



US Army Corps
of Engineers
New England District

Update Report for Rhode Island



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BUILDING STRONG[®]

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Mission

The missions of the New England District, U.S. Army Corps of Engineers include flood risk management protection, emergency preparedness and response to natural disasters and national emergencies, environmental remediation and restoration, natural resource management, stream bank and shoreline protection, navigation maintenance and improvement, support to military facilities and installations, and engineering and construction support to other government agencies. The six New England states cover 66,000 square miles and have 6,100 miles of coastline, 171 federal navigation projects (13 deep draft commercial waterways), 13 major river basins, and thousands of miles of navigable rivers and streams. The District operates and maintains 31 dams, three hurricane barriers and the Cape Cod Canal. Through its Regulatory program, the District processes nearly 3,000 applications per year for work in waters and wetlands of the six-state region. We employ about 510 professional civilian employees, with about 300 stationed at our headquarters in Concord, Mass. The other Corps of Engineers employees serve at Corps projects and offices throughout the region. For information on the New England District visit the website at: www.nae.usace.army.mil/; or on Facebook: [facebook.com/CorpsNewEngland](https://www.facebook.com/CorpsNewEngland); or on Twitter: twitter.com/corpsnewengland; or on Flickr: www.flickr.com/photos/corpsnewengland.

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Navigation

BLOCK ISLAND HARBOR OF REFUGE (2nd CD) – The Corps’ special purpose dredge CURRITUCK *dredged* the entrance channel to the Block Island Harbor of Refuge Federal navigation project during June of 2016. A \$3,445,000 contract to repair the east jetty was awarded in the fall of 2014. The contractor struggled with the work and was eventually terminated. The bonding company for that contract has subsequently taken over the work and is in the process of hiring a contractor to complete the work.

CHARLESTOWN BREACHWAY & INLET, CHARLESTOWN (2nd CD) – Local officials requested Corps involvement to resolve growing concern for navigation safety through the breachway. The Initial Appraisal Report examined the removal of large boulders within and on the ocean side of the breachway, as well as dredging of the natural channel through the inlet and into Ninigret Pond.

That report recommended proceeding with final design and National Environmental Policy Act (NEPA) documentation for a project to remove the boulder hazards in the inlet and its seaward approaches under Section 107 authority. In 2013, the project sponsor, Rhode Island Coastal Resources Management Council, informed the Corps that Rhode Island is pursuing FEMA funding sources to combine this project with damages caused by Super Storm Sandy in 2012. If this project is constructed under this separate program, the Corps will terminate this Section 107 project.

GREAT SALT POND (2nd CD) – The Corps’ special purpose dredge CURRITUCK *dredged* the entrance channel to the Great Salt Pond Federal navigation project on Block Island during May of 2016.

PAWCATUCK RIVER AND LITTLE NARRAGANSETT BAY (2nd CD) – The proposed work involves maintenance dredging of the 10-foot-deep Mean Lower Low Water (MLLW) by 100-foot-wide entrance channel extending approximately 3 miles from Stonington Point, through Little Narragansett Bay to Rhodes Point. Natural shoaling as well as the effects of Hurricane Sandy reduced available depths in the 10-foot deep entrance channel, making navigation hazardous at lower stages of the tide.

Dredging of approximately 60,000 cubic yards (cy) of material from the authorized project area will restore the channel to authorized dimensions. The project has received funding to remove the shoaling. Coordination with the resource agencies was completed.

A \$1.4 million contract was awarded on Sept. 18, 2014 to H&L Contracting, LLC. Construction started in November 2014. The authorized federal project provides for a navigation channel 10 feet deep below mean lower low water (MLLW) and 100 feet wide extending approximately 6,000 linear feet from Sandy Point Island to just west of Pawcatuck Point. A hydraulic cutterhead dredge will remove the material from the shoaled portions of the Little Narragansett Bay federal

channel and pump it onto the island where it will be graded. Dredging operations, including placement of material on the island and final grading, were completed in January 2015. The dredge could not remove some hard packed sand and cobble areas. Therefore, the government dredges Snell and Currituck removed about 3,000 cubic yards of sand and rock material in December of 2015 to complete the project.

POINT JUDITH HARBOR OF REFUGE (2nd CD) – The Corps received a request from the Rhode Island Coastal Resources Management Council (CRMC) to conduct a feasibility study of potential channel improvements at Point Judith under the Section 107 continuing authority. The study will examine a proposal to widen and extend the Federal channel northeasterly along the north bulkhead at the Port of Galilee. A Feasibility Cost Share Agreement (FCSA) to share the study costs was executed with the local sponsor, the RI CRMC. The study is scheduled to be completed by December 2016. The Corps has completed a Major Maintenance Study for the main breakwater forming the Point Judith Harbor of Refuge. As part of this effort the Corps has evaluated the effectiveness of the breakwater in its current condition to provide protection for navigation as well as secondary shore protection benefits. The Major Maintenance Report presents conclusions from the study, addressing the effectiveness and stability of the existing structure as well as evaluating several potential repair alternatives.

Several features of the Point Judith Harbor of Refuge project were damaged by Hurricane Sandy. Funds provided in the Disaster Relief Appropriations Act of 2013 are being used to make repairs to the East Jetty, the Camp Cronin parking area shoreline, and the East Shore Arm Breakwater. Repairs to the East Jetty, which is adjacent to the Salty Brine Beach, have been completed. A \$5.4 million contract was awarded on Aug. 27, 2014 to protect the Federal portion of the shoreline with the construction of stone revetment at the Camp Cronin Fishing Area and to perform repairs to the East Shore Arm breakwater due to Hurricane Sandy damage. On Oct. 23, 2014, the optional state portion of the stone revetment construction at the Camp Cronin Fishing Area was awarded with RIDEM funds via a HUD grant for \$3.2 million. The work on this project was expected to take two seasons (Oct. 1, 2014 – May 15, 2015; and Oct. 1, 2015 – May 15, 2016). The work to construct the ocean shoreline stone revetment at the Camp Cronin fishing area was completed in May 2015. The contractor demobilized from the site so that this fishing area and the overlook site could be used during the summer recreational season. In mid-October 2015, the contractor mobilized onsite to begin constructing emergency repairs to the adjacent East Shore Arm breakwater. *The contractor demobilized from the site by June 30, 2016. It is expected that there will be a remobilization for a third season of work (Oct. 1, 2016 to late January 2017) to repair the East Shore Arm Breakwater as there was additional damage, requiring more stone repairs.*

The shoreline revetment work involved excavation, furnishing and placing gravel bedding, stone filter materials, underlayer stone, 2-ton stone, armor stone, cobble fill,

crushed stone, and parking lot fill. Work involved removing, stockpiling, and resetting existing cobble and boulders currently at the site. Repairs to the breakwater require the furnishment, delivery, and placement of new armor stone (up to 15-tons per stone) to replace stones displaced during Hurricane Sandy, and the filling in of existing gaps and low points along the breakwater. The repairs will be performed to restore the breakwater to the original profiles and cross-sections. Repairs require substantial moving and manipulation of both new and existing stones to achieve both the required interlocking placement and design grades.

PROVIDENCE RIVER (1st & 2nd CDs) – Shoaling has been identified in the 40-foot-deep main ship channel. Maintenance dredging was last performed in 2003 when 1,374,851 cubic yards were removed at a cost of \$15,492,858. We estimate that about 550,000 cubic yards need to be removed to return the project to its authorized dimensions. We have completed sampling and testing and preliminarily have determined that a good portion of the material is not suitable for unconfined open water disposal at the Rhode Island Disposal Site. We have contacted the state to determine if there is currently any capacity in the previously constructed CAD cells used for the last maintenance dredging of the Providence River and were told that there is limited, insufficient capacity available in the cells. We anticipate meeting with the Rhode Island dredging team to discuss the project and the capacity needs of the state and potential private entities with regard to new CAD cells. New CAD cells will likely require that we perform borings and engineering and design at any proposed CAD location(s). The FY 2017 President's Budget includes \$200,000.

U.S. COAST GUARD STATION POINT JUDITH (2nd CD) – The U.S. Coast Guard (USCG) contacted USACE after Hurricane Sandy and requested assistance in the design, award and construction of coastal storm protection which had been lost in the storm. An initial site visit/coordination meeting was conducted in May 2013. An agreement between USACE and the USCG that spells out the scope, schedule and funding for the project was finalized in November 2013. The significant damage from Hurricane Sandy starts at the northeast tip of the property and extends approximately 200 feet south. The USCG asked USACE to look at replacing the damaged section of wall with stone protection and armoring the front of the remaining sea wall to a point where it meets the beach just south of the lighthouse. A small business contract solicitation for the repair work was issued in July 2014. A \$935,300 contract was awarded on Sept. 25, 2014 to HK&S Construction Holding Corp., of Newport, R.I. Construction began in December 2014. Modifications to date increased that award by \$152,368. The work consisted of placement of 4 – 8 ton stone, underlayer stone, stone bedding and gravel-filled filter materials for a 90-foot reach where Hurricane Sandy damaged the seawall and scoured the inclined natural slope behind it. The project included placement of 4 – 8 ton stone protection seaward of an additional 400-foot stretch of the seawall. Approximately 7,000 tons of 4 – 8 ton stone was needed to construct the berm in front of 600 linear feet of seawall, including the damaged reach. In addition to repair and protection of the

seawall, the contractor removed an old foundation and contaminated soil, installed a safety fence along the top of the seawall, and replaced a basketball court that was intentionally dismantled/damaged in order to access the

seawall. The work was substantially complete in November 2015. Minor site restoration, including re-seeding, will occur in 2016.

Ecological Restoration/Watershed Projects

LOWER BLACKSTONE RIVER (2nd CD) – The Rhode Island Department of Environmental Management (DEM) requested assistance from the Corps to restore anadromous fish populations in the Blackstone River between Narragansett Bay and the Lonsdale area in Rhode Island. The Corps' work is part of an interagency plan that would provide access to over 200 acres of spawning and foraging habitat for anadromous fish (river herring and shad). Our study is exploring alternatives to restore fish passage around the Elizabeth Webbing Dam in Central Falls. We received funding in 2010 to begin the feasibility study and executed a feasibility cost sharing agreement in August 2011. We presented the evaluation of alternatives to stakeholders in September 2012. The DEM requested an expanded scope to evaluate fish passage alternatives at two downstream dams. We amended the cost sharing agreement on Nov. 13, 2013 and are proceeding with fish passage alternative evaluations at Main Street and Slater Mill Dams. We anticipate project approval in early 2017.

NARROW RIVER RESTORATION, NARRAGANSETT AND SOUTH KINGSTOWN (2nd CD) – The New England District initiated a feasibility study under the Section 206, Aquatic Ecosystem Restoration Program in March 2005. The study considered alternative plans to restore eelgrass, shellfish beds, salt marsh, and other habitats in the Narrow River. The Rhode Island Coastal Resources Management Council (CRMC) was the non-federal sponsor. The study team completed the baseline studies (bathymetric surveys, sediment mapping, shellfish and sediment sampling, shorebird surveys, a water quality summary, and hydraulic modeling) and a preliminary evaluation of restoration plans, which involved dredging and redistributing sediments to restore proper elevations and depths for salt marsh and eelgrass, and inlet dredging to improve flushing. CRMC decided not to move forward with the feasibility study. However, we resumed work on the study with The Nature Conservancy serving as the non-federal sponsor last fiscal year.

NATIONAL ESTUARY PROGRAM – The New England District has been requested to provide technical assistance to the implementation committee for the National Estuary Program's (NEP) Narragansett Bay Project (NBP). The NBP Comprehensive Conservation and Management Plan are complete. Goals of the NEP include identifying nationally significant estuaries that are threatened by pollution, development or overuse; promoting comprehensive planning for and conservation and management of these waters; encouraging the preparation of management plans; and enhancing the coordination of estuarine research. Our activities include attendance at committee meetings on water resource planning and transfer of data to the NEP Geographic Information System for approval.

TEN MILE RIVER ECOSYSTEM RESTORATION (1st & 2nd CDs) – The Corps of Engineers, the Rhode Island Department of Environmental Management (RIDEM), the city of East Providence, and several other partners collaborated in the construction of Denil fish ladders at the three dams along the lower Ten Mile River in the city of East Providence. The fish species targeted for restoration include American shad and two species of river herring (alewives and blueback herring). The Ten Mile River project consists of construction of Denil fish ladders at the lowest three dams (Omega Pond Dam, Hunt's Mill Dam, and the dam at Turner Reservoir) on the river. The three fishways allow anadromous alewives access to about 340 acres of spawning habitat and provide approximately three miles of riverine spawning habitat for blueback herring and American shad. These habitats will support a fish run of over 200,000 river herring. The fishways also are capable of passing about 25,000 shad. We completed construction of the last of the fishways at Omega Pond Dam in April 2015 and construction of all three dams is complete. The Corps and RIDEM will work to add eel passes to Omega Pond Dam and Turner Reservoir and modify a minor impediment to fish passage downstream of Hunts Mill Dam over the upcoming year.

Flood Plain Management Services/Silver Jackets

Under the authority provided by Section 206 of the 1960 Flood Control Act (PL 86-645), as amended, the Corps of Engineers can provide the full range of technical services and planning guidance that is needed to support effective flood plain management. General technical assistance efforts under this program include determining: site-specific data on obstructions to flood flows, flood formation, and timing; flood depths, stages or floodwater velocities; the extent, duration,

and frequency of flooding; information on natural and cultural flood plain resources; and flood loss potentials before and after the use of flood plain management measures. Types of studies that have been conducted under the FPMS program include: flood plain delineation/hazard, dam failure analyses, hurricane evacuation, flood warning, floodway, flood damage reduction, stormwater management, flood proofing, and inventories of flood prone structures.

PAWTUXET RIVER FLOOD MAPPING—Areas in Cranston, Warwick, and West Warwick, Rhode Island located along the Pawtuxet River were severely impacted by the spring 2010 floods. Historically, government officials, emergency responders and residents have not had the technology available to translate the flood elevation, depth, and areal extent of flooding to points distant from a USGS stream gage. Incorporating data from this area into the USGS' web based Flood Inundation Mapper will provide decision

makers and residents with a significant resource. The tool will project information based on the river stage at the USGS stream gage "Pawtuxet River at Cranston (01116500)" and would cover stages from about 8-22 feet (50- to 0.2-percent chance flood) in 1 foot increments.

The project is well underway and the USACE NAE survey is complete. The H&H is almost completed and the next step will be a review by the USGS.

General Investigations

RHODE ISLAND FLOOD DAMAGE REDUCTION STUDIES (1st & 2nd CDs) – March 2010 storms in Rhode Island resulted in significant riverine flooding of homes, businesses, roads and wastewater treatment facilities. After the event, the Corps received funding through the 2010 Supplemental Appropriations Act (P.L. 111-212) to conduct reconnaissance investigations in the Pawtuxet, Woonasquatucket and Pawcatuck River watersheds.

Efforts initiated in the spring of 2011 included meeting with individual town and city representatives and RIEMA to collect flooding and damage information. This information along with other data was used to prepare Reconnaissance Reports to determine if Federal (Corps) participation in detailed flood risk management feasibility studies is warranted.

The Reconnaissance Reports for the Pawtuxet and Woonasquatucket Rivers were approved in August 2012 and the Pawcatuck River Report was approved in May 2012. The reports recommend moving to the feasibility study phase. The non-Federal sponsor for the Pawtuxet River Feasibility study is anticipated to be the state of Rhode

Island, Department of Administration in partnership with local communities. Details on cost sharing will be worked out in 2016. This study will require a 50% Federal-50% non-Federal cost-sharing requirement.

Subsequently, the Disaster Relief Appropriations Act of 2013 (P.L. 113-2) authorized the Secretary of the Army to complete ongoing flood and storm damage reduction studies, at full Federal expense, in areas that were impacted by Hurricane Sandy in the North Atlantic Division of the U.S. Army Corps of Engineers, which includes the Pawcatuck River watershed.

Two new feasibility studies are currently being conducted: one that addresses flood damage along the river and one that addresses coastal storm damage. A cost-sharing agreement has been executed between USACE and the town of Westerly for the flood damage reduction feasibility study. A similar agreement has been signed for the coastal storm damage reduction feasibility study between USACE and the Rhode Island Coastal Resources Management Council. Both of those studies are ongoing and are scheduled to be completed by early 2017.

Hurricane and Storm Damage Reduction Projects

Section 103 of the 1962 River and Harbor Act authorizes the Corps of Engineers to study, design, and construct small coastal storm damage reduction projects in partnership with non-Federal government agencies, such as cities, counties, special authorities, or units of state government. The maximum Federal cost for planning, design, and construction of any one project is \$5,000,000. Each project

must be economically justified, environmentally sound, and technically feasible. Hurricane and storm damage reduction projects are not limited to any particular type of improvement. Beach nourishment (structural) and floodproofing (non-structural) are examples of storm damage reduction projects constructed using the Section 103 authority.

Interagency and International Support

SUPPORT TO THE U.S. DEPARTMENT OF VETERANS AFFAIRS – The New England District has teamed up with a sister federal agency in an effort to improve the care wounded Soldiers are receiving at military hospitals. The U.S. Department of Veterans Affairs (VA) and the Corps of Engineers entered into an interagency agreement in 2001 for the goods and services the Corps may provide to the VA when needed. These include project management, design services, construction management services, environmental services, preliminary technical investigations, surveying,

and historical presentation compliance at VA facilities. In 2008, the VA started exercising its agreement with the Corps in New England and NAE is now supporting the VA with services at several facilities in New England. In Rhode Island, NAE and the VA held a ribbon cutting ceremony for the \$18.8 million new Specialties Clinic and Behavioral Health Addition at the VA Providence Hospital in Providence in July 2012. The goal of the new addition is to better meet the mental health and specialty needs of Veterans.

Regulatory Program

Department of the Army permits are required from the Corps under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act. The Corps reviews permit applications for work affecting navigable waters under its Section 10 authority and the discharge of fill material into all waters, including inland wetlands, under Section 404. A list of Monthly General and Individual Permit Authorizations is provided at www.nae.usace.army.mil/Missions/Regulatory/PermitsIssued.aspx. Relevant environmental documents are available upon written request.

For details on Corps jurisdiction of wetlands and whether a permit is required for your work contact the Corps' New England District Regulatory Division at 978-318-8338 or 978-318-8335 or by email to cenae-r@usace.army.mil or visit the website at: www.nae.usace.army.mil/Missions/Regulatory.aspx.

GENERAL PERMITS – The District has comprehensive Regional General Permits (RGPs) in place for each of the six New England states that authorize work with no more than minimal adverse effect on the aquatic environment. Up to 98 percent of all permits issued in New England are RGPs. Work eligible under the RGPs is generally approved in less than 60 days. The current Rhode Island RGP is available at:

www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/RIGP.pdf.

DEEPWATER WIND (BLOCK ISLAND) (1st & 2nd CDs) – The Corps approved the Deepwater Wind Block Island, LLC, and Deepwater Wind Block Island Transmission System, LLC, permit request on Sept. 4, 2014 to construct five wind turbine generators and do other work off the southeast coast of Block Island, Rhode Island.

Deepwater Wind Block Island, LLC plans to construct and maintain the Block Island Wind Farm (BIWF), a 30-megawatt offshore wind farm located in Rhode Island waters. The BIWF will consist of five 6-megawatt wind turbine generators (WTG), a submarine cable interconnecting the five WTGs, and a 34.5-kilovolt submarine transmission cable. Deepwater Wind Block Island Transmission System, LLC plans to construct the Block Island Transmission System (BITS), a 34.5-kilovolt alternating current bi-directional submarine transmission cable from Block Island to the Rhode Island mainland (approximately 25.1 miles).

The BIWF and BITS were subject to joint review under the National Environmental Policy Act (NEPA). The Corps permit and Environmental Assessment can be viewed at www.nae.usace.army.mil/Missions/ProjectsTopics.aspx under “Rhode Island.”

Defense Environmental Restoration Program (DERP)

This is a congressionally directed program (PL 98-212) that emphasizes the identification, investigation and prompt cleanup of hazardous and toxic waste; unexploded ordnance; buildings and other structures and debris at current and former military facilities. A total of 85 formerly used defense sites (FUDS) have been identified in Rhode Island. Site and project eligibility investigations at all sites are now complete, including 53 where no work was found to be necessary. Of the 32 sites where work was needed, the following efforts are underway:

QUONSET POINT, DAVISVILLE and NORTH KINGSTOWN (2nd CD):

Aqua Tank Farm – Test results from monitoring wells at the site indicate that concentrations of all groundwater contaminants comply with the ground water quality standards that are recommended by Rhode Island Department of Environmental Management (DEM) with the exception of Light Non-Aqueous Phase Liquid (LNAPL). Soil and LNAPL removal operations were completed in March 2010. DEM approved the corrective action closure report for the removal operations and provided CENAE a No Further Action letter, dated April 12, 2011. The remediation building and monitoring wells were decommissioned in summer 2012. A project close out was completed for this project in

January 2013.

Blue Beach Site – Sampling for TCE in 19 wells was conducted in June 2009. CENAE contracted with an A-E firm in second quarter FY10 to develop a conceptual site model (CSM) and remedial investigation/feasibility study (RI/FS) work plan for the Blue Beach site and associated Red Maple Swamp to address the TCE and metals contamination. CENAE retained an A-E firm to execute the RI/FS workplan and complete the RI/FS, slated to be completed in *fall* 2016.

Camp Avenue Dump Site – The New England District is continuing the long-term monitoring of soil cover (surface inspection) following its installation in the spring of 1998.

Charlestown (2nd CD) Naval Auxiliary Landing Field (CNALF) – A remedial action was completed in July 2008 to remove and dispose of petroleum contaminated soil. Wells also were installed as part of a Long Term Monitoring Program. The Corps completed 2 years of quarterly groundwater sampling from October 2008 through September 2010. The Draft Two Year Long Term Monitoring Report was submitted to RIDEM in January 2012. The Corps received the state's comments on the report in September 2012 and addressed all comments. The document will be finalized in 2016.

Electric Boat, PRP site – USACE is currently involved in settlement negotiations with Electric Boat.

Kiefer Park – A free-floating product recovery system was installed at this site. This system has not been effective in removing Light Non-Aqueous Phase Liquid (LNAPL) at the site. We contracted with an A-E firm in second quarter 2010 to complete an LNAPL Mass, Mobility and Recoverability assessment for the Kiefer Park property. Field work was completed in late fall 2010 and the final LNAPL management plan was completed in spring 2011, the results of which determined that NAPL at the project is not mobile. NAE retained an A-E firm to complete a validation of the project's existing 1997 RIDEM approved human health and ecological risk assessment as well as a site closure documentation under Rhode Island Remediation Regulations, which is slated to be completed in 2016.

Newport Naval Base (NETC Melville) in Newport (1st CD) – Melville North Area of Concern (AOC) #1 is located in the central portion of the site and is currently utilized as a boat marina by Hinckley Yachts. The District completed the removal of a large underground vault-like structure with surrounding PCB and oil-contaminated soils in September 2002. Additional investigation was required and a Site Investigation Report (SIR) was prepared and approved by the state (RIDEM).

The report's selected remedy included the removal of a smaller underground concrete vault (along with associated petroleum contaminated soil from within the buried vault), implementation of post-remedial action groundwater sampling program, and the use of petroleum absorbent tubular socks to remove product from the product recovery wells. The small vault removal was completed in the summer of 2010. Subsequent action at the site includes well monitoring and product removal. The long-term monitoring and product removal from the wells will continue annually.

NIKE PR-58 site – The New England District installed additional wells and various other sampling locations during the summer/fall 2009 and spring 2010 to identify the horizontal and vertical extents of the chlorinated volatile organic compound plume associated with the NIKE PR-58 site. Data collected was used to complete a Draft Remedial Investigation (RI) Report for the site. The RI had several data gaps that were required to be filled, prior to finalizing the report. CENAE decided that these data gaps needed to be completed prior to issuing a final RI for the site. CENAE has contracted with an AE to conduct field activities to fill data gaps identified in the Draft RI and complete a combined RI and Feasibility Study for the project.

Additionally, CENAE conducted a second sub-slab soil vapor investigation at the town of North Kingstown DPW facility, located immediately south of the PR-58 property. Results of this investigation found that impacts to the Facility from vapor intrusion are below actionable levels, therefore CENAE will continue to monitor groundwater beneath the facility (as a part of the larger FUDS project monitoring network) to identify any trends that may indicate future

impacts to the facility. Additional RI/FS field efforts were completed in summer 2013, the results of which were used to complete a CERCLA-compliant RI/FS for the project in summer 2015. The Proposed Plan and Decision Document are slated to be completed in 4th quarter FY16 and 2nd quarter FY17, respectively.

Nike PR-79, Foster (2nd CD) – Annual supply well sampling continues at the four active water supply wells impacted by the contaminant of concern (COC), TCE, at levels, above the RIDEM standard for GA (Groundwater A rating) aquifers. USACE installed and is maintaining carbon filters to remove the TCE on all impacted water supply wells as a protective measure for local residents. A supply well monitoring and carbon filter inspection event was held in fall 2013. Additionally, USACE contracted the U.S. Army Public Health Command (USAPHC) to complete a drinking water well survey of additional residential drinking water wells in the area of NIKE PR-79. The drinking water well survey consisted of the identification of approximately 70 residential and/or commercial drinking water wells, potentially impacted by the COC from NIKE PR-79. CENAE requested permission from each property owner to sample their well for volatile organic compounds (VOCs); 13 property owners responded, all of which granted permission to have their wells sampled.

Sampling efforts were completed in summer 2010 and results were provided to the homeowners and RIDEM in late summer 2010. No COCs were detected at concentrations in excess of applicable regulatory standards. A 3rd quarter FY 2016 contract will be awarded to an A-E firm to complete various tasks leading up to and including the completion of the RI/FS report, slated to be completed in 4th quarter FY 2017.

In the past number of years, dating back to the program's start in the mid-1980s, remediation contracts have been completed at the following locations:

First District

Army Reserve Center, **Lincoln**
Nike Site, **Bristol**
Fort Adams, **Newport**
Beavertail Point Naval Communications Station, **Jamestown**
Prudence and Rose Islands, **Portsmouth and Newport**
Fort Church, **Little Compton**
Fort Wetherill, **Newport**
Sachuest Point, **Newport**
Rose Island, **Newport**
Fort Wetherill, **Jamestown**
Fort Getty, **Jamestown**
Prospect Hill Fire Control Station, **Jamestown**
Camp Avenue Dump Site, **Davisville**,
Hull Cove Fire Control Station, **Jamestown**

Second District

T.F. Green Airport, **Warwick**
Nike Site PR-79, **Foster**
Devil's Foot Road, **Quonset Point**
Quonset Point NAS, Nike PR-58
Nike Site, **Coventry**
Building, pier and pool demolition, **North Kingstown**

In addition, several remediation projects have been completed at **Quonset Point Naval Air Station (2nd CD)** and **Charlestown (2nd CD)**. These efforts included the

removal of a total of 124 tanks, ranging in size from 1,000 to 25,000 gallons, cleaning and grouting of three miles of pipeline and removal of 20 transformers.

Work for the U.S. Environmental Protection Agency (EPA)

The New England District is the Corps of Engineers' total support agency for the U.S. Environmental Protection Agency's (EPA) Region I (New England) program for those federal-lead projects assigned to the Corps by EPA. This includes responsibility for design, construction execution, and some operation and maintenance of remediation projects. In addition, the District is providing technical assistance upon request to Region I for other federal-lead projects assigned by EPA to private firms, as well as for some potential responsible party (PRP) remediation under Superfund.

Superfund Assistance

CENTREDALE MANOR, NORTH PROVIDENCE (1st CD) – The Centredale Manor Restoration Superfund Site consists of property located along Route 44 in North Providence and a section of the adjacent Woonasquatucket River and its associated ponds and floodplain. A chemical company and a drum reclamation company previously occupied the property, operating from the 1940s to the early 1970s. All buildings on the property were demolished in the mid-1970s. Roadway, parking lots and two high-rise residential buildings that were constructed in the late 1970s and early 1980s currently cover the property. Elevated levels of dioxin, PCBs, chlorinated solvents and other compounds have been found in soils at the property and in soils and sediments downstream of the property.

The New England District previously designed a temporary cap for contaminated soils on the property and completed a flood inundation and hydraulic study at the site. The Corps provided technical oversight during design and construction of a non-time critical removal action (NTCRA) in FY 2002/2003, which included the reconstruction of Allendale Dam and sampling and removal of contaminated residential soils adjacent to Allendale and Lyman Mill Ponds.

Contractors Battelle and AMEC working under the Corps prepared many documents for the site which are now part of the Administrative Record. Documents include: interim final human health and ecological risk assessments (November 2005), interim final RI report (July 2005), Interim Final Feasibility Study (April 2010), and Addendum to the Oxbow Risk Assessment and the Addendum to the Interim Final Feasibility Study (September 2011). EPA issued the Proposed Plan in early November 2011 and conducted public meetings in November 2011. The formal public comment period ended on Feb. 12, 2012. The EPA also issued an Addendum to the Proposed Plan (August 2012) with public meetings in August 2012 and a formal public comment period ending in mid-September 2012. Remedy for the site differs by location, but for the source area includes targeted excavation and conversion of existing caps, and for the sediment includes, excavation and on-site containment in an Upland Confined Disposal Facility. The Record of Decision was signed on Sept. 28, 2012.

Special Studies/Projects

ALLENDALE DAM, NORTH PROVIDENCE (1st CD) – The Corps was authorized by Section 358 of the Water Resources Development Act (WRDA) of 1992 (PL 102-508) to repair Allendale Dam on the Woonasquatucket River in North Providence. The dam was naturally breached in November 1991. Reconstruction of the dam was completed

in February 2002. The U.S. Environmental Protection Agency (EPA) is investigating the Centredale Manor site upstream under Superfund authority. Remediation of the contamination at the site is being coordinated with EPA and the city of North Providence as part of the Centredale Manor Superfund Project. (See earlier entry)

Operating Flood Risk Management Projects

The New England District provides flood risk management project benefits at two projects it operates in the state of Rhode Island. Information on each of the projects is provided below.

FOX POINT HURRICANE BARRIER (1st & 2nd CDs) – The New England District took over the operations and maintenance (O&M) of the Fox Point Hurricane Barrier in Providence, R.I., from the city of Providence as of Feb. 1, 2010. The Corps is responsible for project features within

the banks of the Providence River. Day-to-day management of the barrier falls under the Cape Cod Canal Field Office in Buzzards Bay, Mass. O&M responsibility remains with the city of Providence for project features located outside the river banks such as dikes that flank each side of the barrier and for the three vehicular street gates and five sewer gates that comprise the rest of the project.

The hurricane barrier provides critical flood protection to the state capital and has prevented loss of life and property time

and again since its construction in 1966. In calendar year 2013, the Corps staff operated the barrier for flood control on 4 occasions during coastal storms. The hurricane barrier provides protection against tidal flooding from hurricanes and other storms to approximately 280 acres of downtown Providence. The protected area includes the commercial and industrial center, transportation facilities, public utilities and many homes.

The hurricane barrier is a 700-foot-long concrete structure, 25 feet high, that extends westerly across the Providence River. The structure contains three tainter gate openings that prevent the entry of floodwaters from the bay when closed and permit flow from two rivers out to the bay and passage of small vessels when open. Each gate is 40 feet high and 40 feet wide. Two 10- to 15-foot high earthfill dikes with stone slope protection flank each side of the barrier. The eastern dike is 780 feet long and the western dike is 1,400 feet long.

A pumping station and cooling water canal are integral parts of the project. During a tidal/flood situation, the pumping station's five large pumps can discharge the floodwaters of the Providence River through the barrier into the bay. Two gated openings in the pumping station, each 10 feet high and 15 feet wide, admit water into the cooling water canal used by a power plant, located immediately behind the barrier.

The Corps has completed several major maintenance projects since taking over O&M responsibilities. Completed maintenance work includes: overhaul of river pump #5 and river pump #1, new circuit breakers and electro-mechanical upgrades to high voltage switchgear in the pump station, a new roof for the pump station, installation of modern water level monitoring and communication equipment, rehab of sluice gate operating equipment, and the replacement of the high voltage incoming power supply lines to the pump station.

Ongoing major maintenance projects include: an overhaul to river Pump #3. Pending maintenance projects include a major overhaul of river Pump #2, a lead-based paint removal and repainting of the three tainter gates, a refurbishing of the gate lifting machinery, and concrete repairs.

WOONSOCKET FLOOD DAMAGE REDUCTION PROJECT (1st & 2nd CDs) – The New England District took over operation and maintenance of the Woonsocket Flood

Damage Reduction Project in Woonsocket, RI, in January 2009 in accordance with Section 2875 of the National Defense Authorization Act for Fiscal Year 2008. The project was transferred from the city of Woonsocket to the Corps. The Corps assumed operation and maintenance activities in July 2009 upon receipt of funding.

The Woonsocket Flood Damage Reduction project protects industrial and commercial establishments and densely populated residential areas from flood flows on the Blackstone, Peters and Mill Rivers. It was constructed in response to flood damage that occurred due to heavy rains in August 1955 that caused \$22 million in damage.

The project was constructed in two phases: construction of the Upper Woonsocket section along the Blackstone River was completed in 1960 at a cost of \$5.4 million, and construction of the Lower Woonsocket section along the Blackstone River and two of its tributaries, the Mill River and Peters River, was completed in 1967 at a cost of \$8.3 million.

The Upper Woonsocket section consists of the following features: (a) 8,300 feet of channel improvement (b) replacement of the old Woonsocket Falls Dam with a new dam, (c) the Singleton Street pumping station, (d) four levees/dikes totaling about 1,200 linear feet, and (e) a 308-foot-long concrete floodwall.

The Lower Woonsocket section consists of two independent units: (a) the Social District Unit consisting of six levees/dikes totaling about 5,000 linear feet, three concrete floodwalls totaling about 2,000 linear feet, two pressure conduits totaling about 2,200 linear feet, and the Social District pumping station; (b) the Hamlet District Unit consisting of three levees/dikes totaling about 2,800 linear feet, a 115-foot-long concrete floodwall, and the Hamlet District pumping station.

The Corps and FEMA are working together to ensure that flood hazard maps clearly reflect the flood protection capabilities of the levees, and that the maps accurately represent the flood risks posed to those protected areas. The Woonsocket, RI, project was decertified under the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA) in May 2007 because the agency determined the project no longer provides protection from the base flood level.

