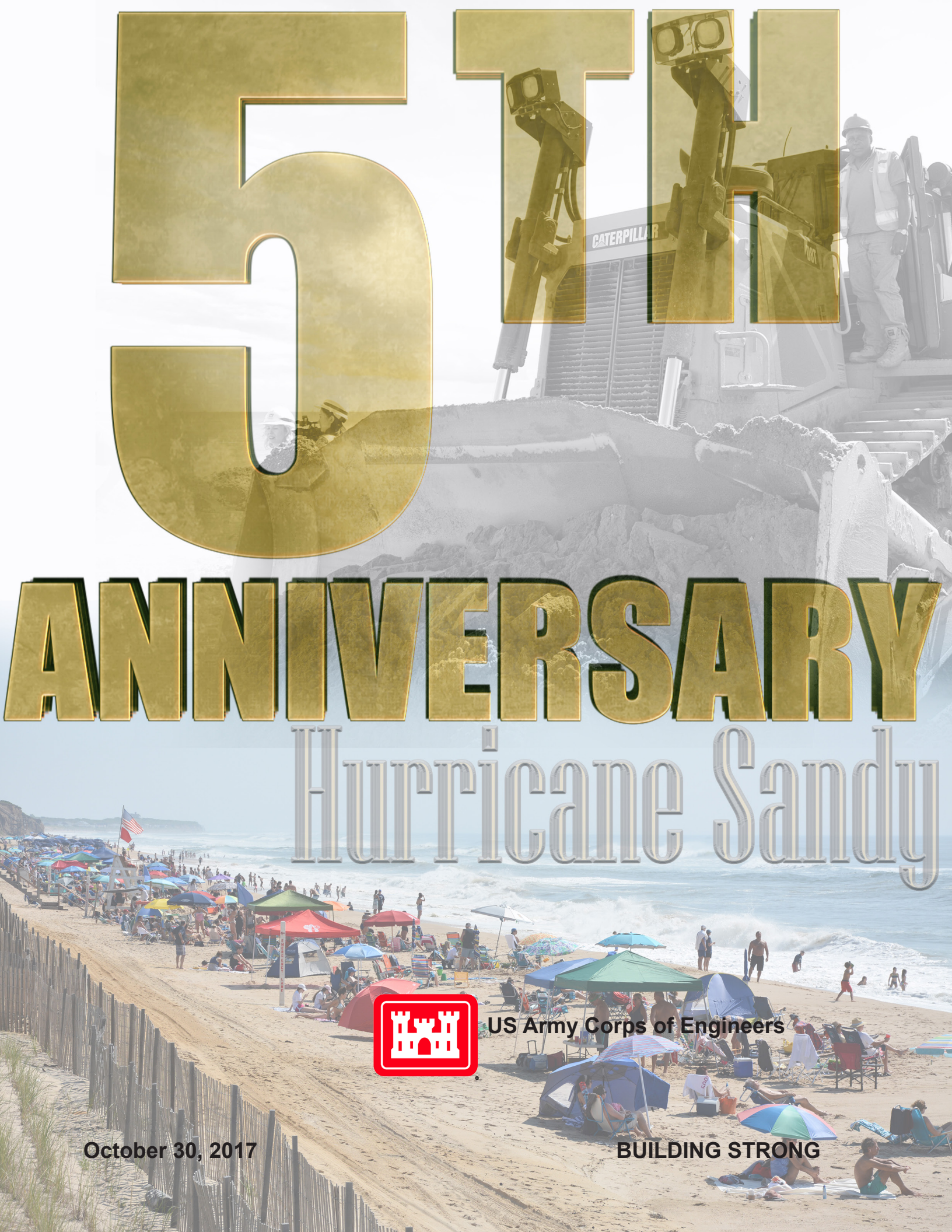
5TH
ANNIVERSARY
Hurricane Sandy
US Army Corps of Engineers
October 30, 2017
BUILDING STRONG

New York District Times
Newsletter of the
U.S. Army Corps
of Engineers
- Sandy 5-year Anniversary-
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U.S. Army Corps of Engineers
New York District

# District Reflections

"When I reflect back on the anniversary of Hurricane Sandy, I first remember the intense high energy of the first couple of days working nearly nonstop at NYCOEM. At first it was chaos, but after a couple of days a semblance of order began to appear. It was exciting to be part of the recovery interacting with FEMA, NYC, and other Federal agencies as we worked as a team on coordinating the start of dewatering and getting emergency power to critical facilities. Our communicating amongst all the agencies was key to everything working. Now five years later, I see the City has come a long way in being prepared for the next storm and we have all had a part in that effort."

**--Paul Tuminello, Chief, Civil Works Branch**

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# Commander's Column

This issue is written and carefully assembled to honor the heroic efforts of the New York District, USACE personnel both Civilian and Military, and volunteers from across the Nation. As I reflect upon the remarkable accomplishments in the hours just before the storm and the hours immediately following landfall, I am left speechless.


**Col. Thomas D. Asbery**
**Commander**

Many of you have shared with me your personal stories of perseverance and triumph as the New York District answered the Nation's call in the wake of Hurricane Sandy. As I learn and look back on Hurricane Sandy and all you have accomplished in the past five years, I continue to be impressed by the hard work and genuine care and concern for those most affected by the largest and most devastating extreme storm event to affect New York and New Jersey in recent history.

I recall Joe Seebode's account of the unwatering mission and standing at the north entrance of the Hugh L. Carey Tunnel and how the District would take on the largest unwatering mission in Corps history. Joe has his story and hundreds of you have your own story to tell. Please share your stories with co-workers and friends of what the District accomplished, the obstacles you overcame and your unwavering support you all have provided over the last five years, and the work that still needs to be done. Starting in the hours after the storm made landfall across our area of responsibility (AOR); Hurricane Sandy made a significant impact on the East Coast and on our Nation's economy. In addition to loss of life and widespread damages to homes, businesses and infrastructure; the storm affected major economic engines such as our financial, shipping, and manufacturing sectors. Loss of electrical power and flooding as a result of storm surge further exacerbated damages, causing ripple effects that are still affecting some of the hardest hit communities today.

This storm forced many of you to rearrange your lives in major ways while keeping true to your responsibilities as USACE employees to ensure the response and recovery missions moved forward. Your selfless commitment to duty in those first days and weeks following the storm made an impression not just within our region but across the Nation. Praise at the highest levels of government embodied New York District, USACE, state, and local agencies' "One-team" spirit. District personnel played key roles in clearing tons of debris from New York Harbor to reopen the ports in order to receive key supplies essential to helping the region's recovery efforts. The District provided support to FEMA Region II's unwatering mission, removing 475 million gallons of saltwater from subway and roadway tunnels in nine days, while disposing of 3.6 million cubic yards of debris across New York City's five boroughs and Long Island.

In the following weeks and months after Sandy, the District began to identify locations for near term repair and restoration, and worked with Congress to allocate $3.5 billion in relief funds to undertake a coastal storm recovery program designed to restore beaches to their original design profiles. The funding allowed the District to place more than 8 million cubic yards of sand on beaches in New York and New Jersey, construct T-groin projects in Long Island as well as New York City and New Jersey. The District achieved all this while not skipping a beat with all of its ongoing military and civil works missions.

Please take the time to read this special issue of the District Times and reflect on the stories about the incredible progress that was made to recover from Hurricane Sandy, improve resiliency for our communities and increase coastal storm risk reduction measures across the District's AOR.

I cannot express enough how proud I am to lead such a diverse and incredibly talented workforce. What you all have achieved during the past five years is astonishing, and I'm thrilled at the opportunity to see what New York District will achieve in the future.

The Cradle of the Corps! BUILDING STRONG ! **ESSAYONS!**

# Five Years After Sandy New York District Continues Momentum

By Vincent Elias, Public Affairs

The U.S. Army Corps of Engineers has made continuous progress in improving its capabilities before, during, and after disasters. Recovery was at the heart of disaster response following Sandy and it is often where the Corps is tasked to contribute its resources and expertise.

Collaboration with its many partners was critical to the Corps mission and having a clear understanding of roles and responsibilities.

Over the last five years, the New York District's performance during the Sandy response and recovery operations highlight this progress.

When disasters occur, U.S. Army Corps of Engineers teams and other resources are mobilized from across the country to deliver our response missions.

Building on the Corps' experiences from Sandy, New York District has continued its efforts to respond to catastrophic events.

There have been many occasions where partnerships have been critical to project successes. Commitment and collaboration among the Corps and its valued partners combined strengths led to project success.

On the occasion of the fifth year since Hurricane Sandy, New York District has completed several projects and began studies and made visible progress across the region with coastal restoration completed at critical areas along the New Jersey and New York shoreline.

The District has built momentum to further enhance areas of resiliency and reducing risks from future coastal storms.

The New York District is conducting preliminary work on projects that had been authorized before Sandy. For example, Port Monmouth, N.J. project specifically includes post-hurricane damage assessment, clean-up and repair.

**The Sea Gate Reach project called for the construction of four (4) stand-alone T-groin structures. The project was completed in June 2016. (Photo Credit: USACE New York District)**

This area was devastated by Superstorm Sandy. The project involved the construction of about 7,070 feet of levees, 3,585 feet of floodwalls, 2,640 feet of dune, and beach re-nourishment at 10-year intervals along the Raritan Bay and Sandy Hook Bay in Port Monmouth, New Jersey.

The project provides protection to low-lying residential and commercial structures, built upon and near salt and freshwater marshes that are experiencing flooding caused by coastal storm inundation.

During the study phase of the project data was collected in this area which included post hurricane damage, hydrology, economic vitality, etc.

This data was used to propose a plan to build a flood risk management solution for the area of Port Monmouth. Coastal Flood Risk Management project that were completed in the New York District's area of responsibility performed as designed in providing the necessary protection from coastal flooding.

***continued on next page...***

Following Sandy, the New York District has performed its mission of coastal restoration and wrote the chapter on resiliency by restoring miles of shoreline and beach protection projects that Sandy pounded and constructed projects that had been previously authorized.

Several projects have been completed and studies have come to fruition.

For example, repair and restoration of 8 coastal flood risk reduction projects (13 contracts) substantially were completed by December 2014, less than 18 months after construction started in July 2013 at a cost of $240 million.

On beaches for projects in New York City, Long Island and northern New Jersey 15.2 million cubic yards of sand has been placed.

Twenty-eight of 29 Federally-maintained navigation projects (channels and structures) impacted by Sandy have been repaired at a cost of $160 million with the Corps' Caven Point Marine Terminal reconstruction nearing completion.

Ongoing Studies include 10 Feasibility Cost-Sharing Agreement amendments, 2 Design Agreement amendments, and one new Feasibility Cost-Sharing Agreements executed, and five Completed Feasibility Studies with total obligations of $14.6 million to date.

Authorized but Unconstructed Projects include nine Hurricane Sandy Limited Reevaluation Reports approved, seven Project Partnership Agreements executed, 11 construction contracts awarded, seven contracts physically complete with total obligations of $484 million to date.

**A sand and water slurry is pumped onto the beach at Port Monmouth, N.J., while locals watch as part of a dune construction during Phase I of the Port Monmouth Coastal Storm Risk Management Project. The project was the first "Authorized But Unconstructed" project to begin active construction as part of the U.S. Army Corps of Engineers' post-Hurricane Sandy work funded by the Disaster Relief Appropriations Act of 2013. (Photo Credit: Jim D'Ambrosio, Public Affairs)**

"When Congress appropriated $5.3 billion for the Army Corps of Engineers under the Disaster Relief Appropriations Act of 2013 (or Public Law 113-2), the New York District received $3-3.5B," said Anthony Ciorra Chief, Coastal Restoration Branch, Army Corps' New York District.

"Nearly $1 billion has been obligated for restoring existing beaches and projects damaged by the storm and or constructing new projects that were previously authorized."

"The Corps has accomplished a great deal in the past five years," said Ciorra. "However, the mission is not complete. A significant amount of work is still be done since communities remain at risk," said Ciorra.

**New York District planted dune grass to help strengthen the resiliency of it coastal storm risk reduction project in Rockaway Queens. The Corps of Engineers placed 3.4M cubic yards of sand following Hurricane Sandy. (Photo Credit: USACE, New York District)**

# Caven Point: A Modern, Resilient Facility Rises from Sandy's Ruins

By James D'Ambrosio, Public Affairs

Five years after Hurricane Sandy destroyed much of the District's Caven Point Marine Terminal in Jersey City, New Jersey, the facility is once again whole — and far more resilient — as construction is complete on a new main building, boat house, boat launch and laboratories each with modern features saving time, money and energy, and increasing productivity.

Caven Point and its fleet of working vessels is home to the District's Physical Support Branch, Survey Section and Metro Area West, Construction Division, where nearly 100 District employees have been working from field trailers since fall 2012.

In early October, District staff began moving into a new main building that is far superior to the structure it replaced — a 1950's-era building modified and adapted for more than 60 years to meet current needs.

A recent site visit illuminated a comprehensive makeover. Lucia Gamba, project engineer, Metro Area West, Construction Division, led a tour of the reconstructed facility. The improvements were immediately apparent, the centerpiece being a two-story, $58 million, 47,000-square-foot state-of-the-art main building with many unique features making it substantially more resilient to damage and flooding from severe storms. "We now have a first-rate facility that's significantly more resilient to severe storms and flooding," said Richard Thorsen, chief, Physical Support Branch, adding, "It will serve the District for many years to come."

**CavenPoint Marine Terminal was severely impacted following Hurricane Sandy, necesitating a complete reconstruction of the facility, providing state-of-the-art features and increased resilience. (Photo Credit: Dan Desmet, Public Affairs)**

## MODERN BUILDING INFRASTRUCTURE

Modern components of the new main building include:

- Wind Turbines: Four vertical-axis wind turbines on the roof with three spiral blades converting wind energy into electrical energy. The energy produced helps offset that needed from the electrical grid and will reduce long-term power costs.
- Photovoltaic Panel System: An array of photovoltaic panels on the roof convert solar energy into electrical energy. Like the turbines, the energy produced helps offset energy needed from the utility grid, reducing electricity costs.
- Solar Collector Tubes: Solar collector tubes convert solar energy into thermal energy. Thermal energy produced offsets natural gas required to meet hot water needs of the facility, saving on energy costs.
- Dual-Purpose Training Room: A 60-seat training room for Operations staff that can be divided into two independent spaces. Outfitted with dedicated audio-visual equipment and wired and wireless network connectivity, it's also a backup Emergency Operations Center should District offices in Lower Manhattan become inaccessible.
- Reinforced Concrete Columns: Under the Administration area of the new building, thick concrete columns elevate the building 13 feet — a height above the storm surge that occurred during Sandy.

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# New York District Sandy Response: Looking Back

By Public Affairs

After the storm surge, as part of the unified federal response, the Corps:

• Drained 475 million gallons of salt water from flooded critical infrastructure in the New York City metro area

• Installed more than 200 generators to critical facilities such as hospitals and police stations;

• Removed hurricane debris;

• Refurbished 115 transitional housing units;

• Provided more than 9 million liters of bottled water;

• Assisted the U.S. Coast Guard in returning affected ports to operation.

New York District Near-Term Coastal Restoration Projects included:

• New York - placement of more than 7 million cubic yards of sand in the process of repairing and restoring previously constructed coastal storm risk management beaches in New York.

• Rockaway Beach - placement of roughly 3.5 million cubic yards of sand through two contracts to repair and restore this coastal storm risk management beach project.

• Coney Island - placement of roughly 600,000 cubic yards of sand to repair and restore this coastal storm risk management beach project.

• Gilgo Beach - placement of roughly 1.5 million cubic yards of sand to complete the repair of this coastal storm risk management beach that is part of dual-purpose navigation (Fire Island Inlet) and coastal storm risk management project and to bolster nearby municipal beaches using additional funds provided by the state of New York.

• West of Shinnecock Inlet - placement of roughly 450,000 cubic yards of sand to repair and restore this coastal storm risk management beach project.

• Westhampton - construction work for placement of roughly 1 million cubic yards of sand by the end of this year to repair and restore this coastal storm risk management beach project

In New Jersey sand was placed throughout the state through this near-term coastal restoration work, included:

• Keansburg - placed roughly 875,000 cubic yards of sand to repair and restore this coastal storm risk management beach project. The repair and restore work also included repairs to eroded levees, repairs to the damaged wing wall adjacent to the tide gate and removal of debris along the levees.

• Sea Bright to Manasquan (includes several communities along the Atlantic Coast of New Jersey) - placed roughly 8 million cubic yards of sand through four contracts to repair and restore this previously constructed coastal storm risk management beach project.

**Sacramento District's Josh Jimerfield, a debris engineer with the U.S. Army Corps of Engineers New York Recovery Field Office, takes a photo, Nov. 30, 2012, of a home burned to the ground in Queens, N.Y. Teams of Army Corps and FEMA real estate specialists and field assessors met homeowners and conducted site assessments as part of the debris removal mission assigned to the Corps by FEMA after Hurricane Sandy. (photo by Brandon Beach, San Francisco District)**

# Army Corps builds foundation for resiliency

By JoAnne Castagna, Public Affairs

Nestled in the Sandy Hook Bay, the community of Port Monmouth, New Jersey has experienced flooding, blizzards, and major storms that have swept through the area throughout the years. It's Atlantic hurricane season once again, and life-long Port Monmouth resident Charles Rogers reminisces about past storms that have battered the area and his experiences.

"My father placed me on his shoulders and walked through four feet of water to take me to my grandmother's house during the hurricane of 1944," said Rogers.

The "1944 Great Atlantic hurricane" was a destructive and powerful tropical cyclone that swept across a large portion of the East Coast in September of that year. During Hurricane Donna in 1960, the area was evacuated, and Rogers and his entire family were transported by the U.S. Coast Guard via an amphibious vehicle to the firehouse to safety.

"In 2012, Hurricane Sandy placed almost four feet of water in my house and six feet in my cellar and we lost our heating, electric, food and personal items," said Rogers.

The outlook on future storms is much brighter for Rogers due to the Port Monmouth Flood Risk Management Project being performed by the U.S. Army Corps of Engineers, New York District.

"It's an important project to protect Port Monmouth residents," said Rogers.

The Corps in partnership with the New Jersey Department of Environmental Protection Bureau of Coastal Engineering, is working on this project that will make the community more resilient during future storm flooding and surge.


**Marshy soil is being mixed with concrete and water to create a strong foundation for a levee as part of the Port Monmouth Flood Risk Management Project in Port Monmouth, New Jersey. (Photo Credit: JoAnne Castagna, Public Affairs)**

To help with this resiliency, the Corps decided to include an environmentally friendly soil stabilization process that has never been used by the Corps before on a flood risk management project. The process makes the project stronger, improves the community's quality of life, and saves tax-dollars.

The project area is made up of low lying salt and freshwater marsh and there are many residential and commercial structures sitting right on or near this marshland. Erosion over the years has removed much of the natural beachfront and dune complexes that provided coastal protection to the community from storm surge.

Hurricane Sandy further exacerbated the problem by causing millions of dollars in damages, destroying 750 homes and businesses in Port Monmouth alone. The project includes two phases of work that together will reduce the risk of flooding throughout the entire community.

The first phase was completed in 2015 and provides storm risk reduction from the Sandy Hook Bay.

This work included building up and widening the shoreline, constructing a 15-foot high protective dune – spanning a mile and half long, and constructing a new stone groin perpendicular to the shoreline.

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A groin structure extends out from the shore into the water and interrupts water flow and limits the movement of sand, to prevent beach erosion and increase resiliency.

In addition, a fishing pier was extended 195 feet and walking paths were built to provide the public access to the beach area. The second phase is in progress and will provide a line of defense surrounding Port Monmouth. The work includes constructing a concrete floodwall - the length of almost 22 football fields - to reduce flooding from the Pews Creek to the west and the Compton Creek to the east.

A floodwall is a vertical barrier designed to temporarily contain the waters of a river or other waterway which may rise to unusual levels during seasonal or extreme weather events. Additionally, pump stations, road closure gates and a tide gate at Pews Creek will be constructed.

A pump station pumps or drains water from low lying land and tide gates allow water to flow freely under normal conditions and close automatically to prevent flood waters from flooding a community. In addition, a system of levees will be constructed. A levee is an embankment designed to prevent flooding. The levees that are being constructed need a strong foundation. The land is made up of low lying salt and freshwater marsh that is not strong and very saturated, so this soil needs to be removed and replaced with better soil to construct upon.

"Typically, it's cost effective to remove and replace the unsuitable soil, but in the New York and New Jersey region it's a different story," said David Gentile, project manager, New York District, U.S. Army Corps of Engineers.

"In urban areas it's hard to find disposal sites, so the soil would have to be picked up by trucks and transported to a location that can accept it and new more suitable soil trucked in, which is expensive, especially since we are moving a mountain of material," said Gentile.

**The Port Monmouth, New Jersey shoreline was built up and widened and a fishing pier extended as part of the Port Monmouth Flood Risk Management Project in Port Monmouth, New Jersey. (Photo Credit: JoAnne Castagna, Public Affairs)**

Gentile decided to adopt a cost effective solution for the soil that has never been accomplished before by the Corps on a flood risk management project. This solution is a process called In Situ Soil Stabilization. Instead of removing and replacing the marsh soil, this process allows engineers to leave the soil where it is. A material, such as common Portland cement and water is mixed with the existing soil to strengthen the porous marsh soil, creating an impermeable foundation for a levee.

There are numerous benefits to this process, but the biggest benefactor is the surrounding community that sits just a few hundred feet from the project area. This process eliminates the need for over 1,750 tri-axle trucks trips, carrying wet, mucky, and odorous material, through residential streets.

Rogers an active member of the Port Monmouth community agrees, "When this process was put on the table it sounded good then. Anytime you can use what is there and not have large truck loads of materials running up and down the roads you save money. It's a big plus for the project, the residents, and the environment."

Ken Johnson, engineer with the Corps' New York District, added, "Less trucks means the local roads and bridges are spared from possible damage, there is less air pollution, noise complaints are greatly reduced, and there is an overall savings of landfill space along with financial savings."

This project is expected to be completed by 2020 and designed to provide flood protection that can withstand another Hurricane Sandy.

Rogers added, "I personally believe this project is a big plus for the residents of Port Monmouth. Over the years this area has suffered large dollar losses in property, homes and vehicles due to floods from hurricanes and storms. This project should cut those losses by at least 95 percent and our residents can sleep better at night."

# Army Corps Demonstrates Commitment to Coastal Flood Risk Reduction

By James D'Ambrosio, Public Affairs

In August 2017 residents and tourists alike along the shore of Long Island, N.Y., enjoyed the surf, sun rays and cooling breezes off the Atlantic Ocean.

These recreational benefits are a byproduct of a recently-completed flood-risk reduction project in downtown Montauk by the U.S. Army Corps of Engineers, New York District, that provides a wider beach.

New York District personnel along with New York State Department of Environmental Conservation and officials from the Town of East Hampton, toured the site prior to the summer to ensure all work was completed.

New York District personnel along with New York State Department of Environmental Conservation and officials from the Town of East Hampton, toured the site prior to the summer to ensure all work was completed.

Prior to the work, the community and its residents were vulnerable to flooding and damage from severe storms as the shoreline was severely eroded by Hurricane Sandy.

While there was some erosion during the winter storm season — a regularly-occurring pattern of wind, currents and wave action that creates erosion in many coastal areas — the project did its job. Since then, warm weather and calm seas have naturally transported sand back onshore in downtown Montauk, as it has most years with the project also performing quite well during the current 2017 Hurricane Season.

**Beachgoers in Montauk, New York, on Long Island's east end, set up camp along the shore, August 16, 2017. A New York District flood-control project created a wider beach for summer recreation as a secondary benefit. (Photo Credit: James D'Amborsio, Public Affairs)**

The work — beach fill, dune, vehicle and pedestrian crossovers — was 100 percent federally funded through the Disaster Relief and Appropriations Act of 2013 (P.L. 112.3).

The project is a one-time, temporary measure reducing flood risk to downtown Montauk until a more robust project outlined in the Fire Island to Montauk Point (FIMP) study gets underway. Currently it's being finalized and in the approval process.

"The project is working as designed to reduce flood risk to people, property and infrastructure from severe storms," said Anthony Ciorra, chief of the Army Corps' New York District Sandy Coastal & Restoration Branch. "The fact that people can maximize summer recreation on a wider beach is a much-welcomed bonus."

To a certain degree, sand placed on the beach is expected to be sacrificial as it absorbs the full power of the open-ocean.

To that end, the Town of East Hampton, which is responsible for ongoing operations and maintenance of the project, will have to periodically add sand to the area.

The U.S. Army Corps of Engineers, the largest public engineering firm in the world with 34,000 employees around the globe, is committed to providing the highest level of service not only to residents of downtown Montauk, but to hundreds of communities throughout the nation.

# New life after Hurricane Sandy

By JoAnne Castagna, Ed.D., Public Affairs

This spring, Harry Strano, a wildlife biologist, was walking on the shore in Deal, New Jersey when he was pleasantly surprised. He saw a pair of clownish-looking birds building a nest. Others probably noticed them as well with their long legs, bright yellow eyes and long striking red-orange bills.

These birds are American Oystercatchers and they are a State Special Concern Species meaning their population is in decline and at risk of becoming threatened.

Jen LaStella, another wildlife biologist, believes the birds are returning to the shore because of a beach nourishment project being performed by the U.S. Army Corps of Engineers, New York District.

"The beaches created by the replenishment provide ample space and opportunities for shorebirds to rest, forage, and even nest," said LaStella who with Strano are performing environmental construction monitoring for this Army Corps project and work for Amy S. Greene Environmental Consultants, Inc.

The Atlantic Coast of New Jersey Sandy Hook to Barnegat Inlet Beach Erosion Control Project is the largest beach nourishment project ever undertaken by the U.S. Army Corps of Engineers and is finishing up this year.

The project will improve resiliency and reduce coastal storm risk to the shoreline in the aftermath of Hurricane Sandy and as an added benefit provide habitat for various rare, threatened and endangered wildlife - like the American Oystercatcher - that makes the shore their home.

**The American Oystercatcher is a large shore bird that specializes in feeding on oysters, clams, and mussels. Above an adult & chick forage for food along the Jersey Shore. (Photo Credit: USACE)**

The project began in 1994 and is being constructed by the Army Corps' contractor Manson Construction Company. Amy S. Greene Environmental Consultants, Inc. is their subcontractor that provides construction monitoring services for rare, threatened and endangered species. The project encompasses 21-miles of the Monmouth County, New Jersey shoreline that extends from the Township of Sea Bright down the shore to the Manasquan Inlet.

The Army Corps is working on this project in cooperation with its non-federal sponsor, the New Jersey Department of Environmental Protection and maintains close coordination with the U.S. Fish & Wildlife Service.

The work includes pumping offshore sand onto the shore to reinforce the natural protection to the upland afforded by the beach, and therefore reduce risk due to wave damage and inundation.

The completed project will widen the shoreline 400 feet and build up the beach 10-feet above sea level. "This project is the world's biggest beach-fill project in terms of sand volume," said Anthony Ciorra, chief, Coastal Restoration Branch, New York District.

The project also included notching – or removing rock - from three existing groins from Elberon to Loch Arbour. In addition, 10 existing storm water outfall pipe extensions are being lengthened.

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In 2012, 18 of the 21-mile project was completed. Hurricane Sandy removed 5 million cubic yards of sand from the shore, or enough to fill New Jersey's MetLife Stadium.

In early 2013, the Disaster Relief Appropriations Act of 2013 (PL 113-2) - better known as the Sandy Relief Bill - was passed and it authorized the Army Corps to not only repair engineered beach projects by replacing the sand lost during Sandy, but to also restore them to their original design profiles.

Since Sandy, the Army Corps has repaired the 18 miles of shoreline that was damaged and replaced 7.7 million cubic yards of sand to the shore.

Work then began on completing the remaining 3-miles of the project, between Deal and Elberon. On this project, as with all Army Corps beach nourishment projects, the Army Corps implements measures to protect and minimize impacts to rare, threatened and endangered species.

Peter Weppler, Chief, Environmental Analysis Branch, said these measures include performing work on the project only during the times of the year that are not a threat to the species.

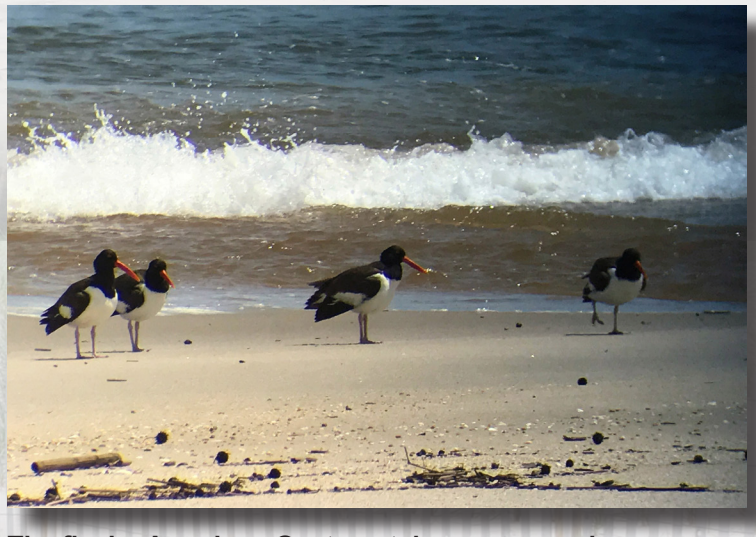
For example, sand was not placed on the shore between March 15th and August 15th because this is the time of the year that the nests may be on the shore. During this time, sand placement did occur in portions of the project where no nesting was taking place.

"In addition, we also place string fencing on the project property to delineate areas used by these species and we set up protective buffers around these areas," said Weppler.

Another important measure is hiring Environmental Construction Monitors, like LaStella and Strano. While monitoring this project, LaStella spotted several species, but she was surprised to see the American Oystercatcher nesting along the shoreline.

She believes the newly replenished beach was what attracted the bird. She said, "Prior to beach nourishment activities, beaches were virtually absent from portions of the project area due to years of erosion and storm events, as well as changes in natural sand deposition processes. The beaches created by the replenishment provide ample space and opportunities for shorebirds to rest, forage, and even nest."

Protecting endangered species, such as the American Oystercatcher, is beneficial to our whole environment.



**The flashy American Oystercatcher was once known as the "sea pie," but it was renamed in 1731 when naturalist Mark Catesby observed the bird eating oysters. This is one of the few bird species that specializes in feeding on saltwater mollusks. (Photo Credit: J. LaStella, Amy S. Greene Environmental Consultants, Inc.)**

Strano said, "Protecting shorebird nesting habitats often equates to protecting dune and beach systems and all of the species that inhabit these systems."

Not only are LaStella and Strano extremely happy about the environmental benefits of this coastal storm risk management project, but environmental agencies as well.

"The NJDEP's Endangered and Non-Game Species Program and the New Jersey Audubon expressed their excitement to us about the nesting success of these American Oystercatchers a bird that is part of the NJDEP's shorebird protection plan," said LaStella.

The project is expected to be completed later this year and after this will receive periodic sand replacement. "The project will not completely protect from another Hurricane Sandy like-storm, but it will greatly reduce the negative impacts," said Ciorra.

LaStella said, "I'm passionate about the protection of wildlife and their habitat, and grateful we had the opportunity to provide environmental construction services for the Army Corps' beach nourishment projects."

# Caven Point: A Modern, Resilient Facility Rises from Sandy's Ruins

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Such design reduces risk of future flooding and damage to that section of the structure housing offices, computers, furniture and communications equipment. Should the terminal flood again, water will flow underneath and around (instead of against) the building.

- Two-Story Windows: Provides panoramic views of New York-New Jersey Harbor and outfitted with blast-resistant windows exceeding all hurricane-resistance requirements.

- Water Quality & Soils Laboratory: Reconstitutes water-quality and soils-laboratory capabilities with improved configuration, layout and equipment. Laboratory work supports civil works initiatives such as dredging and coastal-storm risk-reduction projects.

- Fully Accessible: American with Disabilities (ADA)-compliant ramps and an elevator provide full access to the building for individuals with disabilities.

## SEA CHANGE FOR HARBOR MISSIONS

- New Boat Launch: Benefits the Survey Section's mission and other initiatives requiring trailered boats. Located on the western end of the facility, the launch includes a boat ramp and floating dock facilitating on-site launch and recovery of District vessels. Previously, boats were towed to a public ramp at Liberty State Park; the new launch eliminates back-and-forth towing, saving time and providing greater operational control.

- New Boat House: Provides long-term storage for eight trailer-based survey and utility boats and equipment. Heated storage and a sheltered service area extend vessels' service life.

**Vertical-axis wind turbines mounted on the roof of the new building at Caven Point Marine Terminal. By converting wind energy into electrical energy, long-term power costs will be reduced. (Photo Credit: James D'Ambrosio, Public Affairs)**

"The new boat launch, floating dock and boat-storage facility are welcome additions to Caven Point," said James Moore, project manager, adding, "Each will enhance the Survey Section's mission and improve overall operations at the terminal."

## INCREASED PRODUCTIVITY

The new building aids productivity: It was designed through the charrette process where users had input into design, configuration and layout features, and since it is highly resilient, there's much lower risk of work disruption from storms, flooding and power outages.

## ECONOMIC VALUE

The revamped facility fits nicely with the District's recently-completed Harbor Deepening Project dredging. To that end, Caven Point's survey mission and drift-collection mission ensure area waters are sufficiently deep and free of navigational impediments that could disrupt the largest port on the East Coast supporting hundreds of jobs and billions in commerce. Also, its proximity to Corps construction projects in the north Jersey area make it an ideal base of operations for the Metro Area and Metro Area West Construction offices.

## MOVING FORWARD

Going forward, there will be more storms, and we all hope the greater New York metro area never sees another like Sandy. But should that happen, Caven Point and its employees are in far better position to withstand extreme weather events and flooding. This is exactly where dedicated Corps of Engineers' staff want to be: On solid footing serving the District, public, and the Nation.

# District Reflections

"In the days following Sandy I wanted to do something to help those affected by the storm. I volunteered for a local non-profit to distribute items like food, water, and blankets to those impacted in Rockaway, Queens. I helped folks clear debris from basements, and listened to stories of how people were impacted by the storm. It was a profound experience. Having witnessed the devastation first hand and now 5 years later seeing all the progress made in that community is amazing."

**--Jean Lau, Chief, Equal Employment Opporuntity Office**

"Looking back on the tremendous challenges we faced in the aftermath of Superstorm Sandy, my most enduring memory is a sense of pride in the professionalism, technical expertise, and dedication of the New York District team. You fundamentally shaped my understanding and confidence in USACE Civilians in a tremendously positive way. You trained me well. There is no doubt in my mind that my experiences in Superstorm Sandy in October 2012 directly impacted to the effectiveness of our response to Hurricane Harvey along the Texas Coast in August 2017."

**--Col. Paul Owen, commander, USACE Southwestern Division**
**Former New York District Commander (2012-2015)**

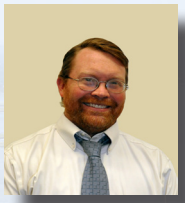
"Hurricane Sandy was a difficult time for New York District employees. Their homes and work lives were turned upside down for a considerable amount of time and for many, their lives will never be the same. I was glad I was able to assist during this tough time for New Yorkers. Being the Operations Chief in the Recovery Field Office I had to chance to oversee all the different recovery missions the Corps was involved in. It brought me great professional and personal satisfaction to be a part of that."

**--Sean O'Donnell, Chief, Operations Readiness**

"Looking back at Super Storm Sandy the immediate impact to me was loss of power and downed trees at my home. I was fortunate to be able to get power from my neighbor's generator. This benefit also allowed me to answer the call from Mr. Joe Seebode to support the Unwatering Operation as the Environmental Specialist located at the Battery Park DTOS. Performing Emergency Response Operations provides immediate accomplishment of work and its associated gratification. You get the experience of completing projects in real time. I was hooked and could not say no when asked to continue to support the EOC and later assuming Deputy Commander responsibilities within the Recovery Field Office. I had the opportunity to work with so many talented people, all coming together to get our area back to normal."

**--Allen Roos, Chief, Environmental, Inter-Agency & International Services Branch**

# District Reflections



"In 2012, I was the Coastal Section Chief for the New York District, responsible for coastal planning studies in NY and NJ. As Sandy was approaching, there was acknowledgement that this storm would be significant. I recall watching the continual newscasts as the storm approached the area. During the day, there was already coverage of flooding in the Rockaways, and waves overtopping the beach, many hours before the peak of the storm. After the storm ended I was able to get up in the air via helicopter inspection to take a look at the New York coastline. It gave myself and the team a full appreciation of the extent of damages. Images from this flight have appeared in nearly every report published following that flight. One project the Corps has is the Fire Island Inlet to Montauk Point, NY, Breach Contingency Plan (BCP), which gives the District the authority to close breaches quickly, and sets out the framework to accomplish this effort in a streamlined fashion.

It's a testament to the District that the first time this plan was used after 20 years on the shelf, and under these conditions, that we were able to develop plans, secure funding, secure permits, and execute two Project Partnership Agreements (PPA's) for breach closure by November 11th. The breaches were completely closed using two different dredges by November 27th and December 7th, greatly exceeding the expectations in the plan."

**--Steve Couch, Deputy Chief, Planning Division**

"I was honored to have led the Engineering team in stabilizing the region immediately after Hurricane Sandy. As you look back over the past 5 years you see the affect we have had on our communities and realize the significance of those accomplishments and we should take pride in ourselves and the organization. As we continue to develop plans and specifications for Sandy Projects, I realize there is much more to be done and know that our Engineering Division staff will continue to perform in an exemplary manner."

**--Mike Rovi, Chief, Engineering Division**

"As I type I am watching the 100 employees of CavenPoint Marine Terminal moving into their new state-of-the-art LEED Gold replacement building designed and built by New York District employees. One of the great resiliency projects I've enjoyed watching New York District create and implement over the last 5 years. Starting with closing the Sandy-caused breaches on the South Shore of Long Island, repairing the coastal storm risk reduction shoreline projects under PL 84-99, restoration of the 27 navigation channels and then the new projects Authorized But Unconstructed but NOW Constructed. We've closed gaps on the New Jersey shoreline, stabilized the infamous Fire Island to Montauk Point and constructed T-groins along the coastline in Seagate—all of this with a staff that constantly strives to go above and beyond what's required. It's been an honor to be a Division Chief within New York District."

**--Thomas Creamer, chief, Operations Division**

"Greetings to all my old friends and colleagues In New York District! Hurricane Sandy was quite an experience for us all, but it really showed NY District's ability to perform in an emergency. I'll never forget being in Colonel Owen's office when we saw the transformer explode on the west side and watched lower Manhattan go dark. We later walked around the flooding with the Governor; my heart nearly stopped watching the Hudson River flowing at a high rate into the World Trade Center basement. When we climbed down into the South Ferry subway station to see that it was filled with water, we knew it was going to be bad. I only got a chance to work on the unwatering mission, but that will forever be one of the highlights of my career. I wish I could have stayed for the larger response mission, but I've heard so many great things about the mission that make me proud."

PS: If you're ever down in New Orleans come look me up!

**--Col. Mike Clancy, commander, New Orleans District Commander**
**Former New York District Deputy Commander (2009-2012)**