



US Army Corps  
of Engineers  
New England District

World Trade Center Edition

# Yankee Engineer

December 2001



Photo by F.T. Eyré

*A Corps engineer overlooks the WTC area with FBI, police and ATF agents.*

## Corps of Engineers tackle debris management mission at World Trade Center

by Wayne Stroupe  
World Trade Center  
Public Affairs Support Team

The terrorist attack on the World Trade Center shattered lives, buildings, and the security of America in one horrific morning.

As the frantic effort to locate possible survivors waned with time, other critical missions surfaced. One of the most challenging in size and complexity is removal of the estimated 1.2 million tons of building debris from the World Trade Center complex.

This is one area where the expertise of the Corps of Engineers was tapped immediately. With years of experience in debris management learned from disaster recovery operations, the Corps was sought out by Federal Emergency Management Agency (FEMA) and the city of New York.

"We are providing technical assistance to FEMA and New York city for debris management," said Allen Morse, the Corps' subject matter expert for debris management. Morse, from the Mobile District, has over a decade of

experience working debris management and is working out of the FEMA Disaster Field Office on Pier 90 in Manhattan.

"We are accustomed to working hurricanes where the debris covers large areas," said Morse. "When I went to the site, I was in awe of the destruction and piles of debris."

In typical disasters like hurricanes, states request Corps assistance through FEMA. The Corps then either does the debris mission itself or issues contracts to handle the cleanup. However, the

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Photo by F.T. Eyre

# An introduction from the editor

What a difference a day makes.

I never knew how true that phrase could be until Sept. 11, when I, like most of the country, watched the World Trade Center fall to terrorists attacks. Equally horrifying was viewing the Pentagon – the epitome of the Nation’s security – with a large, flame-filled hole in it.

I watched the planes go into the World Trade Center towers repeatedly, but it was so surreal, that I thought it was just some weird dream. The reality was actually a nightmare. All those poor people...

Almost immediately things began to change everywhere. I saw long lines of cars trying to get onto Hanscom Air Force Base. I saw the armed guards and blockades at the end of our own driveway here at Concord Park with mirrors to check for bombs under cars. I also saw American flags displayed everywhere as an act of defiance to terrorism.

The Corps of Engineers, most especially the New England District and the North Atlantic Division, was called immediately into action. The day after the attacks, people here were scrambling to pack, to process travel orders, to do anything and everything they could to get to New York to help. Amidst the shock and, let’s be honest, the unbelievable horror of the day before, the New England District Corps of Engineers was doing something. We weren’t just watching the television helplessly – we were really doing something.

Many of us put our names on the list. Those of us who were not needed to go to New York, still had plenty of things to do here that would make a difference.

Through my sadness for all of those innocent lost lives, I was – and still am – proud of the people of the Corps of Engineers who went to help the city of New York in their time of need. The firefighters, police and EMTs at Ground Zero were heroes. By assisting them, our people became heroes in their own right.

This special edition of the Yankee Engineer is devoted to the Corps missions at the World Trade Center and the people who carried it out. Who better to tell it than those who were there at Ground Zero? Justine Barati of Rock Island District and Wayne Stroupe of ERDC wrote the stories in these pages. Both were part of the USACE Public Affairs Support Team led by our own Larry Rosenberg, Chief of Public Affairs. Peter Shugert, Chief of Public Affairs, New York District, took some of the photos. He had his camera with him on his way to work at 26 Federal Plaza on Sept. 11 and captured what he saw in digital images. Additional photos were also taken by F.T. Eyre, the Headquarters official photographer, who accompanied Lt. Gen. Flowers to Ground Zero the day after.

The words and images of the Sept. 11 attack and the days after are a powerful testament to the dedication and professionalism of the people of the Corps of Engineers. I am honored to be able to present to you what the Public Affairs Team saw. When you read about the wonderful things that our people have done, you should feel proud to be an American and a member of the Corps of Engineers. I do.

Ann Marie Harvie  
Editor, Yankee Engineer

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# A letter from the Chief of Engineers

## 'We can meet the challenge'

On Sept. 11, the United States of America became a country at war. Our war is against those who commit acts of terrorism and the countries that support them.

Like almost all wars, the United States will use all its elements of national power; diplomatic, economic, intelligence and informational, and military, to fight against the terrorist networks and their supporters. Like most wars, our success is dependent upon our ability to develop coalitions among nations and sustain our united efforts over a long period of time.

Yet unlike most conflicts, this is a global war to be waged on many fronts to include the continental United States. The national campaign plan against terrorism will challenge us all in ways never experienced before.

U.S. Air Force aircraft will patrol the skies above our nation's cities. Security in our airports, in our sporting events, in our workplace and elsewhere will be unprecedented. All citizens will be affected, whether serving in the military at locations abroad or merely responding to new measures of security in their hometowns. To be successful in the campaign against terrorism, all citizens must participate with perseverance, vigilance and patience. Our victory is dependant upon the collective unity and will of our great Nation.

Our post-Cold War, peacetime Army is now confronted with the challenge of winning the Nation's war on multiple fronts. Success is dependant upon synchronizing the Army's efforts with that of the other Services, our coalition partners, the other agencies of federal, state and local government, and the private sector.

The Total Army, active, Guard and Reserve, will be called upon to support this long-term campaign. We, the United States Army Corps of Engineers, must do all we can to support, and at times lead, the Army's efforts in this campaign. In support of the combatant commands, the regional CINCs, engineers must be totally involved in the planning for all phases of combat operations. We also must be involved in the planning for humanitarian operations to insure that supportive requirements are met. Wherever our service members are deployed, critical infrastructure such as



Photo by F.T. Eyre

*Lt. Gen. Flowers is confident the Corps of Engineers is ready for any future missions*

airports, seaports, roads and facilities, must be sustained and protected. Our MACOM must begin planning for extensive support to major OCONUS locations for a very extended period of time.

In the continental United States, the Corps of Engineers can be an invaluable and leading contributor to Homeland Security. Our experience in consequence management and interagency efforts from natural disasters, has great relevance in fighting the war against terrorism at home.

As a federal agency, we will be very involved in the identification, prioritization and security of critical infrastructure across the country. We will continue to advise and assist our Army and Air Force commanders on how to improve force protection and security around their military installations. We must expand upon our centers of expertise in Force Protection and Electronic Security. Security Engineering should be a capability

of every organization in the Corps.

Our research and development capability should be focused on the problem to continually improve our ability as engineers and our understanding of the technology advances. We must work to develop projects and programs that enhance the security of critical infrastructure against terrorism while minimizing manpower manning requirements.

We must quickly learn from the new Army missions that become defined in Homeland Security and adapt our efforts to support them. We must put in place the doctrine, training, skills, equipment and leadership that will enable the Army to be successful in the mission.

Before Sept. 11, the Army was in the early stages of transformation to prepare itself for future conflict. Now the Army must transform itself while at war. Transformation will continue, adapting our plans as we learn from the new challenges. The Corps of Engineers must likewise adapt its plans in support of the Army's transformation.

An Army at war cannot do business in a peacetime manner. As a MACOM, we must challenge every procedure, process, regulation and law that impedes our ability to support the war effort. There is great sentiment throughout

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# Commander's Corner

## Telling our story

by Col. Brian E. Osterndorf  
District Engineer



The words and pictures in this special edition have great significance to us as Americans and as members of the Corps of Engineers. Events like the attacks on the Pentagon and the World Trade Center serve to remind us of many things.

First, we are indeed fortunate we live in a country

that respects and protects freedom so that we do not live constantly under direct threat of attack. In fact, the outrage we feel of being attacked in this manner belies the fact that most of the world is still very violent and governments cannot provide guarantees of personal freedoms or safety.

Second, our national character will never let us think of ourselves as victims. Rather, like the few other times we have been directly threatened or even attacked, we respond as a nation, more united than ever.

This special edition of the Yankee Engineer is the story of how the Corps responded in support of our federal emergency response team.

As you know, the New England District led the Corps team on the ground in New York. Given the circumstances, it is difficult to characterize how “successful” the Corps was; we don’t usually think of being successful in dealing with the aftermath of a tragic event like this. But, we were able to clearly demonstrate a capability to deploy quickly, organize and apply the considerable skills of much of the Corps to support New York City and the Federal Emergency Management Agency.

Much of what we did was consistent with traditional disaster relief missions the Corps performs in a natural disaster. But every situation is different, and in New York City we also demonstrated the flexibility and adaptability to perform new missions in different ways, as circumstances required.

Although we didn’t have a great deal of experience organizing and running an emergency operation of this magnitude, everyone that did participate did so with the utmost professionalism. The work involved long hours, and most of

us, because we didn’t have much experience, had to do the best we could, the best we knew how.

In New York City and in Concord, the entire team worked amazingly well, overcoming all of the inevitable obstacles. It’s a good story, and we need to make sure we tell it. Many of our “customers”, that is, the citizens we serve, were unaware of our role. Sometimes, we allow an incomplete picture of how we serve our Nation to be painted; these stories provide a fuller picture of what we did, in the words of those that did it.

Many very talented people from all over the Corps played critical roles and Justine Barati and Wayne Stroupe

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**'Sometimes, we allow an incomplete picture of how we serve our Nation to be painted; these stories provide a fuller picture of what we did, in the words of those that did it.'**

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- Col. Brian E. Osterndorf, District Engineer

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joined Larry Rosenberg and the Public Affairs Team in New York to seize this important moment in history. Together with Pete Shugert and F.T. Eyre and others who took the photos to supplement the stories, did a great job to capture much of what we did, and the personal stories of those who were there.



Photo by F.T. Eyre

Col. Osterndorf prepares to talk about the Corps' role at Ground Zero.

# Boat Crews are Corps' Unsung Heroes

by Justine Barati  
World Trade Center  
Public Affairs Support Team

As streets became jammed with emergency vehicles and people trying to flee the scene, the Hudson River became the highway for supplies, victims and rescuers and Corps boats were the taxis to safety.

Immediately after the second tower of the World Trade Center collapsed, members of the Corps' fleet were underway.

Personnel from the Philadelphia and New York Districts were in Manhattan, N.Y., for a Coast Guard boat safety class. After the second collapse, William Linus and Tim LaFontaine, both from New York District, suggested that the crew get underway in an effort to assist in any way possible, said Joe Meyers from the New York District.

"All the personnel there volunteered to help automatically. Without a second thought, they placed themselves on duty," he said.

The assembled Corps fleet consisted of the Motor Vessel Hocking, the M/V Hatton, the M/V Hudson, the New York Survey Boat #1, the M/V Hayward, the M/V Gelberman, and the M/V Driftmaster.

Corps boats weren't the only vessels assisting with the evacuations. "The area became crowded with boats as professional mariners from the area moved in to assist. Anything that could float was pulling everyone off," Meyers said.

"When we arrived, the people on the pier had a deep stare and were covered in dust. They were afraid to leave and afraid to stay," said Tony Hans from the New York District.

The Corps ferried 2,300 people off the island. Three marinas were set up at Caven's Point, N.J., to receive the passengers. The first marina was for those who evacuated the island. The



Photo by F.T. Eyre

*The "Cataumet" was one of two New England District vessels sent to assist in New York.*

second marina was for the injured, and the third marina was for the critically injured. "On each return trip, the crews would bring back emergency personnel. Busses and trains waiting at Caven's Point then took the people home," said Meyers.

The M/V Hayward assisted local fireboats and fire trucks by transporting supplies. Since access to the area was limited, it was difficult to supply the vehicles with needed fuel and water. "They were passing five-gallon cans by hand. There was no other way to access the site," said Josh Daskalakis from New York District.

The M/V Hayward supplied firefighters with more than 16,000 gallons of fuel and water. This allowed the firefighters to continue their operations without having to leave to refuel or find more water.

At one point, the M/V Hayward had a stack of supplies 20-feet wide, 20-feet long, and 10-feet high, said Meyers. Shipments included flashlights, batteries, protective gear, food, water, lanterns, and shovels.

The M/V Hocking became the command vessel the day of the attack. Within hours of the collapse, they trans-

ported the Commander of the North Atlantic Division, Brig. Gen. M. Stephen Rhoades, to the site to assess the situation and offer Corps assistance.

After the initial transportation of citizens to Caven's Point, more Corps vessels joined the response crew to assist with the ongoing mission of supporting the Corps, FEMA and the city of New York's transportation and supply needs. These vessels were the M/V Wampanoag, the M/V Cataumet, and the M/V Colvin.

These boats continue to shuttle personnel and dignitaries to various sites involved with the disaster. Since then, they have also transported the Chief of Engineers, Lt. Gen. Robert Flowers, members of Congress, and multiple Army staff members.

Their supply mission also continues. "We transport people and supplies like hard hats and masks for Corps employees," said Walter Grauling from New York District.

While continuing operations in support of the Corps' mission here, the boat crews are also completing their day-to-day assignments. "There's nothing these Caven's Point employees can't do," said Hans.

# Under the World Trade Center

## Corps employee evacuated from subway stop the day of the attack

by **Wayne Stroupe**  
**World Trade Center**  
**Public Affairs Support Team**

"I was pulling into the PATH station (local subway) under the World Trade Center about 9 a.m. that morning," said Joe Seebode of the New York District. Seebode was the nearest Corps employee to the World Trade Center on Sept. 11, the day of the terrorist attack.

"I had meetings at the Port Authority on the 62nd floor at 9:30 a.m.," said Seebode. As the New Jersey-New York Harbor Program Manager, Seebode often had to visit the Port Authority's offices in the World Trade Center on business.

"As we pulled into the station, the public address system came on and asked us to exit the station immediately due to smoke conditions. We were under the World Trade Center Plaza and there was smoke in the building. I put my tie over my face and headed for

the exit. There was no panic," said Seebode. "As we got near the top of the escalator, which brings you to ground level from five floors below, we heard what sounded like a bomb going off. It was the second plane hitting the World Trade Center. You certainly felt the explosion. I looked to my left, my normal exit, saw daylight, and began to run. I came out on the Vesey Street (north) side. Debris was falling all around me. I kept moving north, only later grasping how close in proximity large pieces of debris crashed around me."

"The scariest part for me was when I got away from the building about 50 yards; I ran into a wall of dazed people who were watching the terrible events unfold. I started yelling at people to get out of there – debris was still falling. I never had time to think if I was going to die. I just kept moving and trying to keep everyone else moving."

Seebode made it to the Federal Building, the New York District office

location only a few blocks away, and found they were evacuating. He kept moving north in a wave of people. He was on the corner of Broadway and Worth Street when the first World Trade Center tower fell.

"I saw the first one fall. The smoke and dust cloud was behind us. It came within a block or two of us. I couldn't fathom the fact that if this all occurred ten minutes later, I would have been on the 62nd floor of the World Trade Center," said Seebode.

"People had pocket radios and, by that time, we knew it was a terrorist attack. People were shocked, and it was complete bedlam. I was lucky to meet four other colleagues from the district and we found solace in each other as we traveled together. We were 12 blocks or so farther when the second tower fell.

"My wife knew I was going to the World Trade Center that day. With cell phones down all over, I didn't get a message to her until almost 1 p.m. She still has that answering machine message saved. Listening to it today is a grim reminder of the shock, disbelief and horror I experienced that day. I seem to hug my young sons more often these days," said Seebode.

Seebode walked north to Penn Station, but no trains were running. He headed to the waterfront for a ferry, but the lines were too long. He sat in a coffee shop, and like most of America, watched the day's events unfold on television.

"Col. O'Dowd, the New York district engineer, called me on my cell phone after he heard I was at the World Trade Center. I tried to make it back to the district office, where he was, to begin to assist in rescue and recovery operations, but wasn't able to get there. I finally made it home around 5 p.m.," said Seebode.

That long day would lead to many



Photo by F.T. Eyre

*Dan Best, Federal Emergency Management Agency, Joe Seebode, New York District; and Kurt Amundsen, Jacksonville District, discuss dredging operations in the FEMA EOC on Pier 90.*

more for Seebode. He went the next day to Caven Point, the New York District Marine Center, located just across the Hudson River in New Jersey. This became the temporary Emergency Operations Center for the New York District, since their center in the district office was closed.

“We were running our boats, ferrying people, equipment, and supplies. We moved thousands of people both during and after the tragedy, including many injured during the first few hours after the attack. We did whatever we could to help,” said Seebode.

On the night of Sept. 12, Seebode started working on the logistics and emergency permits needed to allow dredging in the Hudson River to accommodate barges taking debris from the World Trade Center site to the landfill. “In less than two days, we were ready to go. A lot of credit goes to our federal, state, and city partners in cutting red tape and working this through telephone calls and hand shakes.

“With the estimates of debris we were getting, I knew that to effectively and efficiently move the material out of the site would require even more barge unloading sites. Going via truck was

not going to work because of the bridges, tunnels and traffic,” said Seebode.

“As the New Jersey-New York Harbor Program Manager, I had been working on efforts to deepen the harbor and doing environmental restoration. I know the contractors and the issues. I knew the scrap and landfill sites were accessible by water.”

On Sept. 14, Seebode became the official Corps liaison to the city of New York. He was instrumental in several major areas that involved Corps expertise, including dredging, barging and permitting. His connections with city, state and federal officials and contractors helped ease many of the tensions surrounding the magnitude of the situation at hand.

The week following the disaster, a second Corps permit to begin dredging was issued to New York City on Sept. 20. Dredging started on Sept. 24 at Pier 6 in the East River, close to Ground Zero at the World Trade Center.

The Corps work was done under a \$790,500 emergency contract issued to Great Lakes Dredge and Dock Company. Under the contract, more than 55,000 cubic yards of material was moved to create a deeper berthing area

for barges. “The site has already been used to bring large electrical transformers into lower Manhattan and debris barging operations will be implemented shortly,” said Seebode.

Since that fateful day, Seebode, along with his fellow Corps team members from the New York District, other districts in the North Atlantic Division, and Corps’ division, district, and laboratory offices across the nation, have been on the forefront of the Corps’ response. “We are prepared to provide any assistance to New York City and the Federal Emergency Management Agency (FEMA) as needed for the duration,” said Seebode. “The Corps response has been fantastic. We’ve done everything FEMA and New York City asked.”

As a New York City area resident, Seebode is also thankful. “Corps people came here from across the country. Some put their arms around me, and they felt for this city and this country at the same level we who are here at Ground Zero felt.

“I am so proud of my agency and my heartfelt thanks goes out to everyone who has helped us in our time of need. This is truly an Esprit de Corps.”

## A letter from New York

by **Justine Barati**  
**World Trade Center**  
**Public Affairs Support Team**

As I boarded the plane to New York City, I was more than a little apprehensive. The events of the week before kept running through my mind. I’m normally afraid to fly, these circumstances only made that situation worse. However, I knew I was needed and I had a job to do for the city of New York and the U.S. Army Corps of Engineers.

I didn’t know what to expect. My only orders were to fly into Newark and call a cellular number when I reached the airport. I had no

idea where I was staying or where I was working. As a public affairs specialist, I assist the media and the public with questions about how the Corps of Engineers supports the Federal Emergency Management Agency and the city of New York during this time of crisis.

Contrary to popular belief, everyone in New York has been quite friendly and helpful. I had a reservation at a local hotel and rode a shuttle bus to the hotel with some local citizens arriving back into town. They were all pleased to see the Corps and happy that we are assisting the city and Federal Emergency Management Agency. I arrived in town very late on Wednesday and

was told to report to the Disaster Field Office the following day.

The Disaster Field Office is in a warehouse next to the Hudson River. The city’s emergency services are located in one warehouse and the FEMA offices are in the warehouse next door. Since the Corps is part of FEMA’s operations, we are located within their office space. As we drive to work every day, we drive by a long bulletin board with posters listing those missing since Sept. 11. I can’t even explain the sadness experienced going by that board. I can only equate it to the feeling

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# Logistics played key role in Corps mission

by Justine Barati  
World Trade Center  
Public Affairs Support Team

*Imagine making transportation arrangements, reserving accommodations, preparing safety equipment, and tracking the movements of 112 people that you never met and sometimes didn't even know were coming. Imagine doing these tasks while you also prepare to move from the Boston and Philadelphia areas to New York City. That is exactly what the administrative staff of the Division Forward Office (DFO) do to assist Corps response efforts in the wake of the World Trade Center attacks.*

At the time this story was written, there were 112 Corps employees assisting the Federal Emergency Management Agency (FEMA) and the city of New York with their emergency efforts. A total of 209 people have been in-processed and 97 have been out-processed by the Division Forward Office's administrative staff. However, as missions change and as people move in and out of the operation, these numbers change daily-sometimes almost hourly.

When working with this many people and with requirements changing daily, "people have to be flexible. They must be physically and mentally capable to adapt with changing circumstances. You have to think outside the box in terms of meeting requirements," said Amanda Muscavage from Philadelphia District.

The first challenge for the DFO was making sure employees had the proper safety equipment. Because of Occupational Safety and Health Administration concerns, all workers at the World Trade Center and landfill sites were required to wear hard hats, steel-toed boots, respirators, and goggles. This created a logistical concern since Corps' supplies for distribution at the DFO were limited.

The DFO worked to find merchants who sold the equipment and to get it as quickly as possible. It was imperative that employees get safety equipment immediately, so they could get out to the field and begin working. "We're out there getting it [safety equipment] right away for them. We can't afford to wait. Once people check in, we have to get them out to the site quickly," said Bill Bailey from the Philadelphia District.

Safety also involves knowing the location and status of each Corps worker. "We track employees to make sure they are accounted for and to see that they aren't missing or injured. We track them all the way home. We have to make sure that we don't have any Corps employees fall through the cracks," said Bailey.

The emergency response created an immediate need for equipment and lodging for incoming personnel. The DFO team worked to fulfill these requests while still finding ways to save money for the Corps, and ultimately the customer, FEMA. "We've managed to get many items at a reduced



Photo by F.T. Eyr

*Amanda Muscavage from the Philadelphia District, and Justine Barati, Public Affairs, scrutinize the Corps department rosters.*

cost," said Bailey. Hotel accommodations for the more than 200 people who deployed were arranged at a reduced rate. "The rate we are paying is \$159 per night versus the government rate of \$198 a night. This saves money for the Corps and, ultimately, the customer," said Bailey.

Arranging for supplies and logistical considerations is central to the mission of the DFO. "We are here to support the people in the field doing the work. They are heroes of this effort and it is our job to make their job as easy as possible," said Muscavage.

To ensure security of personnel and to prevent the theft of personal property, access to sites involving the emergency efforts are highly restricted, this includes access to the DFO. Part of the DFO's job is ensuring that all personnel have the proper badges necessary to complete their jobs. Each site has different badge requirements and badge requirements are most stringent for those working at the World Trade Center and landfill sites.

"The hardest part of the job has been coordinating badges for everyone," said Muscavage.

As operations for the disaster evolved, so too did the badge requirements. Throughout the first two weeks of the

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# Corps Assists FEMA and New York City With Mapping Capabilities

by Justine Barati  
World Trade Center  
Public Affairs Support Team

*The image on the computer screen shows smoldering heat rising out of the ground where one of the towers of the World Trade Center once stood. Kevin Carlock of the Rock Island District is looking at the map to determine where the hot zones are located at “ground zero.” This critical information is supplied to Corps personnel before they head down to the work site.*

Geographic Information System (GIS) products are providing rescuers and other workers with needed information about dangerous areas at the World Trade Center site. Thermal imagery illustrates the location of fires still burning and pinpoints dangerous hot spots. These maps are used in safety briefings for rescuers and workers to assist in conducting rescue operations in the safest manner possible. “I have every hope what we do will make a difference and help the people on the ground. The people at the site are the ones really doing the work and we’re here to support them,” said Carlock.

Carlock and Eric Morrison from Omaha District are working under the Federal Emergency Management Agency’s direction to provide supplemental assistance to FEMA and the city of New York’s Geographic Information System (GIS) mapping and analysis capabilities.

“There’s been a good level of cooperation between the city, the Corps, and FEMA for data and information sharing. That’s what’s making this operation work,” said Carlock.

GIS analyses are also used to advise the city on ways to efficiently remove debris from the World Trade Center site. Routes and loading and unloading facilities are being mapped to streamline the removal of debris.

Volume of debris is also being calculated through GIS analysis. This will assist the city in determining how much debris is being removed. Images are compared daily to determine changes in the site.

Morrison said the most challenging aspect of this project is dealing with the “enormity of the situation, the amount of destruction is just devastating.”

Because the destruction is so extensive, FEMA, the Corps, and other federal agencies are providing the city with maps for fire departments when needed. These maps are used for reference since landmarks formerly located at the World Trade Center are now destroyed.

The city and FEMA are using the GIS maps and information as requested for security, site planning, and other purposes as needed.

GIS maps are created from aerial photos taken daily at the World Trade Center site. A light detection and ranging system takes photos that scan the area to pinpoint exact elevations. Once these elevations are pinpointed, computer-generated maps are created. The term Geographic Information System refers to a collection of geo-referenced data, computer hardware, software, analytical techniques, and people, which provide information that enable decision makers to evaluate site conditions and determine plans of action.

## From the Chief

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the Army to challenge the way we do business today in the acquisition arena, resource management, budgeting, personnel and the environmental laws and regulations by which we must abide. We must identify what should be changed.

Our success as a MACOM in supporting the Army relies, as always, on our people. Throughout Corps history, our people have always met the challenge of every crisis, every emergency and every war effort. With full engagement of all, this command can be a real force multiplier for the Army and the Nation. Internal communications, now more than ever, is vital.

Our people need to know what is going on, where they can contribute and how their efforts will make a difference. They need to know now that they live and work in a theater of war. They need to know that they can no longer take for granted the security that our country provides. And they need to know what their country and Army are doing to fight this war, at home and abroad.

We will never live again as we did before Sept. 11. Yet, we may never again feel the American unity, patriotism and resolve as we have since Sept. 11. We must capitalize today on our national will. As individuals, as a MACOM and as an Army, we can be a part of winning this war. When we do, life in America will be better than before Sept. 11.

Essayons!  
Respectfully  
Bob Flowers

# Corps of Engineers tackle debris management mission

*Continued from page 1*

city of New York is one of the few organizations in the world that could handle the amount of debris generated by the World Trade Center terrorist attack.

“We are providing technical assistance to the city in various aspects of debris management,” said Morse. “The city has been great to work with. They are real receptive to our suggestions. I am amazed that they can handle this.”

This is a unique situation for debris management for the Corps. The debris is mainly structural debris from the World Trade Center complex – not the trees and residential debris from hurricanes normally faced by the Corps. There is an enormous amount of debris in a relatively small geographic location (310 stories of buildings in a 12 square block area). And there are challenges in transporting such a large amount of debris through one of the busiest cities in the world. One aspect is special and never forgotten – the debris is part of a crime scene and contains both evidence and human remains.

“We’ve gone through three or four learning curves already. We’ve never handled anything like this,” said Morse.

The debris was combed immediately after the terrorist attack by firemen, policemen, construction workers and other volunteers in a desperate hope to locate survivors. As the days passed, it became grimly apparent that additional survivors would not be found.

Two weeks after the attack, a small army of men and machines were working at “Ground Zero” or “the Red Zone” as the World Trade Center site became known. The army included more than 1,000 workers, 240 trucks and 70 barges moving debris, and over 260 pieces of heavy equipment.

Corps assistance included helping with contract specifications, setting up and monitoring the debris management process, and conducting efficiency



Photo by F.T. Eyrø

*A Corps engineer takes notes at Ground Zero.*

analyses to improve debris removal operations. The Corps helped develop the debris management plan, and a closed landfill on Staten Island was reopened to receive the debris.

Initially the debris was moved by truck to the landfill site. The Corps suggested improvements, including one-stop stations that could wash-down the trucks, trap the loads, and document load tickets in one efficient operation. Since the truck route to the landfill was more than 20 miles, barges were quickly engaged for debris transportation due to the proximity of the Hudson River to both the World Trade Center and landfill sites. With each barge carrying approximately 30 truckloads, barging offered a great cure for traffic congestion and road wear.

The Corps also assisted with arranging emergency dredging operations at Pier 6, near the World Trade Center, to facilitate additional barge loading facilities. Under the emergency contract with Great Lakes Dredge and Dock Company, 75,000 cubic yards of material was dredged in nine days to allow full loading of the barges.

All structural steel from the debris is going to two salvage yards for recycling. The rest of the debris goes to the landfill site where it is sorted and exam-

ined by hundreds of FBI and New York City law enforcement officers. They examine the debris for any identification (such as credit cards), personal affects, undetected human remains, and any evidence of the airplanes’ black boxes from the cockpits. According to Morse, the debris contains a wide variety of materials. “If you can imagine it, it’s probably in there – freon, fuel and other substances are in the debris. The concrete in the floors and exteriors was lightweight – that was the dust you saw during the collapse.”

The majestic buildings once stood over 1,300 feet tall – the imploded debris piles reach only a height of around 60 feet. The debris crews are removing around 10,000 tons a day.

“We are making progress,” said Morse. “Another 30 days or so and all the loose debris should be done down to ground level.”

The city will have a tougher time with the underground levels and debris removal due to the complexities involved. A slurry wall holding back the Hudson River water from the underground levels must be anchored and heavy equipment use will be limited. Total debris removal could take nine months or longer.

## A letter from New York

*Continued from page 7*

experienced when passing the Vietnam Wall in Washington, DC. I have been working here for a few days now and my work mainly consists of answering calls about our assistance to the city and FEMA in multiple missions.

Because of the excellent efforts by the City of New York, our missions have been limited. New York is the only city in the nation that has the capability to deal with this type of an emergency.

Let me give you a little bit of information about the work the Corps is doing under the leadership of FEMA and the city. We deployed more than 150 emergency workers to New York City from around the nation in support of the federal recovery efforts. Even before federal responses were activated, the Corps fleet of boats was lining up to take people off of Manhattan and away from the disaster site. In all, our boats transported more than 2,000 individuals to safety.

The Corps deployment team includes engineers, scientists and other professionals. Corps employees deployed the day after the Sept. 11 terrorist attacks on the World Trade Center and the Pentagon to set up an Emergency Response and Recovery Office to offer immediate Corps assistance to the nation. They are providing Corps expertise to federal and civil authorities as the nation responds to the national crisis and the massive cleanup effort.

The Corps of Engineers is part of a total federal response led by the Federal Emergency Management Agency to provide disaster response in the aftermath of the catastrophic events. The Corps is designated as the Department of Defense's planning and operating agent for the Emergency Support Function #3, Public Works and Engineering, under the President's Federal Response Plan.

We have responded with expertise in debris removal,

structural analysis, urban search and rescue, and emergency power as requested by FEMA.

FEMA assigned multiple missions to the Corps in response to the terrorist attack to include missions in the areas of structural integrity - structural engineering teams were surveying buildings and structures so the city of New York can assure the safety of search, rescue and debris removal operations; debris removal - the Corps is working with the city of New York to develop and implement means to manage the ongoing debris-removal operation; and a power mission - the Corps provided technical assistance directly to Consolidated Edison with the 249th Engineer Battalion (Prime Power) installing generators at sites selected by the city.

The Corps of Engineers has deployed two Deployable Tactical Operations Centers to New York City for command and control purposes. Each DTOC contains two Emergency Tactical Operations Centers, two Emergency Command and Control Vehicles, and one Emergency Support and Sustainment Vehicle. The support vehicle pulls a 40K generator with enough power to operate a DTOC independent of any other power source. The Corps has also deployed two Rapid Response Vehicles to New York City to enhance command and control of disaster recovery operations. These vehicles are important to the city because before that, the city was operating off of card tables. Their tactical and communication vehicles had been crushed in the collapse.

Just like everyone here, I have been astounded by the Herculean efforts of all New Yorkers in working to rescue survivors and recover from this terrible disaster. The city's firefighters are still working night and day to look for survivors from this terrible disaster. They are relentless in their efforts. All of us at the Corps have those impacted by the terrorist attacks in our thoughts and prayers.

## Logistics played key role in Corps mission

*Continued from page 8*

emergency, badge requirements were changing and all of the badges required photos on them. "At one point, there were five different types of badges. It was difficult to find a way to get badges for employees out in the field working 12-hour shifts," said Muscavage.

Muscavage worked with FEMA and the city to figure out what badges were needed and to make accommodations for workers in the field to ensure that everyone received the proper identification badges.

The key to the success of the DFO team has been the

flexibility of all the workers, said Bailey. "I am very lucky. We had a bunch of people initially deployed who were willing to do anything and everything to set this operation up," said Bailey.

"Throughout the operation, everyone has chipped in to do what it takes to get the job done. Drivers have loaded boxes and bought supplies, engineers have assisted with administrative duties. We have all worked together as a team," said Muscavage.

"This has been a total team effort and is just absolutely terrific," said Bailey.

# Corps urban search and rescue

## 'So that others may live'

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by Justine Barati  
World Trade Center  
Public Affairs Support Team

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As Kelley Aasen from the San Francisco District walks through the rubble of what used to be the World Trade Center, it becomes readily apparent that the Corps' urban search and rescue structure specialists have one of the most dangerous jobs in the Corps.

The mission of the Corps' urban search and rescue structures specialists here at the World Trade Center site is to aid urban search and rescue teams in their search for survivors buried beneath the debris.

While firemen and police desperately dig through the wreckage, Corps structures specialists monitor hazards within the rescue area and do safety analysis to mitigate the hazards associated with the search and rescue operations. The structures specialists also assist by providing the advanced technology needed to find survivors in massive amounts of rubble.

The motto of these search and rescue teams is "so that others may live" and all members of the Corps' structures specialist cadre said that the hardest part of this disaster for them was waiting for the call to go out and assist.

"We are trained to perform this mission and this is what we want to do when we're needed. We all felt a sense of duty to respond and assist with this effort," said Tim Willard from Sacramento District.

"As rescuers move through the debris, we have to monitor slippage of the debris pile and look at hazards as we move items. We are not here to slow down operations, but to make the operations safer," said Aasen.

Aasen said that the Corps' team

knows the firemen will go into the hazardous situations to save survivors without regard to building stability. "We have examined past responses and the challenge is that you can't tell a firefighter 'no.' They will go in to rescue people no matter what. Our biggest concern is that we want those guys to go home safe," said Aasen.

The Corps learned about the determination of firefighters to save survivors during rescue operations in Mexico City

structures specialists are part of a cadre of trained search and rescue professionals across the nation. Since these teams are in close communication during many major disasters, members of the Corps' team know many of the rescuers involved in this effort from their work after the Oklahoma City bombing.

"We even knew some members of the New York City urban search and rescue team and that makes this personal," said Rick Tillman from the New

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**'We are trained to perform this mission and this is what we want to do when we're needed. We all felt a sense of duty to respond and assist with this effort.'**

- Tim Willard, Sacramento District

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in 1985 during earthquake search and rescue operations. Because search and rescue teams will enter dangerous areas to save victims without regard to their own safety, Mexico City lost as many rescuers as people that were safely rescued.

In 1991, the Corps developed the concept of training Corps and Federal Emergency Management Agency (FEMA) structural engineers to deal with the unique situation of interacting with firefighters during a search and rescue operation. Through this training, the Corps' structures specialists are better able to address the concerns of the firefighters, while working to improve the safety conditions for the firefighters during their search and rescue efforts, said Aasen.

The Corps' search and rescue struc-

Orleans District.

Previous working relationships with organizations now responding to the World Trade Center disaster have also improved the Corps' ability to respond to the needs of FEMA and New York City. "I think we have shown multiple agencies the Corps' ability and how we can help them in their efforts," said Norman Skjelbreia from Seattle District.

Throughout the search and rescue efforts, the Corps' structures specialists have also seen what they know so well, the dedication of firefighters. "The firefighters and policemen have been great. They are out here working all the time, even when they're off duty and manning bucket brigades. We are just glad that we are here to support them and make their lives safer," said Skjelbreia.

# District Emergency Operations Center worked around the clock in Concord to support mission

by Ann Marie Harvie  
Public Affairs

Corps of Engineers employees working at the World Trade Center could be seen in their red shirts on just about every news channel in the country. What couldn't be seen on the national news were the people who stayed back at home and performed the work that had to be done to deploy those individuals to New York, and to make sure they had everything they needed to do their jobs.

"The Emergency Operations Center (EOC) at the New England District was activated on Sept. 11, and operated 24 hours a day," said Dave Schafer, Chief of the New England District's EOC. "While the around the clock operation ended Sept. 25., the EOC will continue operations until the threat has diminished."

During the early days of the tragedy, the EOC was busy deploying personnel to the Emergency Response and Recovery Office (ERRO) in New York, and MIPRing (Military Interdepartmental Purchase Request) the funds to get them there. Because of these efforts, Col. Brian Osterndorf, district commander, and 13 employees were in New York the day after the tragedy.

"Because the New York District was the victim district, New England District became the lead district for the Corps response to the WTC event," said Schafer. "This meant that in addition to being responsible for staffing the ERRO and handling the deployment of Corps personnel nationwide, the District also had to handle accepting all of the mission assignments from FEMA."

The workload at times was enormous, and the EOC had to recruit help from the other District offices. "The FEMA regional operations center in



Photo by F.T. Eyré

*The EOC at Concord Park coordinated all operations in NYC.*

Maynard, Mass., also had to be staffed by the Corps," said Schafer, "and we brought in 10 New England District employees at various times to assist."

"Any time we needed help from people working in the Concord EOC, they were there for us -- if they had worked on the issue, we'd get an answer right away," said Dick Carlson, Chief of Construction/Operations. Carlson served as the Deputy District Engineer Forward in New York. "If they didn't have an answer, they'd get the right people involved to provide one. We worked long hours and we know they did too because they were there for us. Their overall management of the financial aspects allowed us to focus on getting the work done."

In addition to the deployment work, there were also plenty of activities taking place at Concord Park that the center had to coordinate. That work included assisting in relaying information from displaced Corps personnel (due to crippled communication systems), conducting crisis management team meetings and participating in numerous conference calls. "The phone was constantly ringing with people needing answers to questions," said Schafer.

According to the EOC chief, the center continuously maintained ENGLINK information to include up to

the minute situation reports, recruitment requests for personnel, deployment and send home information.

The situation reports were issued twice a day and EOC personnel also had to coordinate with other districts and divisions regarding personnel and funding issues.

Despite the heavy workload, the EOC managed to get the work done without incident. Osterndorf, who also served as the ERRO commander, publicly thanked the

people in the EOC during his October special town meeting. "We could tell that you were standing on alert to go ahead and support us and that there was a great level of effort," he said. "I appreciate that very much."

Dave Schafer, Ruth Kitowicz (both deployed to New York) and Rachel Fisher form the Emergency Operations Center Team.

District employees who assisted the EOC during the disaster were Scott Acone, Marie Conner, Dave Goodrich, Dave Hakanson, Mike Keegan, Dave Margolis, Ed Mills, Duban Montoya, Mike Sheehan, and Richard Vigeant.

"Everyone who worked in the EOC, regardless of their assignment, were highly professional and competent," said Carlson. "It's a real uplifting feeling to work for an organization such as the New England District on a regular basis. It's even more awe inspiring when you see the work of the professionals who staffed the EOC during the WTC disaster aftermath."

In a show of appreciation for their efforts during the World Trade Center disaster, Col. Osterndorf has awarded special WTC New England District Emergency Operations jackets to those who were directly involved with the New York mission, both in the city and in Concord, Mass.

# WTC Photo Gallery



Photo by Peter Shugert

*A second plane hits Tower 2 of the World Trade Center.*



Photo by Peter Shugert

*Fire and smoke pour out of the World Trade Center towers.*



Photo by Peter Shugert

*Debris and dust cover New York City as the World Trade Center towers collapse.*



Photo by F.T. Eyre

*Smoking, twisted metal and stone are all that remain of the World Trade Center after the Sept. 11 terrorist attacks.*



Photo by F.T. Eyre

*New York City firefighters risk their own safety to sift through the World Trade Center wreckage in search for survivors. The Corps assisted the firefighters by providing structural engineering, debris management, and urban search and rescue support.*

# WTC Photo Gallery



Photo by Peter Shugert

*The second tower collapses, causing a debris cloud to cover New York City.*



USACE Photo

*An aerial view of the devastation on Sept. 17.*



Photo by F.T. Eyre

*Hundreds of pieces of paper from the World Trade Center litter nearby trees.*



Photo by F.T. Eyre

*American flags prominently hang at Ground Zero.*



Photo by F.T. Eyre

*Workers scour through the wreckage at a landfill looking for evidence.*



Photo by F.T. Eyre

*Rescue workers and their rescue dog take a break before reentering Ground Zero.*

# WTC Photo Gallery



*Col. Osterndorf gets a ride to Ground Zero from a Corps of Engineers tugboat. Col. Osterndorf served as the Commander of the ERRO until his return to the District on Sept. 27.*



Photos by F.T. Eyrce

*Brig. Gen. Rhoades and Lt. Gen. Flowers are briefed on public affairs operations by Larry Rosenberg in the ESF 3.*



*New England District's Ruth Kitowicz and Lt. Gen. Flowers at the ERRO in New York City.*



*Mike Galicki and Jennifer Flanagan were only two of the many New England District employees who answered the call to go to New York.*



*(from left) Maj. John Vickers (Philadelphia District) Mike Galicki, Dick Carlson and Capt. Fitzgerald go over the day's events in the ERRO. Much of the coordination for the Corps' mission was done away from Ground Zero.*



# WTC Photo Gallery



White House photo

*President Bush stops by the Jarvis center to visit the search and rescue and logistics teams as well as to offer words of encouragement as part of his site visit to Ground Zero.*



Photos by F.T. Eyre

*Above: New England District employees Ruth Tanner, Michelle Kewer, Richard Drew, Bob Henderson, and Ralph Mallardo work in the ERRO. New England District personnel deployed from Concord, Mass., to New York City the day after the terrorist attacks. Left: Brig. Gen. Rhoades gets a briefing from Corps engineers at Ground Zero.*

# WTC Photo Gallery



Photos by F.T. Eyre

*Lt. Gen. Flowers and Brig. Gen. Rhoades prepare to be interviewed by "60 Minutes" on the Corps' mission in New York.*



*A Corps engineer discusses air monitoring procedures with an EPA specialist at Ground Zero.*



*New England District's "Wampanoag" shuttled people and supplies to and from Ground Zero as part of its support mission.*



*The Corps of Engineers also provided temporary offices to agencies working at Ground Zero.*



*Corps vessel pulls up to the U.S.S. Comfort.*



*Heavy equipment was brought in immediately to help with the recovery efforts.*

# WTC Photo Gallery

## Deployed to New York to make valuable contributions



Photo by F.T. Eyre

*Brig. Gen. Rhoades, Lt. Gen. Flowers and Brig. Gen. Griffin at Ground Zero.*



Photo by F.T. Eyre

*Michelle Kewer, Jennifer Flanagan and Joe McInerny work in New York to assist with the disaster.*



Photo by F.T. Eyre

*Bob DeSista and Rachael Raposa stand near the U.S. Navy hospital ship USN Comfort in New York.*

- Scott Acone
- Lynne Bleakney
- Richard Carlson
- Stephen DiLorenzo
- Robert DeSista
- Richard Drew
- Capt. Michael Fitzgerald
- Jennifer Flanagan
- Michael Galicki
- Thomas Greenway
- David Hakanson
- Robert Henderson
- Gerald Joyner
- Kevin Kaerth
- William Kane
- John Kedzierski
- Michelle Kewer
- Ruth Kitowicz
- Gladys Leone
- Christopher Lindsay
- Luke Lomeland
- Frank MacDonald
- Robert MacGovern
- John MacPherson
- Ralph Mallardo
- Joseph Mazzola
- Joseph McInerny
- Edward Mills
- John Murner
- Col. Brian E. Osterndorf
- John Pribilla
- Rachael Raposa
- Thomas Rosato
- Larry Rosenberg
- John Schuck
- Joan Shok
- Ruth Tanner
- Michael Vadnais
- John Yen

Specially designed jackets and certificates were awarded to all those individuals that participated in the World Trade Center missions both in New York (listed above) and at the DistrictEOC.

# In retrospect . . .



*The World Trade Center towers before the Sept. 11, 2001 attacks.*

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