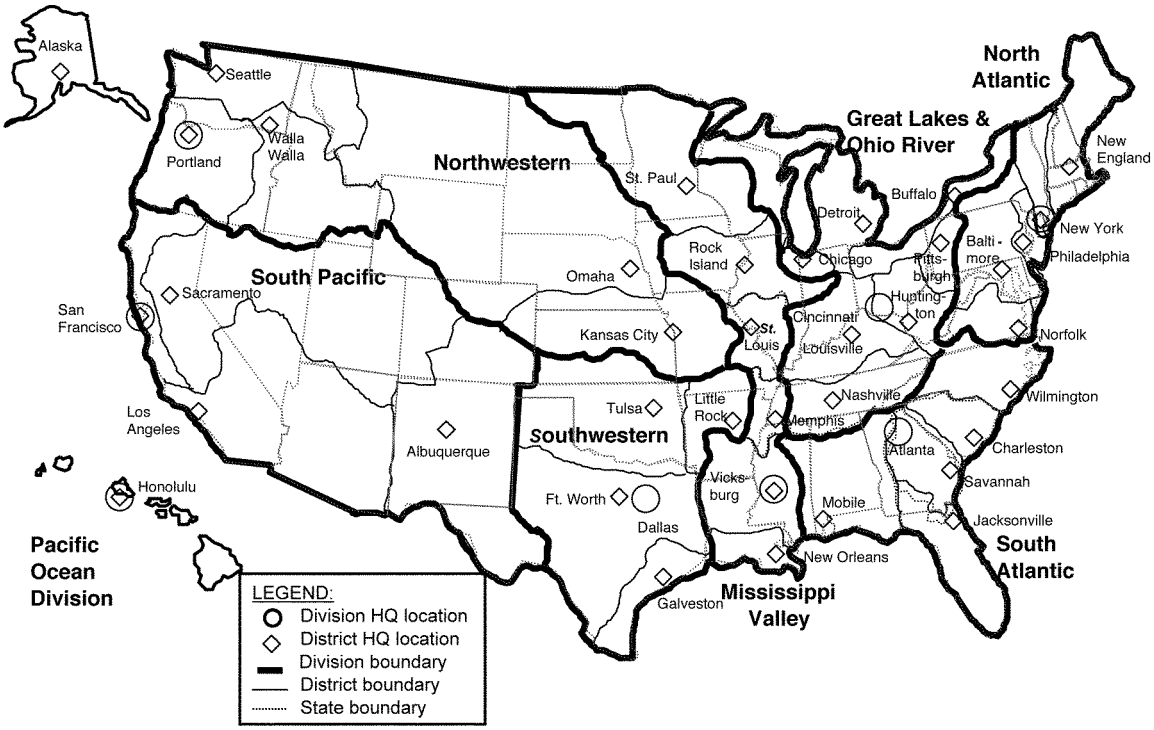

Figure 20–1. USACE division and districts with Civil Works missions

Section IV
National Cemeteries

20–9. Overview of national cemeteries

Since its founding in 1864, Arlington National Cemetery (ANC) has served as a place of honor and recognition for the men and women who have served in the Nation's Armed Forces. In addition to its principal function as a national cemetery, ANC is the site of approximately 3,200 non-funeral ceremonies each year and has approximately four million visitors annually. The Soldiers' and Airmen's Home National Cemetery, located in Washington, D.C., also provides a final resting place for those with military service. The Army takes pride in exercising its assigned responsibilities for operation, maintenance, and improvement of these cemeteries. The ASA(CW) formulates the program and budget, including memorials and monuments. The Assistant SECARMY (Manpower and Reserve Affairs) is responsible for burial policy. The Military District of Washington (MDW) coordinates official ceremonies and provides military honors for private memorial services and ceremonial support. The ANC Superintendent oversees day-to-day execution (including administration, operation, and maintenance) and is responsible for private ceremonies and public ceremonies other than those official ceremonies assigned to the MDW. The COE supports ANC by providing planning, engineering, construction management real estate, and environmental and cultural resources assistance for cemetery property and facilities.

20–10. Funding

The Army receives funds to operate, maintain and improve these cemeteries in the Cemeterial Expenses, Army, appropriations account. These funds are included in the Military Construction and Veterans Affairs and Related Agencies Appropriations Act. The $36.73 million appropriated by Congress for FY 2009 provides for a continuation of the high standards expected for these two important national cemeteries.

20–11. Long-term capital planning for Arlington National Cemetery

The development and improvement of the infrastructure at ANC is based on a 1998 master plan. This plan provides a vision of the cemetery's priorities and needs. The master plan identified projects and policies to respond to the challenges confronting ANC. These challenges include an aging infrastructure, declining availability of space for initial interment, and preserving the dignity and serenity of ANC while accommodating its many visitors. A ten-year Capital Investment Plan has been developed based on the master plan outline. The Capital Investment Plan, which is updated

periodically by an Army-ANC management team, guides investment planning and budgeting for construction and major maintenance projects at the cemetery as well as its operation and maintenance needs.

Section V
Engineer Overseas Activities

20–12. Overview of engineer overseas activities

The USACE conducts a broad range of foreign activities. Many are exclusively in support of U.S. forces overseas. All others are considered part of the civil functions of the Army. In coordination with the Director of Strategy, Plans, & Policy (Army G3/5/7), the ASA(CW) provides program direction to the foreign activities of the Corps, except those which are exclusively in support of U.S. military forces overseas. In FY 2006, the Engineers supported U.S. foreign policy in about 90 countries. The largest Corps overseas program is in Iraq, where, in addition to providing support to U.S. and coalition forces, the USACE is involved in restoring: Iraq's oil, electricity and other infrastructure; carrying out environmental work performing construction management for the U.S. State Department and the Agency for International Development (USAID); and providing advisors to ministries in the new Iraqi government. In Afghanistan, the USACE is involved in construction of roads and other civilian infrastructure as well as facilities for the new Afghan Army. The USACE support overseas includes constructing humanitarian assistance projects (schools, clinics, water wells, etc.) for the Combatant Commands, assisting the Millennium Challenge Corporation with major infrastructure projects and support to the US Agency for International Development, The USACE is also supporting US objectives by using its water resources expertise for capacity development for developing nations such as technical advice and consensus building for the Mekong River Commission and strategic water resources engagement with the Brazilian Army Engineers.

20–13. Foreign military sales (FMS)

As the DoD Construction Agent in many parts of the world, the Corps provides international security assistance to eligible foreign nations as an instrument of the NSS and DoD Policy. Under the authorities of the FMS Program, the Corps provides reimbursable design and construction services for defense infrastructure to eligible foreign nations as approved by the Deputy Assistant SECARMY for Defense Exports and Cooperation (DASA–DEC) and authorized by the Defense Security Cooperation Agency (DSCA). FMS assistance provided in FY08 to various countries in the Middle East, Central Asia, Africa, Regions had value of approximately $1 billion

20–14. Cooperative threat reduction

Working for the Defense Special Weapons Agency, the Corps is supporting the Cooperative Threat Reduction Programs in Russia. The work includes design and construction assistance for a nuclear storage facility. The current program is valued at approximately $600 million.

20–15. Partnership for peace

This program is an annual series of initiatives with Partnership for Peace (PfP) nations, focusing U.S. emergency management information know-how and the PfP Information Management System (PIMS) for use by evolving civil protection and civil defense structures of selected nations and their neighbors. Simultaneously, Civil-Military Emergency Planning (CMEP) facilitates the understanding of U.S. concepts and doctrine of military support to civilian authorities in an inter-ministerial and trans-boundary information-sharing environment. CMEP develops, through real time and tabletop exercises, co-operation at the provincial level for assistance in technological and natural disasters. CMEP establishes regional cooperation among emergency planners, creates common data bases for uses in catastrophes, acquaints high level decision makers with decision support tools, creates joint operational systems for national reaction centers and develops information exchange on legal and response procedures for large catastrophes with international implications.

20–16. Support for U.S. agencies

The Corps is also called upon to provide support for U.S. agencies overseas. For example, the Corps:

- Supports the United States Agency for International Development following natural and man-made disasters.
- Builds border facilities for the Republic of Georgia Border Guard and U.S. Customs and Border Protection.
- Provided hydrologic modeling training for Ethiopia and Kenya for Task Force Horn of Africa, technical.
- Performs government due diligence for major infrastructure projects funded by the Millennium Challenge Corporation.

Section VI
Support To Unified Combatant Commanders

20–17. Benefits to warfighting capabilities
The Civil Works Program provides the USACE with a unique capability in DOD. The USACE's extensive professional staff of engineers, scientists, economists, etc; provide the critical teamwork necessary to plan engineer infrastructure improvements and institution building at the national level. The training and experience gained from the Civil Works program is leveraged by the USACE's Field Force Engineering (FFE) capabilities to provide support to unified combatant commanders and their Army Component Commands. The infrastructure the engineers build provides the facilities and enablers for operations in the future. An excellent example is the infrastructure built by the USACE for the Government of Saudi Arabia in the 1970s and 1980s.

20–18. Overview of support to unified combatant commanders
Expertise in water resource development, flood risk management, waterway operations, dredging, coastal engineering, environmental stewardship, and disaster response supplement the skills maintained through the Army's MILCON and installation support programs. These expert capabilities are routinely called upon by the warfighting Combatant Commanders and other DOD agencies. USACE supplies this expertise on a reimbursable basis. When the Army goes to war, USACE personnel use the experience they have gained in the Civil Works and military programs to provide timely analysis and solutions to the war fighters. The USACE's knowledge of beach dynamics including the Sea State Prediction Models developed at the Engineer Research & Development Center's Coastal & Hydraulics Laboratory, Vicksburg, Mississippi, helps determine the sites for shore landings. When combined with its terrain mobility models, the USACE can provide commanders with the most effective plan for logistics-over-the-shore sites in combination with the inland road network to optimize reception, staging, and onward movement in the area of operations. Corps expertise in soil mechanics determines the best routes for armored vehicles. Often roads are built using technologies developed in the Civil Works Program. Corps experience gained from work on winter navigation helps the Army to cross frozen rivers. Commanders at all levels make use of geospatial products and satellite-based navigation systems developed at the Topographic Engineering Center at Fort Belvoir, Virginia.

20–19. Examples of support to unified combatant commanders
The USACE is supporting Operations *Iraqi Freedom* and *Enduring Freedom* in USCENTCOM on several fronts. The 249th Engineer Battalion (Prime Power), a unique strategic asset, provided stable electric power to U.S. and coalition forces on a daily basis in several austere locations in the area of operations. The USACE military and civilian personnel have deployed and provided technical assistance, and facility and camp designs for the warfighters. Corps teams in the USCENTCOM area of operations have supported the 101st Airborne and 10th Mountain Divisions as well as non-combat units such as the Combined Joint Civil Military Operations Task Force. Equipped with "TeleEngineering" kits, engineers anywhere on the battlefield were able to communicate real time to Corps experts through a secure, satellite-linked system. Their missions included runway repair analysis, structural evaluations, airfield lighting, and base camp design. Also noteworthy are the Contingency Real Estate Support Teams (CRESTs), who can deploy within 24 hours to acquire the troop housing, workspace, and covered storage areas the entering force will need. Corps real estate teams executed leases at various locations in Iraq, Kuwait, Afghanistan, Uzbekistan, and Kyrgyzstan. USACE also supports the Combatant Commands by performing exercise related and humanitarian assistance (HA) construction. For example, the Pacific Ocean Division is implementing 60 HA projects in the countries of Bangladesh, Cambodia, Vietnam, Indonesia and Laos.

Section VII
Summary and References

20–20. Summary
The Army, through its civil functions, provides valuable services in maintaining and enhancing the economic and environmental health of the Nation. Civil functions also continue to prove invaluable in furthering national security objectives, both directly and indirectly. The financial and personnel resources associated with these functions are principally authorized and funded under the biennial *Water Resources Development Acts* and annual *Energy and Water Development Appropriations Acts*, respectively. Consequently, civil functions activities, as well as the significant training of the USACE personnel they provide, are at virtually no cost to the DoD's military budget.

20–21. References
a. Public Law 84–99, Amendment of Flood Control Act of August 18, 1941 (Emergency Flood Control Work)
b. Public Law 91–611, Flood Control Act of 1970.
c. Public Law 93–288, Disaster Relief Act of 1974 (also known as the Stafford Act).
d. Public Law 99–433, *DOD Reorganization Act of 1986* (also known as the Goldwater-Nichols Act)
e. Public Law 99–662, Water Resources Development Act of 1986

f. Public Law 105–245, Energy and Water Development Appropriations Act, 1999

g. Public Law 105–277, Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999

h. Public Law 106–541, Water Resources Development Act, 2000

i. Public Law 110–114, Water Resources Development Act, 2007

j. HQDA General Orders No. 3, Assignment of Functions and Responsibilities within Headquarters, Department of the Army, 9 July 2002 i.j.

RESERVED