U.S. Army Corps of Engineers, Philadelphia District

DELAWARE
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Congressional Briefing Book

BUILDING STRONG

Established in 1866, the Philadelphia District manages water resources of the Delaware River Basin, builds facilities for the Army and Air Force, and provides engineering and environmental services for other Federal agencies. We serve more than nine million people across portions of Delaware, Maryland, New Jersey, New York and Pennsylvania. Our reach extends around the world with our support to Overseas Contingency Operations.

The approximately 500 employees of the Philadelphia District proudly serve our nation and are currently commanded by LTC Ramon Brigantti.

US Army Corps of Engineers
Philadelphia District

June 2022

Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania
19107

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US Army Corps of Engineers
Philadelphia District

Engineering solutions for our Nation's toughest challenges

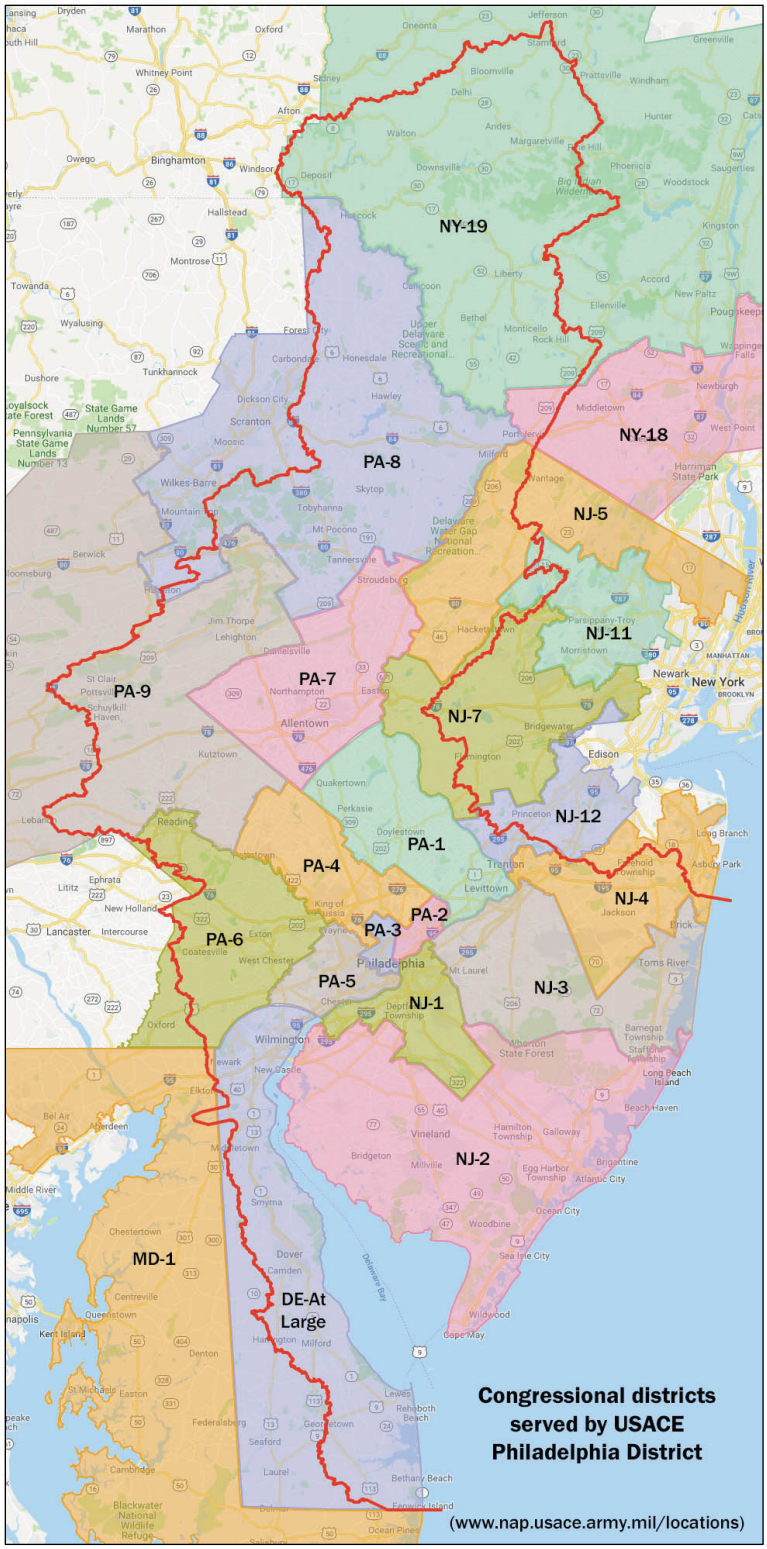
The USACE Mission: Deliver vital public and military engineering services, partnering in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters

Civil Works Program (Water Resources Development): We plan, design, build, operate, and maintain projects in support of—

- Maritime navigation
- Flood and coastal storm risk management
- Aquatic ecosystem restoration

The Philadelphia District covers the Delaware River Basin and adjacent portions of the mid-Atlantic coastal plain, and includes—

- Almost 10 million people
- More than 1 million acres of wetlands
- 15,000 square miles total area
- 500-plus miles of federal navigation channels
- About 500 Army Civilian employees
- About 150 miles of coastline
- Parts of 5 states
- 5 earthfill dams
- 5 highway bridges
- 4 sea-level canals
- 1 seagoing hopper dredge



We also carry out—

- Military construction and installation support at Dover Air Force Base, Joint Base MDL, and Tobyhanna Army Depot
- Reimbursable technical services to EPA and other federal agencies upon request
- Contingency operations for the Army overseas and emergency operations for FEMA stateside

To our congressional delegation:

- Your first and best line of communication with the Corps is "district-to-district" (i.e. through Philadelphia, not our D.C. headquarters)
- If you're not sure who to call, call us anyway—if we can't help, we'll try to direct you to someone else who can
- Emailing is good, calling is better, face-to-face is best, and formal letters are best left as a last resort!

To your constituents:

- We don't have a blank check to "go forth and do good things"—every dollar we spend is tied to a project
- We can only work on projects that have been specifically authorized and funded by Congress, and for which we have a signed cost sharing agreement with a nonfederal sponsor
- Federal dollars require federal interest—each project has to benefit the Nation as a whole
- What some call a "Corps project" may turn out to be someone else's project for which the Corps issued a permit

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US Army Corps
of Engineers
Philadelphia District

Philadelphia District
U.S. Army Corps of Engineers

Brief History and Accomplishments

The Philadelphia District was established in 1866, but the U. S. Army Corps of Engineers' local legacy dates back to Revolutionary times, when Army engineers planned the encampment and defense of General Washington's colonial Army at Valley Forge. In 1829, the Corps embarked on its first civil works project in this region- a 1,300-foot-long stone breakwater near Cape Henlopen, Delaware, that provided refuge from storms to the hundreds of ships entering and leaving the Delaware Bay. In 1919, the federal government purchased the Chesapeake and Delaware Canal and it was operated and maintained, and later expanded, by the Philadelphia District. Converted to a free-flowing waterway, the C&D today handles a significant portion of the Port of Baltimore's ship traffic and is one of the District's most important navigation projects. During World War II, the more than 100-mile-long Delaware River federal navigation channel was deepened to its current 40-foot depth between Philadelphia and the sea. The District continues to maintain over 550 miles of navigable channels. After the 1955 floods that claimed ninety lives, the District performed the first comprehensive river basin study in the entire United States. This resulted in the construction of the five earth-fill dams that the district now operates and maintains in eastern Pennsylvania.

Since its inception in 1866, the Philadelphia District for the Corps of Engineers has been a staple in the development and maintenance of the perseverance of the waterways and the construction of military installations and operations. One of the District's bigger tasks is dredging. Dredging is the process where excavation usually carried out partly underwater, in shallow seas or fresh water areas, with the sole purpose of gathering up bottom materials and disposing of them at a different location. This is often used to keep waterways navigable. It is also used as a way to replenish sand on some public beaches, where sand has been lost because of erosion. As time wore on, the duties of the district began to grow. Along with preserving waterways, with the changing waters, flood controls were added. This included emergency response by the Corps, whether it is constructing dams and levees, and also water recourses development and the increasing responsibility of coastal engineering. In response to growing national concern for environmental issues, the 1970s, 80s and 90s saw a significant shift in the district's responsibilities, to include new jurisdiction over wetlands; remediation of hazardous, radioactive and toxic wastes; and projects to restore ecosystems. The District's engineering expertise has been applied to a wide variety of coastal projects.

Since the early 1990s, the District has constructed major beach-fill projects along the Delaware and New Jersey coasts. The District operates and maintaining five dams, four canals, and five highway bridges and is home to the Hopper Dredge McFarland. Within the district, there are nine million people, over 550 miles of federal channels, 150 miles of coast line, and more than 1.1 million acres of wetlands that must be maintained and preserved and protected by the Philadelphia District.

In October of 2012, Hurricane Sandy made landfall near Atlantic City, NJ, causing widespread damage and destruction. In the months following the storm, the Philadelphia District responded to more than 60 mission assignments from FEMA to assist de-watering critical facilities, assisting with emergency power needs and filling a breach at the barrier island community of Mantoloking. The District surveyed existing federal projects in New Jersey and Delaware and worked to restore them from the damages associated with Hurricane Sandy.

The District has a proud history of support of major construction programs including those at Dover Air Force Base; Joint Base McGuire-Dix-Lakehurst; and the C4ISR complex at Aberdeen Proving Ground. The Philadelphia District has more recently expanded its reach overseas with power contracting initiatives and the continued deployment of personnel to Afghanistan and Iraq. The Philadelphia District's approximately 500 men and women capably serve the region by applying global engineering expertise to produce neighborhood solutions and beyond. We are privileged and proud to serve the northeast corridor, the people of our nation; and the people of the world.

OUR MISSION

The U.S. Army Corps of Engineers' mission is to deliver vital engineering solutions, in collaboration with our partners, to serve our Nation, energize our economy, and reduce risk from disaster.

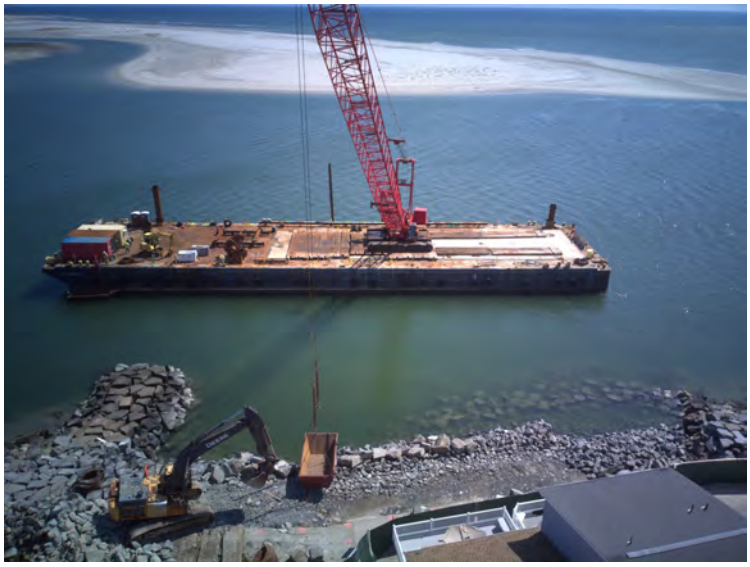
Established in 1866, the Philadelphia District manages water resources of the Delaware River basin; builds facilities for the Army and Air Force; and provides engineering and environmental services for other agencies. We serve more than nine million people across portions of Delaware, Maryland, New Jersey, New York and Pennsylvania. But our reach extends around the world with our support to Overseas Contingency Operations.

Project Gallery

Philadelphia District

Coastal Planning & Engineering

Coastal Storm Risk Management, Barnegat Inlet to Little Egg Inlet (Long Beach Island), NJ: *post-Sandy beachfill operations at Brant Beach fully restored the berm and dune to original design dimensions.*

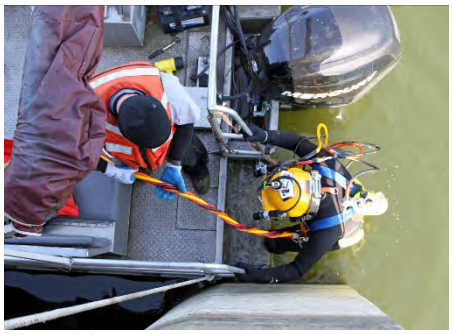


Anglesea Seawall: *USACE and its contractor makes repairs to the Hereford Inlet seawall in North Wildwood, NJ in Spring of 2021.*

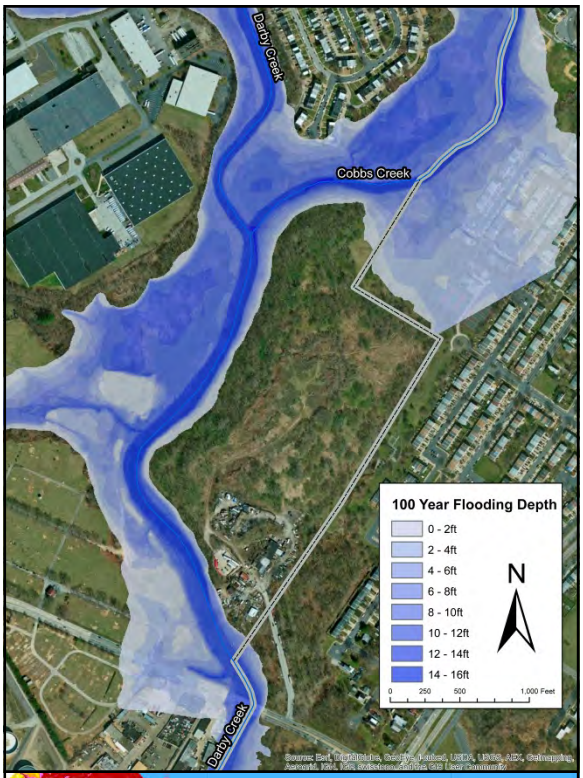
Absecon Inlet Seawall: *USACE completed construction on the Absecon Inlet seawall and boardwalk reconstruction at the north end of Atlantic City, N.J. in 2018.*

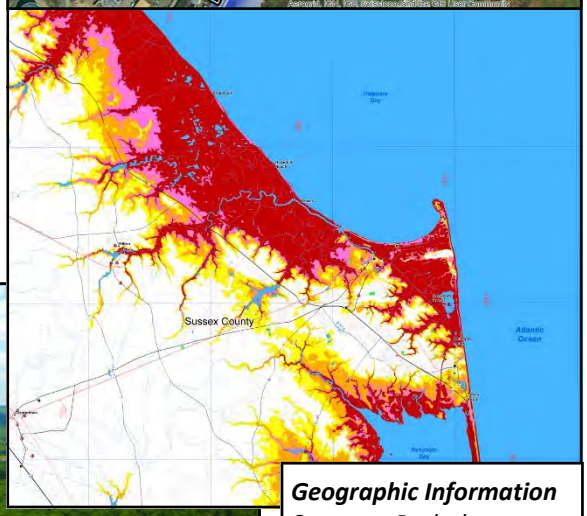
Ecosystem Restoration, Lower Cape May Meadows, NJ: *One continuous berm and dune helps keep saltwater out of this key stopover for migratory birds on the North Atlantic flyway, while also reducing storm damage risk for the adjacent community of Cape May Point.*

Watersheds/Flood Risk Management



ABOVE: *USACE will be making improvements to the upstream embankment of Jadwin Dam in 2022 to reduce risk.*
LEFT: *A member of the District's own Dive Team begins a scheduled underwater safety inspection of the Blue Marsh Dam control tower.*

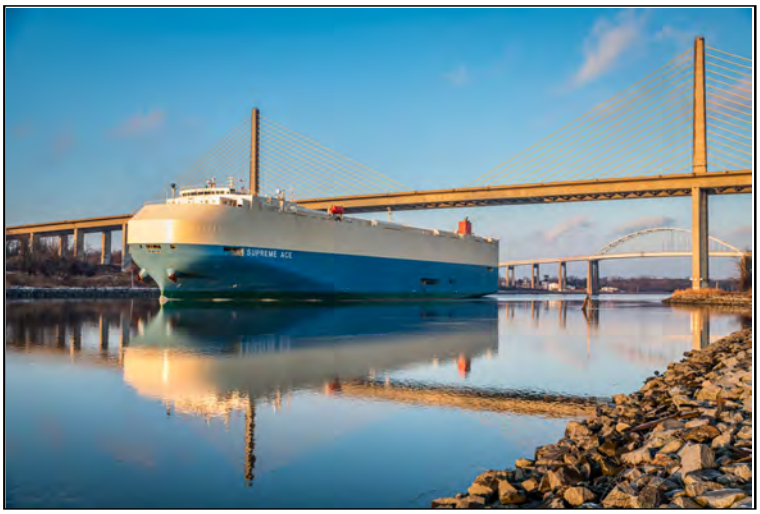




Geographic Information Systems: *Both these maps — one for FEMA showing flood zones along Darby and Cobbs Creeks in Chester County, PA and the other for the State of Delaware showing hurricane inundation zones in Sussex County — were produced by the District using GIS.*

Francis E. Walter Dam (Lehigh River Basin): *The dam has prevented close to $300 million in flood damages and also has planned recreational water releases.*

Navigation: Waterways & Bridges



Bridge Keepers: *Not only does the District own and maintain five high-level highway bridges across the Chesapeake & Delaware Canal, but its bridge inspection team is frequently called upon by other USACE districts — as well as other agencies — nationwide.*

USACE maintains the New Jersey Intracoastal Waterway and strives to use dredged material for beneficial purposes like restoring degraded marsh.

McFARLAND: *East Coast Hopper Dredge, USACE Minimum Fleet.*

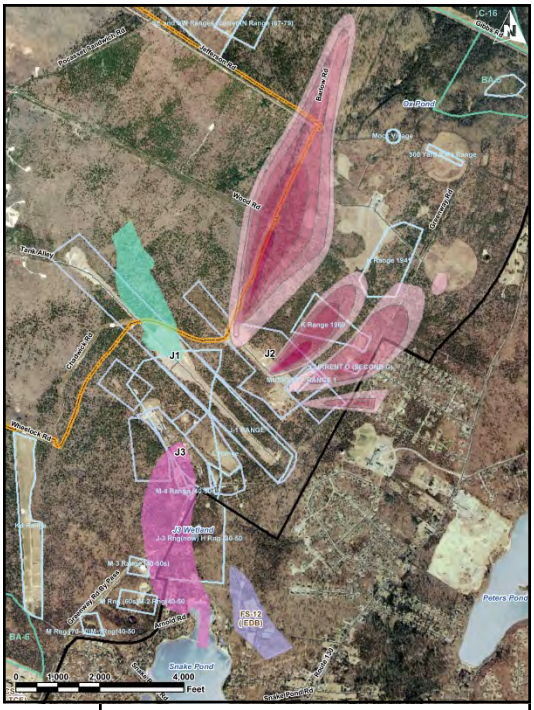
Delaware River Main Channel Deepening: *Dredging south of Wilmington, DE for pumpout across the river to Killcohook Island Confined Disposal Facility under the first deepening contract in 2010.*

Military & Interagency Support

Joint Personal Effects Depot, Dover AFB: *The only facility of its kind in the Department of Defense, the JPED was constructed and equipped to ensure that the personal effects of American's fallen service members are handled in a presentable and timely manner.*

Global Power Program: *Managing more than $1 billion in contracts to date, the District works with the Army's 249th Engineer Battalion on projects such as this temporary 30-megawatt installation at Bagram AFB, Afghanistan.*

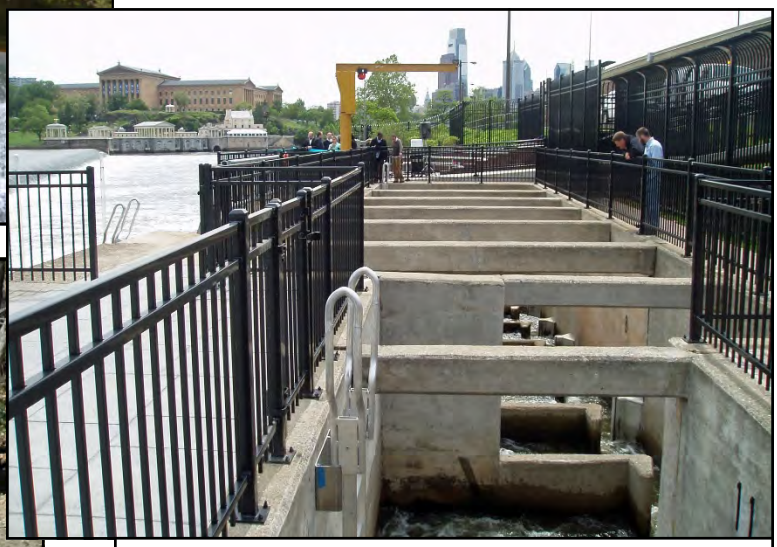
EPA Superfund Program: *For more than 40 years the District has been a USACE leader in site remediation, with multiple projects currently underway for EPA Region 2, such as the multi-phase Vineland Chemical Company cleanup in Vineland, NJ.*



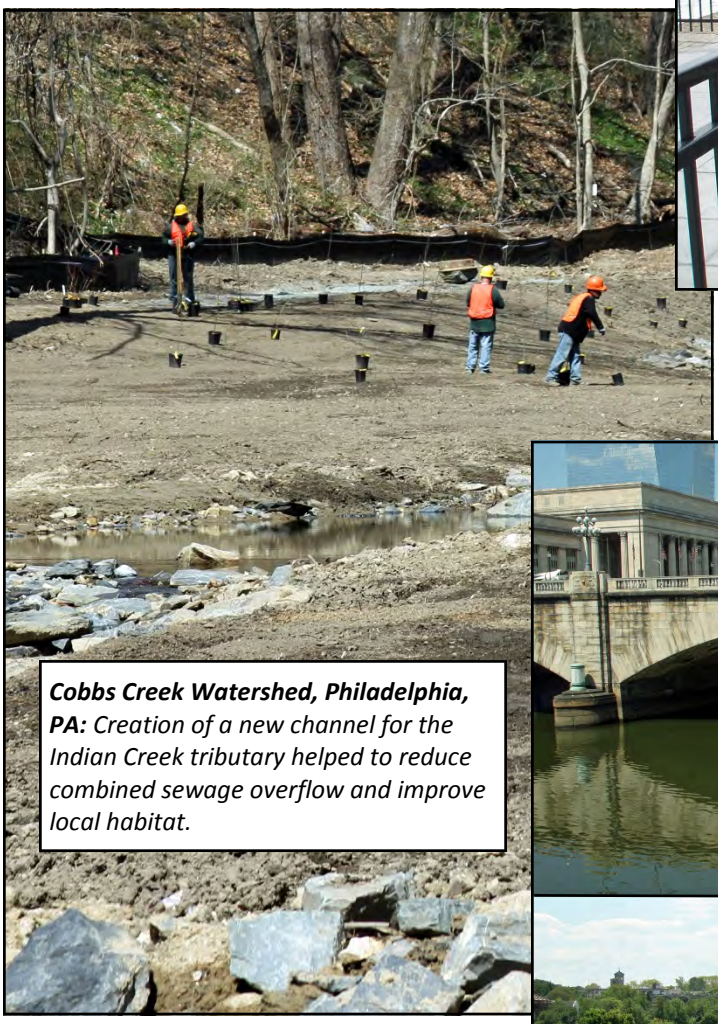
Groundwater Modeling System: *Visualization of contaminant plumes at the former Massachusetts Military Reservation on Cape Cod.*

Aquatic Ecosystem Restoration

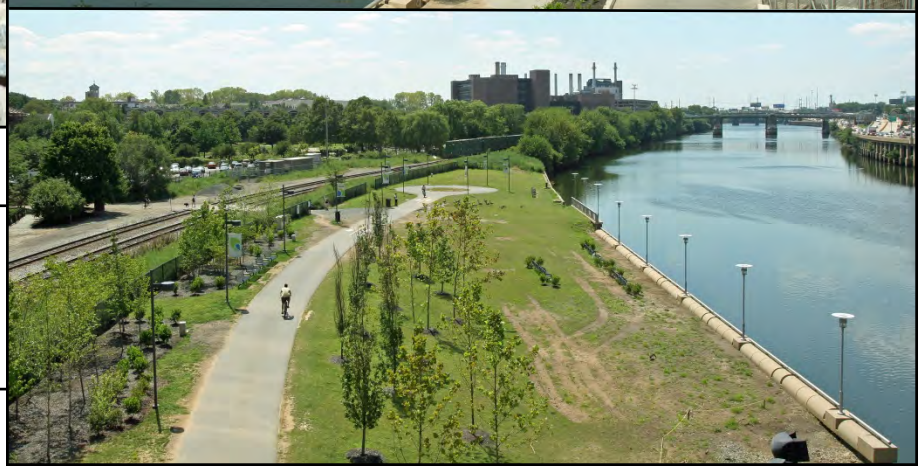
Bloomsbury Dam on Musconetcong River, NJ: *The project involves the removal of the dam to enhance aquatic habitat and to restore the connectivity of 8 miles of a Federally-designated National Wild and Scenic River.*



Fairmount Dam Fish Ladder, Philadelphia, PA: *The District upgraded a 1970s-era structure to allow more shad and other migratory fish to swim upstream the Schuylkill River.*



Cobbs Creek Watershed, Philadelphia, PA: *Creation of a new channel for the Indian Creek tributary helped to reduce combined sewage overflow and improve local habitat.*



Schuylkill River Park, Philadelphia, PA: *Construction of this multi-use linear park added highly visible and accessible green space in the heart of the city.*

USACE Philadelphia District Civil Works Projects *Budget, Funding & Capabilities ($000)*

Project	Civil Works Acct.	Congr. Dists.	FY21 Funds	FY22 Capab.	FY22 PBUD	FY22 IIJA	DRSA	FY22 Omni	FY22 WP (addl.)	FY22 Funds (total)	FY23 Capab.	FY23 PBUD	FY23 IIJA
Delaware Inland Bays & Delaware Bay Coast Study, DE	GI	DE-a/l											
Musconetcong River Habitat Connectivity Study, NJ	GI	NJ-7		200									
New Jersey Back Bays Study, NJ	GI	NJ-2,3,4	3,500	1,600	750		2,474	750		3,224	1,312		
Francis E. Walter Dam Re-evaluation Study, PA	GI	PA-7,8,9	545										
Del. R., Phila. to Sea (Dredged Material Utilization - DE) (PED)	GI	DE-a/l		910		910				910			
Del. R., Phila. to Sea (Dredged Material Utilization - NJ) (PED)	GI	NJ-2		325									
Christina River Watershed, DE (Sec. 204)	CAP	DE-a/l		50							100		
Christina River Watershed, DE (Sec. 1135)	CAP	DE-a/l		50							100		
Delaware Estuary Oyster Restoration (Sec. 206)	CAP	DE-a/l		50							100		
Mispillion Inlet, DE (Sec. 111)	CAP	DE-a/l		200									
Absecon Inlet, Atlantic City, NJ (Sec. 111)	CAP	NJ-2		50									
Cape May City, Delaware Ave, NJ (Sec. 14)	CAP	NJ-2		2,600									
Cape May Seawall, NJ (Sec. 103)	CAP	NJ-2		350									
Mordecai Island Coastal Restoration, NJ (Sec. 1135)	CAP	NJ-2		100		100				100			
Salem River Cutoff, NJ (Sec. 111)	CAP	NJ-2		50									

USACE Philadelphia District Civil Works Projects *Budget, Funding & Capabilities ($000)*

Project	Civil Works Acct.	Congr. Dists.	FY21 Funds	FY22 Capab.	FY22 PBUD	FY22 IIJA	DRSA	FY22 Omni	FY22 WP (addl.)	FY22 Funds (total)	FY23 Capab.	FY23 PBUD	FY23 IIJA
Supawna Meadows, NJ (Sec. 204)	CAP	NJ-2		50		50				50			
Delran Township, NJ (Sec. 14)	CAP	NJ-3	50	150		150				150			
Lumberton Township, NJ (Sec. 205)	CAP	NJ-3		50		200				200	150		
Assunpink Creek Daylighting, NJ (Sec. 1135)	CAP	NJ-4		100									
Assunpink Creek, Hamilton Township, NJ (Sec. 205)	CAP	NJ-4		100									
Bloomsbury Dam Removal, NJ (Sec. 206)	CAP	NJ-5,7		3,510		3,810				3,810	300		
Paulinskill River Fish Passage, NJ (Sec. 206)	CAP	NJ-5,7		50							100		
Pequest River, NJ (Sec. 206)	CAP	NJ-5,7		50							100		
Upper Delaware River, Livingston Manor, NY (Sec. 205)	CAP	NY-19		100									
Schuylkill River Aquatic Ecosystem Restoration, PA (Sec. 1135)	CAP	PA-1,2	25	175		50				50			
Erosion Protection of Historic Structure, PA (Sec. 14)	CAP	PA-7		50		50				50			
Tookany Creek, Glenside Road, PA (Sec. 205)	CAP	PA-4		200		200				200			
Eastwick, Philadelphia County, PA (Sec. 205)	CAP	PA-5	118										
Dyberry Creek, PA (Sec. 14)	CAP	PA-8		50							100		
Shehawken Creek, PA (Sec. 14)	CAP	PA-8		50							100		
Van Auken Creek, PA (Sec. 14)	CAP	PA-8		50							100		

USACE Philadelphia District Civil Works Projects *Budget, Funding & Capabilities ($000)*

Project	Civil Works Acct.	Congr. Dists.	FY21 Funds	FY22 Capab.	FY22 PBUD	FY22 IIJA	DRSA	FY22 Omni	FY22 WP (addl.)	FY22 Funds (total)	FY23 Capab.	FY23 PBUD	FY23 IIJA
West Branch Lackawaxen River, PA (Sec. 14)	CAP	PA-8		50							100		
Delaware Bay Coastline, Roosevelt Inlet & Lewes Beach, DE	CG	DE-a/l		4,500		4,500				4,500	4,500		
Delaware Coast Protection (Indian River Inlet Sand Bypass Plant), DE	CG	DE-a/l	49	1,200				1,200		1,200			
Delaware Coast, Bethany Beach/ South Bethany, DE	CG	DE-a/l	(49)	8,650		8,650				8,650			
Delaware Coast, Fenwick Island, DE	CG	DE-a/l		4,000				4,000		4,000	4,000		
Delaware Coast, Rehoboth Beach & Dewey Beach, DE	CG	DE-a/l		7,650				7,650		7,650			
Absecon Island, NJ	CG	NJ-2									20,000		
Barnegat Inlet to Little Egg Inlet (Long Beach Island), NJ	CG	NJ-2	(215)	32,000							32,000		
Brigantine Island, NJ	CG	NJ-2											7,580
General Edgar Jadwin Dam & Reservoir, PA (Dam Safety Modification)	CG	PA-8	11,000										
Cape May Inlet to Lower Township (Cape May), NJ	CG	NJ-2	12,500		300	12,500		300		12,800	12,500		
Delaware Bay Coast, Oakwood Beach, NJ	CG	NJ-2	49	5,000				5,000		5,000			
Great Egg Harbor & Peck Beach (Ocean City), NJ	CG	NJ-2		17,000				17,000		17,000			
Great Egg Harbor Inlet to Townsends Inlet, NJ	CG	NJ-2		20,000							20,000		

USACE Philadelphia District Civil Works Projects *Budget, Funding & Capabilities ($000)*

Project	Civil Works Acct.	Congr. Dists.	FY21 Funds	FY22 Capab.	FY22 PBUD	FY22 IIJA	DRSA	FY22 Omni	FY22 WP (addl.)	FY22 Funds (total)	FY23 Capab.	FY23 PBUD	FY23 IIJA
Delaware Bay Coast, Villas & Vicinity, NJ	CG	NJ-2		200							200		
Delaware Bay Coast, Reeds Beach & Pierces Point, NJ	CG	NJ-2		200							200		
Lower Cape May Meadows & Cape May Point, NJ	CG	NJ-2	4,000										
Hereford Inlet to Cape May Inlet (Wildwoods), NJ	CG	NJ-2											
Manasquan Inlet to Barnegat Inlet, NJ	CG	NJ-3,4		30,000		30,200				30,200			
Townsends Inlet to Cape May Inlet, NJ	CG	NJ-2	215	24,000				15,500		15,500	1,000		
Cedar Creek, DE	O&M	DE-a/l		945							1,060		
Harbor of Refuge, Delaware Bay, DE	O&M	DE-a/l		17,650		250				250	17,910		
Indian River Inlet & Bay, DE	O&M	DE-a/l		15,636	30	43,871		30		43,901	29,071	281	
Inland Waterway, Delaware River to Chesapeake Bay, DE & MD (Chesapeake & Delaware Canal)	O&M	DE-a/l	38,335	62,375	19,130	3,200		19,130		22,330	84,312	22,327	
Intracoastal Waterway, Rehoboth Bay to Delaware Bay, DE (Lewes & Rehoboth Canal)	O&M	DE-a/l		5,105	150	3,785		150		3,935	550	550	
Mispillion River, DE	O&M	DE-a/l		780							885		
Murderkill River, DE	O&M	DE-a/l		1,050							1,050		
Wilmington Harbor, DE	O&M	DE-a/l	10,640	10,950	8,950			8,950		8,950	14,212	10,537	
Delaware River, Philadelphia to Sea, NJ, PA & DE	O&M	DE, NJ-1, PA-2,5	75,536	55,153	41,823	25,000		41,823		66,823	65,635	46,249	500

USACE Philadelphia District Civil Works Projects *Budget, Funding & Capabilities ($000)*

Project	Civil Works Acct.	Congr. Dists.	FY21 Funds	FY22 Capab.	FY22 PBUD	FY22 IIJA	DRSA	FY22 Omni	FY22 WP (addl.)	FY22 Funds (total)	FY23 Capab.	FY23 PBUD	FY23 IIJA
Delaware River, Philadelphia to Trenton, PA & NJ	O&M	NJ-3,4, PA-1,2	7,954	29,055	13,710			13,710		13,710	30,805	17,725	
Delaware River at Camden, NJ	O&M	NJ-1	15	15	15			15		15	15	15	
Absecon Inlet, NJ	O&M	NJ-2	1,355	1,600							1,400		
Barnegat Inlet, NJ	O&M	NJ-2,3	759	7,908	760	922		760		1,682	1,366		329
Cold Spring Inlet, NJ	O&M	NJ-2	396	2,155		550		300		850	2,038	20	409
Manasquan River, NJ	O&M	NJ-4	2	1,537	375			375		375	1,698	435	
Maurice River, NJ	O&M	NJ-2		4,010	4,010			4,010		4,010	-		
New Jersey Intracoastal Waterway, NJ (includes Point Pleasant Canal and Cape May Canal)	O&M	NJ-2,3,4	1,245	13,297	985	14,350		985		15,335	12,800	1,060	151
Salem River, NJ	O&M	NJ-2	99	6,438	100	7,150		100		7,250	6,850	100	6,858
Toms River, NJ	O&M	NJ-3		865							870		
Tuckerton Creek, NJ	O&M	NJ-2		1,030							1,235		
Beltzville Lake, PA	O&M	PA-9	1,271	4,302	1,886	1,400		1,886		3,286	3,995	1,744	2,650
Blue Marsh Lake, PA	O&M	PA-9	3,586	11,404	4,734	1,650		4,734		6,384	8,756	4,357	6,000
Francis E. Walter Dam & Reservoir, PA	O&M	PA-8	901	3,791	1,225	100		1,225		1,325	3,383	2,273	2,100
General Edgar Jadwin Dam & Reservoir, PA	O&M	PA-8	377	954	459	35		459		494	702	392	
Prompton Lake, PA	O&M	PA-8	553	1,669	1,049			1,049		1,049	1,105	584	1,675
Schuylkill River, PA	O&M	PA-3,5	99	26,464	100	5,000		100		5,100	16,997	100	8,000
USACE Minimum Fleet Hopper Dredge McFarland Ready Reserve	O&M	DE, NJ-1, PA-1,2,5	11,187	11,000	11,000			11,000		11,000	12,000	11,000	

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US ARMY CORPS OF ENGINEERS
Building Strong

US Army Corps of Engineers®
Philadelphia District

General Investigations

General Investigations Studies (GI)
Planning Assistance to States Program (PAS)
Floodplain Management Services (FPMS)

Investigations are studies to determine the need, engineering feasibility, economic justification, and the environmental and social suitability of a project. Investigations also include preconstruction, engineering, design work, data collection, and interagency coordination and research activities.

- Coastal and Deep-Draft Navigation
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Inland Navigation
- Navigation
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance and Remote, Coastal, or Small Watershed)
- Remote, Coastal, or Small Watershed
- Shore Protection
- Small, Remote, or Subsistence Navigation

Color Codes	
State	**Color**
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

Delaware Beneficial Use of Dredged Material for the Delaware River, Delaware

Authority: Senate Resolution (dated 26 Oct 2005) on Beneficial Use of Dredged Material for the Delaware River, Delaware, New Jersey, and Pennsylvania and P.L. 113-2

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: Feb 2014

Completion Date: Mar 2020

Total Estimated PED Cost: $1.4M

Federal Funds Appropriated: $0

USACE

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The U.S. Army Corps of Engineers (USACE) was authorized to conduct the Delaware River, PA, NJ and DE Beneficial Use of Dredged Material for the Delaware River Study (DMU) reconnaissance phase and any ensuing feasibility phase investigations by a resolution of the Committee on Environment and Public Works of the United States Senate on October 26, 2005. The resolution directed the USACE to conduct an investigation of beneficial uses of dredged material within the Delaware River and Estuary area.

Approximately 3,000,000 cubic yards of sediment are dredged annually from the 'Delaware River, Philadelphia to the Sea' and 'Delaware River, Philadelphia to Trenton' projects. Essentially all of the sediment is removed from the estuary system and placed in upland Confined Disposal Facilities. This study explored innovative methods for management and reuse of dredged material in order to improve flood risk management. A Feasibility Cost Sharing Agreement (FCSA) was signed with the Delaware Department of Natural Resources and Environmental Control on February 27, 2014. The Chief of Engineers Report was signed on March 6, 2020.

Delaware Beneficial Use of Dredged Material for the Delaware River, Delaware

Project Goals: The beneficial use opportunities are best facilitated utilizing maintenance dredged material from Federal and non-Federal navigation projects including: the Delaware River, Philadelphia to the Sea NJ, PA & DE project; the Delaware River, Philadelphia to Trenton, NJ & PA project; and the Delaware River Main Channel Deepening, NJ, PA & DE project; and several active Federal navigation projects at major tributaries of the Delaware River. This dredged material will be considered for projects that will reduce flood damage from coastal storms, promote coastal resilience and sustainability and create opportunities for restoration of the estuaries functions.

In response to the study resolution above, the USACE Philadelphia District conducted the Delaware River New Jersey, Delaware, and Pennsylvania Beneficial Use of Dredged Material for the Delaware River expedited reconnaissance study. The purpose of this study was to examine beneficial use opportunities using maintenance dredged material from the Delaware River and its tributaries for flood reduction, environmental restoration, and related purposes.

In the aftermath of Hurricane Sandy and the subsequent passage of the Disaster Relief Appropriations Act, 2013 (P.L. 113-2), Congress authorized supplemental appropriations to Federal agencies for expenses related to the consequences of Hurricane Sandy. The DE DMU was identified in a Second Interim Report to Congress (dated 30 May 2013) as an "Ongoing Study" for reducing flooding and storm damage risks in the area affected by Hurricane Sandy. Therefore, the DE DMU study was conducted under the both the October 2005 Senate Resolution as well as P.L. 113-2, which thereby focused the study on coastal storm risk management (CSRM) via dredged material.

Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

In March 2020, Lt. Gen. Todd T. Semonite, USACE Commanding General and the 54th U.S. Army Chief of Engineers, signed a Chief's Report and the project was subsequently authorized by Congress in WRDA 2020. The next step is to move forward through pre-construction engineering, design, and eventual construction.

The final report had favorable recommendations for the following sites:

- Pickering Beach
- Kitts Hummock
- Bowers Beach
- South Bowers Beach
- Slaughter Beach
- Prime Hook Beach
- Lewes Beach

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	2,329	0	2,329		Allocations thru FY21	2,329	
PED	910	490	1,400		FY 22 Budget	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware Inland Bays and Delaware Bay Coast Coastal Storm Risk Management Feasibility

Authority: U.S. House of Representatives Committee on Public Works and Transportation Resolution on Oct 1, 1986 and U.S. Senate Committee on Environment and Public Works Resolution on Jun 23, 1988

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: TBD

Target Completion Date: TBD

Total Estimated Cost: $2M

Federal Funds Appropriated: $1M

Oak Orchard during January 2016 Nor'easter

The Delaware Inland Bays and Delaware Bay Coast (DIBDBC) Focus Area includes the Delaware Inland Bays, the set of interconnected bodies of water that are separated from the Atlantic Ocean by a spit of land, and the Delaware Bay coastline of the State of Delaware in New Castle, Kent, and Sussex Counties. The Inland Bays coastline area is approximately 77 square miles and the Delaware Bay coastline is approximately 145 square miles. The authorities for the DIBDBC Study (Resolutions adopted by U.S. House of Representatives on October 1, 1986 and the U.S. Senate on June 23, 1988) support North Atlantic Coast Comprehensive Study (NACCS) outcomes, are broad in scope and application and address the development of a physical and engineering database as the basis for actions and programs to provide shoreline protection and up-to-date information for state and local management of this coastal area.

The DIBDBC Study is being performed to align with the goals of the NACCS, which are to:

- Provide a risk management framework, consistent with and NOAA/USACE Infrastructure Systems Rebuilding Principles; and
- Support resilient coastal communities and robust, sustainable coastal landscape systems, considering future sea level and climate change scenarios, to reduce risk to vulnerable populations, property, ecosystems, and infrastructure.

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Delaware Inland Bays and Delaware Bay Coast Coastal Storm Risk Management Feasibility

- **Project Goals:** The purpose of this project is improved land use, responsible evacuation planning with programmatic measure to manage risk where avoidance is not possible.

  Communities must identify their acceptable level of residual risk to plan for long-term, comprehensive, and resilient risk management.

  Areas to improve risk management include enhancing collaboration, building new partnerships, and strengthening pre-storm planning. This requires local, regional, Tribal, State and Federal entities, NGOs and academia efforts.

The objective of the DIBDBC CSRM Study is to investigate coastal storm risk management problems and solutions to reduce damages from coastal flooding affecting population, critical infrastructure, critical facilities, property, and ecosystems. The study will consider past, current, and future coastal storm risk management and resilience planning initiatives and projects underway by the USACE and other Federal, State, and local agencies. Three overarching efforts will be performed:

- Assess the study area's problems, opportunities and future without project conditions;
- Assess the feasibility of implementing system-wide coastal storm risk management solutions such as policy/programmatic strategies, storm surge barriers at selected inlet entrances, or tidal gates at selected lagoon entrances; and
- If system-wide solutions are not feasible, assess the feasibility of implementing site-specific solutions, such as a combination of structural, non-structural, and natural and nature-based features.

The end product of this study will be a decision document in the form of a Chief's Report authorizing comprehensive USACE design and construction opportunities using the full array of CSRM strategies and measures for community-based solutions within a watershed-based, systems framework. Also included in the report would be recommendations of actionable and policy implementable items for non-USACE entities, including floodplain management, landscape architecture, hurricane evacuation plans, and Community Rating System enhancement opportunities. Additional recommendations will be provided for incorporating existing USACE and external programs, projects, plans and actions, as well as public-private partnership opportunities into the NACCS DIBDBC study umbrella. A programmatic NEPA document will be developed identifying a range of impacts. The PED Phase will include detailed design with a detailed fully compliant programmatic NEPA document which evaluates impacts for specific solutions.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	1,000	1,000	2,000		Allocations thru FY20	1,000	
					FY 21 Allocation	0	
					Balance to Complete	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Wilmington Harbor Expansion, DE

Authority: Section 204 (f) of the Water Resource Development Act of 1986

Congressional District: DE-AL

Non-Federal Sponsor: Diamond State Port Corporation

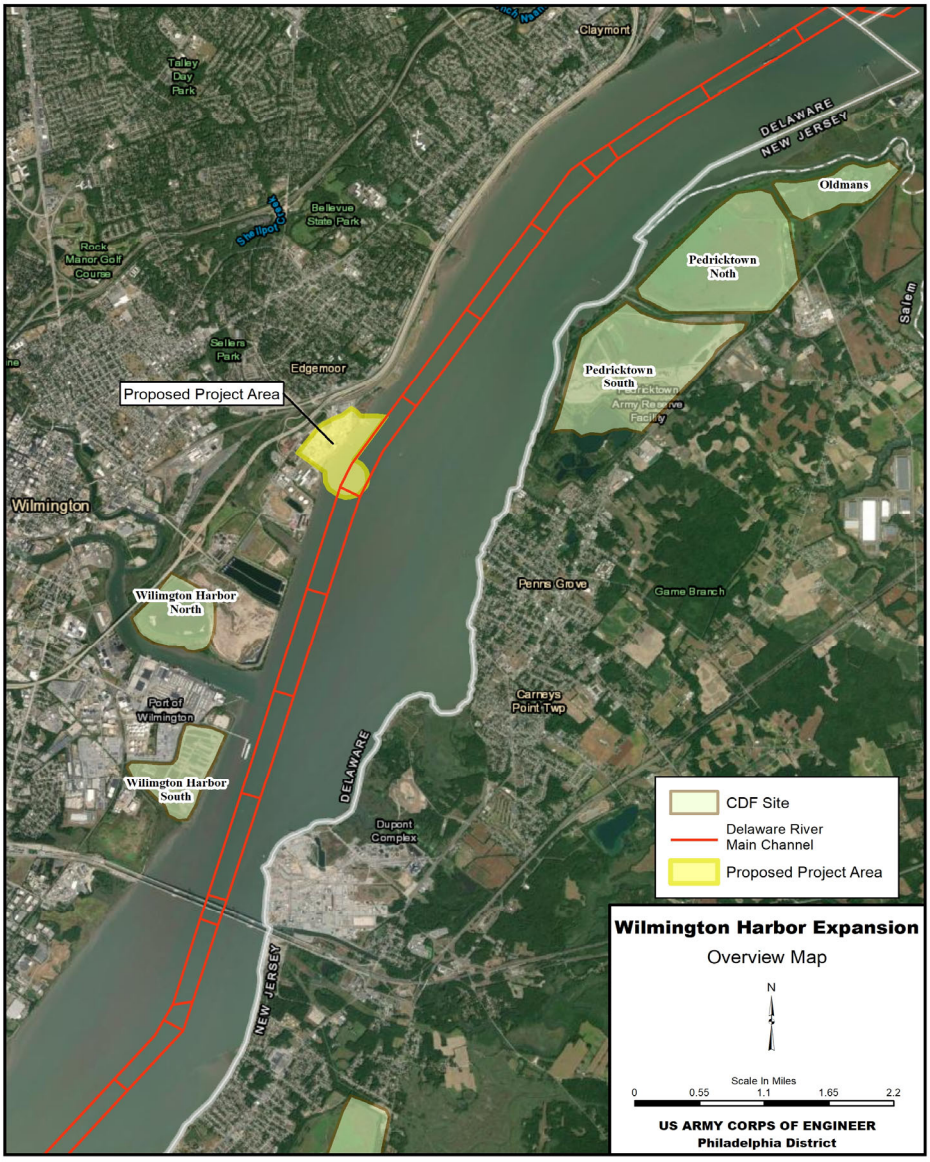
Date of Project Agreement: Jun 2017

Target Completion Date: Dec 2022

Total Estimated Cost: $1.3M

Federal Funds Appropriated: $0

Non-Federal Share: $1.3M



Diamond State Port Corporation (DSPC) has contracted the Philadelphia District to proved technical assistance in preparation of permit applications and a formal request to the Assistant Secretary of the Army - Civil Works (ASA-CW) seeking approval to construct a proposed port expansion access channel and turning basin adjacent to the Delaware River Federal navigation channel with subsequent Federal assumption of maintenance, in accordance with WRDA 1986, Section 204(f).

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Wilmington Harbor Expansion, DE

Project Goals: The purpose of this request is to seek ASA-CW approval to construct a proposed port expansion access channel and turning basin adjacent to the Delaware River Federal Navigation Channel with subsequent Federal assumption of maintenance, in accordance with Section 204 (f) of the WRDA 1986.

With USACE guidance, DSPC is preparing a Section 408 (Federal project modification request) and Section 10 (navigable waters) 404 (shallow water fill) permit application for decision by the Philadelphia District. In support of a Section 204(f) request, DSPC is also preparing a dredged material management plan for construction and maintenance of the proposed access channel. An economic analysis of proposed channel depth alternatives is being conducted by the USACE Deep Draft Navigation Center.

DSPC has also requested the use of Federal dredged material placement facilities for initial channel construction of future O&M which requires approval under Section 217(b).

Once DSPC provides all supporting materials, the District will assemble a Section 204(f) request package for coordination and endorsement by the North Atlantic Division, HQ-USACE, Office of Water Project Review, followed by submittal to the ASA-CW for final decision.

This non-Federally funded effort is ongoing. Section 10/404/217(b) permit decisions are currently scheduled for June 29, 2022. ASA(CW) decision for the 204(f) request is scheduled for December 23, 2022.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Request	TBD	1,300	TBD		Allocations thru FY 20	0	
					Balance to Complete	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Lakes Management Plan for Silver Lake and Lake Comegys, Delaware

Authority: Section 22 of the Water Resources Development Act of 1974

Congressional District: DE-AL

Non-Federal Sponsor: City of Rehoboth Beach, DE

Date of Project Agreement: Aug 2022

Target Completion Date: 2023

Total Estimated Cost: $200,000

Federal Funds Appropriated: $100,000

Non-Federal Share: $100,000

The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.

A cost share agreement was executed with the City of Rehoboth Beach, Delaware in August 2020. Silver Lake is an approximately 40-acre lake, primarily fed by storm water, in Sussex County between the City of Rehoboth Beach and Town of Dewey Beach. Lake Comegys is a smaller lake directly to the south of Silver Lake. Both lakes share a common origin and history. Until the 1800s, the lakes were joined and were a part of a larger wetland, which was drained over the course of the development of the area. High water levels in the lake result in flooding of basements of homes on the south and east of the lake. Low water levels result in a reduction of recreational activities at the northern stretch of Silver Lake. The degree of connection between Silver Lake and Lake Comegys is unknown and may affect the management water levels. Additionally, shoreline and stormwater management surrounding the lake is inconsistent. This has resulted in encroachment on the lake and establishment of invasive species.

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Lakes Management Plan for Silver Lake and Lake Comegys, Delaware

Project Goals: The purpose of this project is to develop a lakes management plan for the City of Rehoboth Beach in Sussex County, DE.

The study objectives include:

1. Investigate the hydrology of the watershed and hydrological connection between the two lakes.
2. Develop a lakes management plan that provides water level management recommendations and shoreline management and riparian buffer recommendations.
3. Evaluate the potential for alternatives to minimize or eliminate flooding problems associated with the future development land use conditions.
4. Understand ownership and jurisdictions of the shoreline surrounding the lakes, while facilitating the communication between property owners with the various jurisdictions and communicate the various regulations and requirements that govern development.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	100	100	200		Allocations thru FY20	100	
					FY 21 Allocation	0	
					Balance to Complete	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware Inland Bays Watershed Rapid Assessment, Delaware

Authority: Section 22 of the Water Resources Development Act of 1974

Congressional District: DE-AL

Non-Federal Sponsor: Delaware Center for the Inland Bays

Date of Project Agreement: Dec 2020

Target Completion Date: 2022

Total Estimated Cost: $116,000

Federal Funds Appropriated: $58,000

Non-Federal Share: $58,000 (in-kind)

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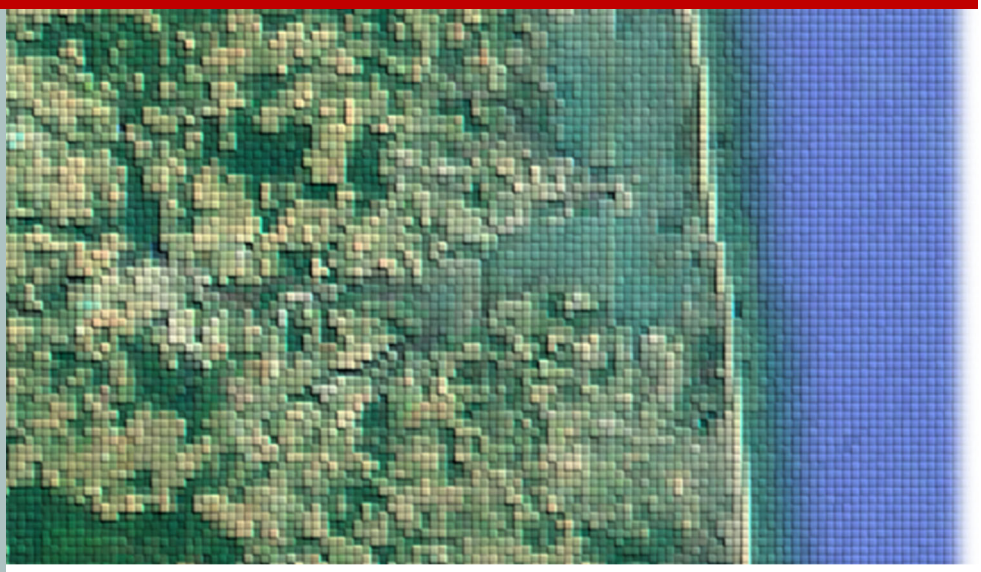

The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.

A cost share agreement was executed with the Delaware Center for Inland Bays with USACE in December 2020 to develop a Delaware Inland Bays Watershed Rapid Assessment Plan. Eutrophication of Delaware's Inland Bays driven by increased nutrient pollution cause by land-use change within the watershed.

The landscape draining into Delaware's three Inland Bays and associated tributaries is rapidly changing from agricultural and forested lands to developed lands. Much of the new population growth has occurred, and is expected to continue to occur, outside municipal boundaries, mirroring growth in human populations. This trend has continued as real estate booms cause a remarkable conversion of farm fields, forests, and wetlands to new developments as more and more people move into the Inland Bays watershed.

A lack of sustained progress implementing Pollution Control Strategies (PCS) to reduce non-point nutrient loads due to dearth of limited sustained state/federal funding justifies the need for a unified Inland Bays watershed that that locates, conceptualizes, and prioritizes projects to achieve the actions outlined in the PCS while utilizing limited resources.

Delaware Inland Bays Watershed Rapid Assessment, Delaware

Project Goals: The purpose of this project is to develop a plan to identify and prioritize sites to restore to reduce nutrients in the Delaware Inland Bays.

The Delaware Inland Bays Watershed Rapid Assessment Green Infrastructure Project Plan (RAPP) Study has addressed the above problems through the following objectives:

1. Recommending mitigation opportunities for future green infrastructure projects to meet Inland Bays Pollution Control Strategies
2. Identifying and prioritizing potential sites within Inland Bays watershed for future green infrastructure projects
3. Documenting study results through mapping and a report that will support Center' acquisition of funds to acquire property to allow for reforestation, stream restoration wetland creation/restoration, drainage remediation, buffer improvement, permanent land conservation, and other green practices.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility Study	58	58*	116
* In-Kind services			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	58	
FY 21 Allocation	58	
Balance to Complete	0	

New Jersey Coastal Coalition

Authority: Section 22 of the Water Resources Development Act of 1974

Congressional District: NJ-2 & NJ-6

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Jan 2021

Target Completion Date: 2022

Total Estimated Cost: $75,000

Federal Funds Appropriated: $37,500

Non-Federal Share: $37,500

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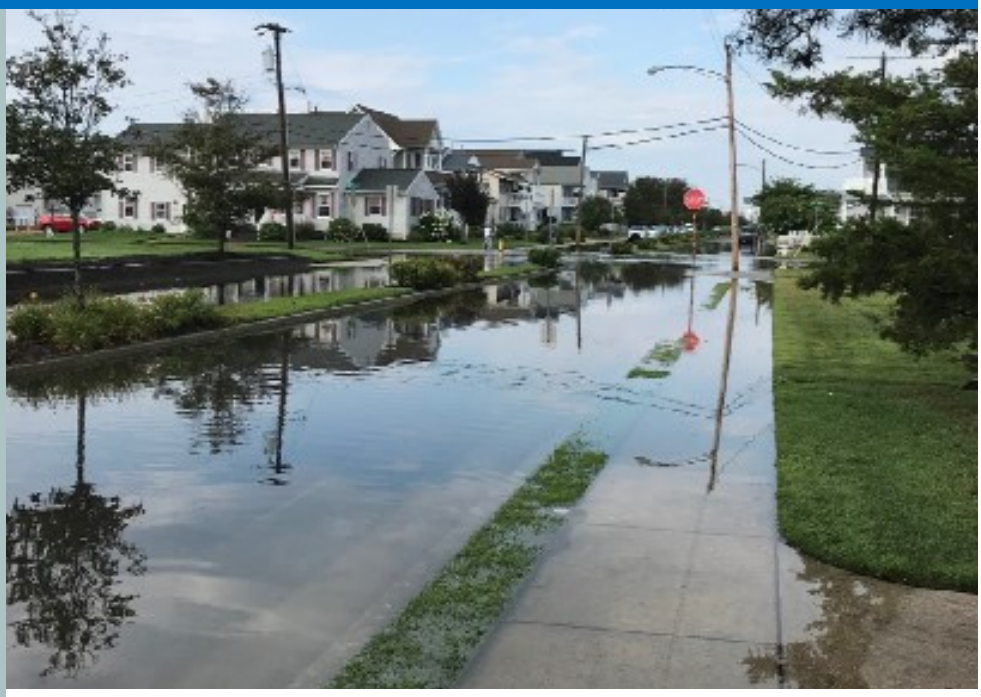

The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.

A cost share agreement was executed with the NJDEP in January 2021. The New Jersey Coastal Coalition (NJCC) identified 13 municipalities as priority locations to investigate under this PAS study. Egg Harbor Township, Ocean City, Upper Township, Sea Isle City, Avalon, Stone Harbor, North Wildwood, West Wildwood, Wildwood Crest, Cape May City, Cape May Point, Downe Township, and Woodbridge Township.

Specific flooding hot spots have been identified in each municipality by the NJCC, with support and assistance from NJDEP. These communities experience periodic flooding from high frequency storm events and tidal fluctuations. These events could be driven by strong winds during spring tides, rain events that impound water due to improper interior drainage, or the increase in water elevations as a result of relative sea level rise. The PAS study is not intended to evaluate flood risk management opportunities (or make recommendations) for the communities for low frequency/low probability storm events like the 1962 Ash Wednesday storm, the December 1992 storm or Hurricane Sandy.

New Jersey Coastal Coalition

Project Goals: The purpose of this project is to produce a report documenting the cause of the high frequency and/or tidal flooding problems in the 13 municipalities identified, including identification of potential measures to address the problems, an evaluation of the feasibility of remedial measures, and potential preliminary conceptual solutions.

The study objectives include:

1. Brief summary of the existing conditions
2. Summary of each task completed in detail, which may include, brief statements concerning the following:
   - GIS Methodology
   - Site Reconnaissance
3. List of all diagrams, figures, and maps (including an overall map, as well as individual maps for each municipality which clearly identify the flooding sources and locations) developed
4. List of all data sheets (assessment protocols)
5. Results
6. Recommended future strategies to address identified problems
7. Conclusions – opportunities for future actions

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Technical Assistance	37.5	37.5	75		Allocations thru FY21	37.5	
					FY 22 Allocation	0	
					Balance to Complete	0	

New Jersey Beneficial Use of Dredged Material for the Delaware River, New Jersey

Authority: Senate Resolution (dated 26 Oct 2005) on Beneficial Use of Dredged Material for the Delaware River, Delaware, New Jersey, and Pennsylvania and P.L. 113-2

Congressional District: NJ-1, NJ-2, NJ-3 & NJ-4

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Feb 2014

Completion Date: Apr 2020

Total Estimated PED Cost: $1.6M

Federal Funds Appropriated: $0

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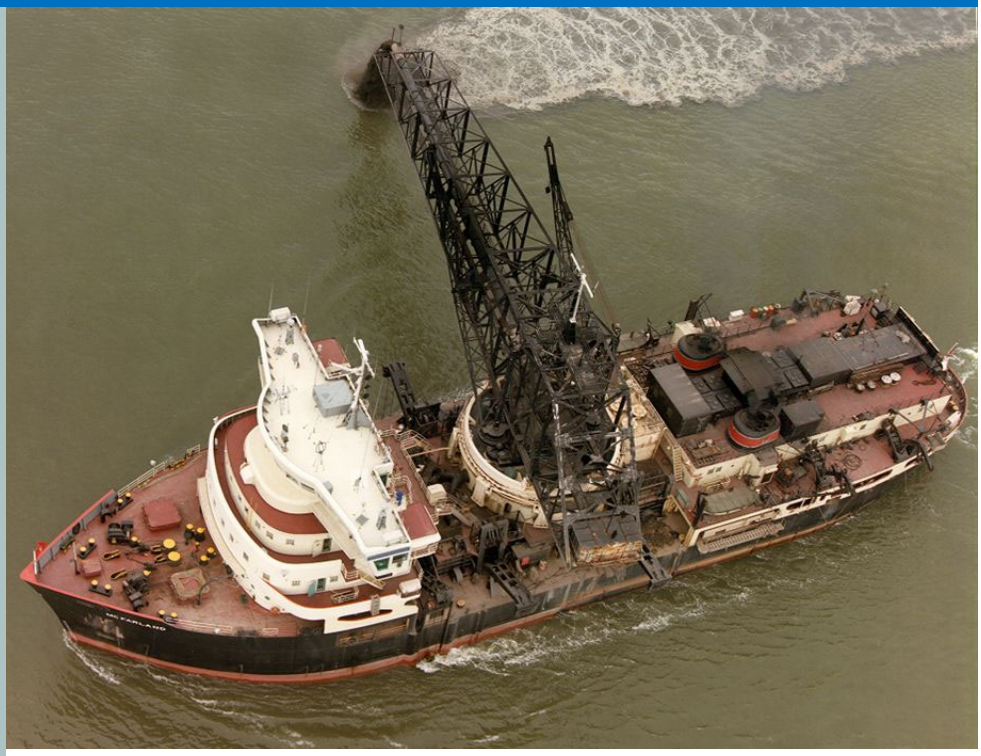

The U.S. Army Corps of Engineers (USACE) was authorized to conduct the Beneficial Use of Dredged Material for the Delaware River, PA, NJ and DE Study (DMU) reconnaissance phase and any ensuing feasibility phase investigations by a resolution of the Committee on Environment and Public Works of the United States Senate on October 26, 2005. The resolution directed the USACE to conduct an investigation of beneficial uses of dredged material within the Delaware River and Estuary area.

Approximately 3,000,000 cubic yards of sediment are dredged annually from the 'Delaware River, Philadelphia to the Sea' and 'Delaware River, Philadelphia to Trenton' projects. Essentially all of the sediment is removed from the estuary system and placed in upland Confined Disposal Facilities. This study explored innovative methods for management and reuse of dredged material in order to improve flood risk management. A Feasibility Cost Sharing Agreement (FCSA) was signed with the New Jersey Department of Environmental Protection on February 27, 2014. The Chief of Engineers Report was signed in April 2020.

New Jersey Beneficial Use of Dredged Material for the Delaware River, New Jersey

Project Goals: The beneficial use opportunities are best facilitated utilizing maintenance dredged material from Federal and non-Federal navigation projects including: the Delaware River, Philadelphia to the Sea NJ, PA & DE project; the Delaware River, Philadelphia to Trenton, NJ & PA project; and the Delaware River Main Channel Deepening, NJ, PA & DE project; and several active Federal navigation projects at major tributaries of the Delaware River. This dredged material will be considered for projects that will reduce flood damage from coastal storms, promote coastal resilience and sustainability and create opportunities for restoration of the estuaries functions.

In response to the study resolution above, the USACE Philadelphia District conducted the Beneficial Use of Dredge Material for the Delaware River New Jersey, Delaware, and Pennsylvania expedited reconnaissance study. The purpose of this study was to examine beneficial use opportunities using maintenance dredged material from the Delaware River and its tributaries for environmental restoration, protection and related purposes.

The findings of the expedited reconnaissance study indicated that there was Federal interest in further investigations of multiple-purpose beneficial sediment reuse opportunities through a feasibility study within New Jersey.

In the aftermath of Hurricane Sandy and the subsequent passage of the Disaster Relief Appropriations Act, 2013 (P.L. 113-2), Congress authorized supplemental appropriations to Federal agencies for expenses related to the consequences of Hurricane Sandy. The NJ DMU was identified in a Second Interim Report to Congress (dated 30 May 2013) as an "Ongoing Study" for reducing flooding and storm damage risks in the area affected by Hurricane Sandy. Therefore, the NJ DMU study was conducted under the both the October 2005 Senate Resolution as well as P.L. 113-2, which thereby focused the study on coastal storm risk management (CSRM) via dredged material.

Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

In April 2020, Lt. Gen. Todd T. Semonite, USACE Commanding General and the 54th U.S. Army Chief of Engineers, signed a Chief's Report and the project was subsequently authorized by Congress in WRDA 2020. The next step is to move forward through pre-construction engineering, design, and eventual construction.

The final report had favorable recommendations for the following sites:

- Gandys Beach
- Fortescue
- Villas (South)

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	2,225	0	2,225		Allocations thru FY21	2,225	
PED	1,040	560	1,600		FY 22 Budget	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Musconetcong River Habitat Connectivity Feasibility Study

Authority: Senate Committee on Environmental and Public Works Resolution dated Jul 20, 2005 (Delaware River and Tributaries)

Congressional District: NJ-7

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Apr 2022 (Scheduled)

Target Completion Date: Apr 2025

Total Estimated Cost: $3M

Federal Funds Appropriated: TBD

Non-Federal Cost Share: $1.5M

Study will evaluate the removal of the Warren Glen Dam for aquatic ecosystem restoration purposes along the Musconetcong River in Warren County, NJ. The Musconetcong River is a 45.7-mile-long tributary of the Delaware River in northwestern New Jersey in the United States. The Warren Glen structure is located approximately 5.5 miles upstream of the confluence between the Musconetcong River and the Delaware River, and stands more than 35-feet high. It is the furthest downstream dam on the Musconetcong and is the first impediment to migratory fish. The Warren Glen dam is one of two remaining impediments to a natural, free flowing condition along the first 13.4 miles of the Musconetcong River. The second dam, Bloomsbury Dam, is located approximately 2.3 miles upstream of the Warren Glen Dam and is currently under design for removal by USACE in 2021. The Musconetcong River drains the rural northwestern part of New Jersey and includes 158 square miles of drainage area. Over 24 miles of the Musconetcong River are designated as a National Wild and Scenic River, which preserves select rivers with scenic, recreational, geologic, fish and wildlife, historic, cultural or other important values in their free-flowing natural condition. The river is designated by the NJDEP as a Category One water, defined as waters protected from measurable changes in water quality due to their exceptional ecological, recreational, water supply or fisheries resources.

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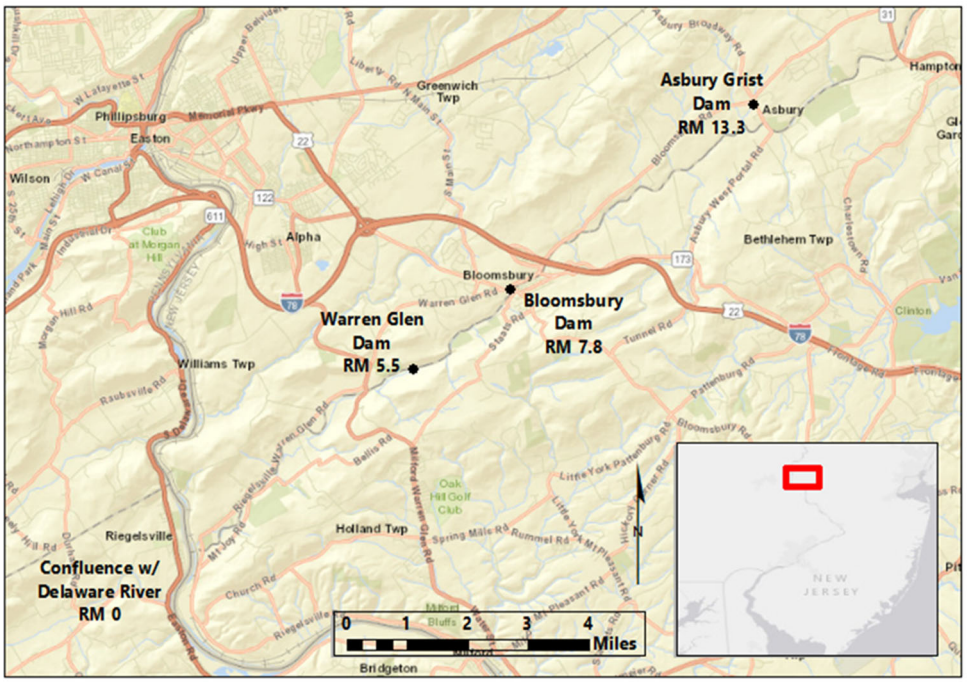
Musconetcong River Habitat Connectivity Feasibility Study

Project Goals: The purpose of this project is to remove an obsolete dam that impedes free passage of aquatic organisms; obstructs the movement of sediment, nutrients, and woody debris; and changes natural conditions of a riverine habitat to that of a lake. The 15 acre impoundment creates a 0.75 mile long gap in the cold water stream habitat of the river. The quantity of sediment impounded behind the dam may exceed 300,000 cubic yards.

Dam removal will restore free-flowing natural geomorphic conditions within the project area allowing for more natural stream morphology to occur such as sediment transport.



Removal of the dam and restoring the river's free flowing condition will reconnect access for migratory fish including shad, herring, alewife, striped bass, and American eel, and improved habitat for trout, bass and other local fish populations and aquatic organisms. The Musconetcong River sustains naturally breeding populations of Eastern brook trout, the region's only native trout. The removal of Warren Glen would provide significant habitat improvements for this native species. Restoration efforts have the potential to increase connectivity, improve geomorphic conditions, enhance the hydrologic character and integrate with other regional restoration plans leading to high priority, sustainable ecosystem outputs.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	1,500	1,500	3,000		FY 21 Budget	0	
					FY 22 Budget	TBD	
					Balance to Complete	1,500	

New Jersey Back Bays

Authority: U.S. House of Representatives and U.S. Senate Resolutions in Dec 1987

Congressional District: NJ-2, NJ-3, NJ-4 & NJ-6

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Apr 2016

Target Completion Date: Apr 2023

Total Estimated Cost: $18.05M

Historic storms, including Hurricane Sandy, have severely impacted the back bay communities of coastal New Jersey. The New Jersey Back Bays (NJBB) Study developed out of the larger North Atlantic Coast Comprehensive Study (NACCS) which identified nine high-risk areas on the Atlantic Coast for further in-depth analysis.

The NJBB study area is located behind the New Jersey barrier islands of Monmouth, Ocean, Burlington, Atlantic and Cape May Counties and includes the set of interconnected water bodies and coastal lakes that are separated from the Atlantic Ocean.

The purpose of the study is to investigate Coastal Storm Risk Management (CSRM) strategies and solutions to reduce damages from coastal flooding affecting population, critical infrastructure, critical facilities, property, and ecosystems. The NJBB Study is being performed to align with the goals of the North Atlantic Coast Comprehensive Study (NACCS), which are to:

- Provide a risk management framework, consistent with and NOAA/USACE Infrastructure Systems Rebuilding Principles; and
- Support resilient coastal communities and robust, sustainable coastal landscape systems, considering future sea level and climate change scenarios, to reduce risk to vulnerable populations, property, ecosystems, and infrastructure.

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New Jersey Back Bays

Project Goals:

• Flood risk is increasing for coastal populations and supporting infrastructure.

•Improved land use, responsible evacuation planning, and strategic retreat are important and cost-effective actions.

• Combinations of solutions: nonstructural, structural, natural/nature-based

• Communities must identify acceptable level of residual risk to plan for long-term

• Opportunities to improve risk management, including collaboration, building new partnerships to strengthen pre-storm planning.

• Resilience through use of a CSRM framework and commitments to advance sea level and climate change science, storm surge modeling and related themes.

The study will consider past, current, and future coastal storm risk management and resilience planning initiatives and projects underway by the USACE and other Federal, State, and local agencies. Three overarching efforts will be performed:

- Assess the study area's problems, opportunities and future without project conditions;
- Assess the feasibility of implementing system-wide coastal storm risk management solutions such as policy/programmatic strategies, storm surge barriers at selected inlet entrances, or tidal gates at selected lagoon entrances;
- Assess the feasibility of implementing site-specific perimeter solutions such as a combination of structural, non-structural, and natural and nature-based features; and

The end product of this study will be a decision document in the form of a Chief's Report authorizing comprehensive USACE design and construction opportunities using the full array of CSRM strategies and measures.

Also included in the report: recommendations of actionable and policy implementable items for non-USACE entities, potentially including floodplain management, landscape architecture, hurricane evacuation plans, and Community Rating System enhancement opportunities.

Additional recommendations will be provided for incorporating existing USACE and external programs, projects, plans and actions into the NJBB framework. Environment impacts will be assessed through the National Environmental Policy Act (NEPA) processes.

Study milestones include: Tentatively Selected Plan (Jan 2020); Agency Decision (Jan 2023; Final Feas Rpt (Dec 2023); and Chiefs Report (Jan 2025).

The New Jersey Back Bays (NJBB) CSRM Study received $750K funding in the Fiscal Year 2022 in the President's Budget and $2.474M in the Disaster Relief Supplemental Appropriations Act (DRSAA). USACE released a draft feasibility study in August 2022 with strategic engagement of partners. Vertical Team coordination is ongoing to determine path forward given environmental resource agencies concerns about storm surge barriers.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	10,262	7,788	18,050		Allocations thru FY20	3,538	
					FY 21 Allocation	3,500	
					FY 22 Allocation	750	
					DRSAA	2,474	
					Balance to Complete	0	

Nassau County Back Bays, NY

Authority: Chapter 140 of Public Law 71 (15 June 1955)

Congressional District: NY-2, NY-4 & NY-5

Non-Federal Sponsor: NYSDEC

Date of Project Agreement: Sep 2016

Target Completion Date: July 2023

Total Estimated Cost: $6M

The need for action in the Nassau County Back Bays (NCBB) study area was underscored after Hurricane Sandy severely flooded the Atlantic seaboard. In response to the storm's destruction, President Obama signed into law on 29 January 2013 the Disaster Relief Appropriations Act, of 2013 (Public Law [P.L.] 113-2), to assist in the recovery in the aftermath of Hurricane Sandy. This authorization and the Water Resources Reform and Development Act of 2014 (Section 3026 and the Joint Explanatory Statement of the Committee of Conference), signed by President Obama on 10 June 2014, provided USACE with authorization and funding for the North Atlantic Coast Comprehensive Study (NACCS).

The January 2015 NACCS final report identifies nine high-risk focus areas of the North Atlantic Coast that warrant additional analyses by USACE to address coastal flood risk. One of these areas is the NCBB system. The NACCS recommended an analysis into the feasibility of implementing a coastal storm risk management (CSRM) project to manage risk in southern Nassau County.

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Nassau County Back Bays, NY

Project Goals: The NCBB CSRM feasibility study investigates problems and opportunities to reduce damages from coastal flooding that affects population, critical infrastructure, property, and ecosystems. The purpose of this study is to identify a plan for implementation of comprehensive CSRM strategies to increase resilience and to reduce risk from future storms and compounding impacts of sea level change (SLC).

The Nassau County coastline and its vital resources critical to the social, economic, and environmental welfare of the nation are at risk. When storms damage homes, businesses, and infrastructure the immediate fall-out and the continued aftermath greatly affect the people who live in these coastal communities. Due to the importance of the Nassau County coast, the USACE has partnered with the NYSDEC and Nassau County to identify and recommend solutions to improve CSRM.

The NCBB region currently lacks a comprehensive CSRM program. As a result, the NCBB region experienced major impacts and devastation during Hurricane Sandy and subsequent coastal events such as damaged property and the disruption of millions of lives. Damages from Hurricane Sandy were estimated at $65 billion.

The feasibility study focuses on critical infrastructure and highly vulnerable areas in Nassau County, NY with an overall study goal to promote resilience and sustainability of communities in the study area by reducing risk to life safety and reducing potential structure/content damage while allowing solutions to be adaptable to SLC.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	4,500	1,500	6,000		Allocations thru FY20	3,000	
					FY 21 Allocation	1,500	
					FY 22 Allocation	1,000	
					Balance to Complete	500	

Bristol Borough Comprehensive Watershed Study, Pennsylvania

Authority: Section 22 of the Water Resources Development Act of 1974

Congressional District: PA-1

Non-Federal Sponsor: Bristol Borough, Pennsylvania

Date of Project Agreement: Jul 2020

Target Completion Date: 2023

Total Estimated Cost: $224,000

Federal Funds Appropriated: $112,000

Non-Federal Share: $112,000

The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.

A cost share agreement was executed with the Bristol Borough, Pennsylvania in July 2020. The Delaware Canal runs adjacent to or parallel to the Delaware River from its inlet at Easton, Pa to the historic outlet at Bristol, Pa. Flooding is a concern in Bristol Borough. Problem areas include 1) the area southwest of Silver Lake and south of Mill Creek; 2) the northern reaches of Adam's Hollow Creek south of US 13; and 3) the southern end of Adam's Hollow Creek where it empties into the Delaware River. The flooding has reduced residential and industrial property values, increased the number of residents who must buy flood insurance, and decreased city property-tax revenue particularly from industrial areas. Unmitigated flooding in these areas could also threaten property owners and cause businesses to experience downtime and income losses.

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Bristol Borough Comprehensive Watershed Study, Pennsylvania

Project Goals: The purpose of this project is to assess the flood-related problems at Silver Lake, the Delaware Canal, and the Adams Hollow. Evaluate the flood-prone areas and make recommendations for improvements and the reduction of flooding.

The study objectives include:

1. Prepare a flood analysis based on hydrologic and hydraulic modeling.
2. Identify alternatives and opportunities to reduce the severity of flooding within the detailed study area.
3. Evaluate the potential for alternatives to minimize or eliminate flooding problems associated with the future development land use conditions.
4. Evaluate other management techniques to minimize flooding within and throughout the watershed.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	112	112	224		Allocations thru FY20	112	
					FY 21 Allocation	0	
					Balance to Complete	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Francis E. Walter Dam Re-evaluation, PA
Feasibility Study

Authority: Section 216 of the Flood Control Act of 1970

Congressional District: PA-7, PA-8 & PA-9

Non-Federal Sponsor: Diamond State Port Corporation

Date of Project Agreement: Sep 2019

Target Completion Date: May 2026

Total Estimated Cost: $7.0M

Federal Funds Appropriated: $1.3M

Non-Federal Share: $1.3M

The study is authorized by Section 216 of the Flood Control Act of 1970 to investigate project modifications based on changed economic conditions. Per ER 1165-2-119 (Project Modification Guidance) Congressional authorization is required for structural modifications or operations unless no change to meeting existing authorized purposes of Flood Risk Management and Recreation. The Feasibility Cost Share Agreement was signed on 9/25/19 jointly with Delaware River Basin Commission (DRBC) and New York City Department of Environmental Protection (NYCDEP). The first milestone for the study was completed in the May of 2020.

The study focuses primarily on the originally authorized purposes of flood damage reduction, with additional consideration given to associated environmental, recreation, water supply, low flow augmentation and in-lake recreational opportunities, to identify possible improvements to the existing structure, infrastructure, and operations.

The FE Walter Dam was authorized by the 1946 Flood Control Act and constructed for Flood Damage Reduction in 1961. The project has provided $256,000,000 in flood damage prevention since its inception. USACE began operating with limited releases specifically for whitewater recreation in 1968 and an additional Recreation authorization was subsequently added in WRDA 1988. Annual operating plans are developed each year based on storage availability which currently support an $4 billion tourism industry and provides jobs to 37,500 people in the state.

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Francis E. Walter Dam Re-evaluation, PA
Feasibility Study

Project Goals: The purpose of this project is focused on Flood Reduction. Additional demands will also be considered for environmental and recreational improvements, and alternatives for water supply and low flow augmentation as related to repelling salinity intrusion above the Delaware River Estuary.

An Initial Appraisal Report was completed in July 2015 which concluded that that permanent changes to storage authorization, operations, or physical modifications were needed to maximize benefits for current and future recreational, water quality, and regional water supply needs.
PA Fish & Boat Commission and PA Department of Conservation and Natural Resources sponsored water quality modeling through the USACE Section 22, Planning Assistances to States Program. The USACE-Engineering Research and Development Center completed the modeling in April 2014 which determined the feasibility of alternative storage elevations and modified tower ports to discharge colder, more oxygenated water for fisheries improvements and increased discharge frequency to maximize recreational releases.
A General Design Memorandum for F.E. Walter Dam was also completed in 1985, which investigated authorized purposes and projected future demands through CY 2000. The recommended 1985 plan included increasing the dam height by 30 feet to provide an additional 70,000 acre feet of storage, primarily for permanent improvement to downstream and in-lake recreation as well as storage for water supply and low flow augmentation. The estimate cost of the 1985 plan was $112,000,000 (Oct 84 Price Level) which included $2,200,000 for recreational improvements. Over 4,000 acres of additional real estate acquisitions and easements were identified within the proposed project's flood storage inundation pool.
Probable Maximum Flood elevation analysis determined dam is sufficiently designed for flood risk management but allocation for other purposes was not available. Study screening analysis determined increasing dam elevation cost prohibitive. Existing study scope does not fully reevaluate all opportunities to provide additional flows for drought management.
Initial formulation screening and historical storage events have shown that increased storage alternatives will result in potential dam safety and downstream flood risk, and water quality/environment impacts. To reduce these risks, study scoping needs to be increased to provide technical analysis for environmental modeling, structural modification designs, H&H analysis, Geotech Analysis and Dam Risk Management Center approval.
Increased study analysis to reduce risks requires an additional study cost of $4,200,000* and 44 months to complete the study. 3x3x3 study policy exemption request is currently under review by HQ-USACE.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Re-evaluation	1,300	1,300	2,600		Allocations thru FY 20	1,300	
IEPR	200	0	2,800*		Balance to Complete	200	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Flood Plain Management Services

Authority: Section 22 of the Water Resources Development Act of 1960

Congressional District: Numerous

Non-Federal Sponsor: Numerous

Target Completion Date: Ongoing by Fiscal Year

The Floodplain Management Services (FPMS) Program authorizes USACE to conduct technical studies using either all federal funding or in combination with a voluntary contribution from a non-federal sponsor. The FPMS authority provides for technical assistance and does not have a provision for construction. Detailed plans and specifications as well as construction would have to be accomplished under other civil works authorities or by the non-Federal sponsor.

USACE has a Silver Jackets Program that establishes interagency flood risk management teams for states. The state teams have an opportunity to submit proposals to receive funding for interagency projects that will reduce flood risk. These projects are being funded through the FPMS program.

Delaware:
Delaware Non-structural Flood Risk Mitigation can significantly reduce flood damage to home and businesses. USACE can help educate the local community on many of the effective flood proofing measures they can implement. USACE will also partner with other State and Federal organizations to provide information on other flood risk management programs that can be beneficial to the public and stakeholders. In Delaware in FY22, Philadelphia District provided multiple outreach, education and risk communication sessions in the State for awareness and has prepared an Interagency Project Proposal for three Emergency Action Plan Tabeltop exercises for local dams in each County.

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Flood Plain Management Services

Through the Federal Emergency Management Agency's (FEMA) National Hurricane Program, the Corps and FEMA work with the National Oceanic and Atmospheric Administration (NOAA) to conduct hurricane evacuation studies with the ultimate goal of helping local communities understand their evacuation timeline. The Philadelphia District completed a multi-year project to update the Delaware Hurricane Evacuation Study (HES); partnering with the Delaware Emergency Management Agency (DEMA) and all three counties.

New Jersey:
Through the Federal Emergency Management Agency's (FEMA) National Hurricane Program, the Corps and FEMA work with the National Oceanic and Atmospheric Administration (NOAA) to conduct hurricane evacuation studies with the ultimate goal of helping local communities understand their evacuation timeline. In FY22, the Philadelphia District completed a multi-year project to update the New Jersey Hurricane Evacuation Study (HES); partnering with NJ Office of Emergency Management (NJ OEM), NJ Department of Transportation (NJ DOT), and all of the storm surge-affected counties.

In addition, in FY22 the Philadelphia District will begin an Interagency Project with New Jersey Department of Environmental Protection (NJ DEP) to provide workshops to pilot-areas (counties) on Cost-Effective Mitigation Opportunities.

Pennsylvania:
The Philadelphia District is also working with the City to develop Non-structural Flood Risk Mitigation options for the Eastwick area and on Critical Infrastructure with flood risk areas. The District will also provide outreach, education and risk communication workshops in Eastwick.

In addition, in FY22 efforts are underway to assist the City of Philadelphia with Flood Inundation Mapping that will serve to alert residents and stakeholders of flood potential in the vicinity of Tacony-Frankford Creek and the District is continuing a flood hazard evaluation in Bangor Borough, Northampton County for Martin's Creek.

HEC-HMS Model Modifications for the Delaware River Basin

Authority: Section 22 of the Water Resources Development Act of 1974

Congressional District: Numerous

Non-Federal Sponsor: Delaware River Basin Commission

Date of Project Agreement: Oct 2019

Target Completion Date: 2021

Total Estimated Cost: $228,000

Federal Funds Appropriated: $114,000

Non-Federal Share: $114,000

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The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this study. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.
DRBC is seeking assistance related to a comprehensive planning effort for the water resources of the Delaware River Basin. The effort, known as Water Sustainability 2060 (WS2060), is currently underway and requires a variety of tools, models and data to conduct the analyses upon which the comprehensive plan will be based.

USACE has developed the Corps Water Management System (CWMS) for the Delaware River Basin, which is a suite of models used for the operation of five USACE reservoirs. One of the component models of CWMS is HEC-HMS, which is a hydrologic model that can be used to generate runoff (streamflows) based on temperature, precipitation, land use and other relevant parameters. The streamflows generated in HEC-HMS are used as inputs to other CWMS component models and could also be used with non-USACE models.

For WS2060, the DRBC is using the Delaware River Basin Planning Support Tool (DRB-PST) for the simulation of long-term reservoir operations in the basin under current and future conditions. DRB-PST is configured to simulate multiple flow management options and is used by non-USACE reservoir operators (New York City) for the evaluation of flow management evaluation and policy decision-making. The input streamflows used by DRB-PST were generated from observed streamflows recorded at gages in the basin, which reflect what has happened in the past rather than what may be experienced in the future. A hydrologic model is needed so that new streamflows can be generated for both current and future conditions. For the comparison of existing and future conditions, input data sets developed with the same methodology are required.

DRBC is seeking a hydrologic model to generate new long-term streamflow records, which will become inputs to DRB-PST. DRB-PST will then be used to assess reservoir operations and water resource implications, including those affecting recreation, habitat, and reservoir storage for flow augmentation. Rather than develop a new hydrologic model, the DRBC proposes to use the HEC-HMS model developed for CWMS, but some additional work is required before it can be used for long-term planning simulations.

HEC-HMS Model Modifications for the Delaware River Basin

Project Goals: The purpose of this project is to provide support to the Delaware River Basin Commission through the generation of new input data sets for the HEC-HMS model. This will provide long term comprehensive planning for the Delaware River Basin.

USACE/DRBC Modeling Status Update:

USACE HEC-HMS Modeling complete and report drafted.

USACE HEC technical review complete.

DRBC mapped HEC-HMS model outputs to DRB-PST model.

DRBC performed diagnostics with HEC-HMS model and compared observed flows for temperature and precipitation. Some issues arose during this step and DRBC has been working with input from USACE to resolve discrepancies and select model parameters.

DRB-PST simulations with future climate conditions to be completed.

DRBC flow management/reservoir operations model to be reviewed.

DRBC is working toward completing final report documentation to conclude the project.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	114	114	228		Allocations thru FY20	114	
					FY 21 Allocation	0	
					Balance to Complete	0	

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US ARMY CORPS OF ENGINEERS

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Philadelphia District

Continuing Authorities Program

Continuing Authorities Program (CAP)

Program Authority	Description	Federal Funding Limits (incl. WRDA 2018 changes)	
		Project	Annual Program
Section 14	Flood Control Act of 1946 (PL 79-526), as amended for emergency streambank & shoreline erosion protection for public facilities & services.	5,000,000	$25,000,000
Section 103	River & Harbor Act of 1962 (PL 87-874), as amended, amends PL 727, an act approved August 13, 1946 which authorized Federal participation in the cost of protecting the shores of publicly owned property from hurricane & storm damage.	10,000,000	37,500,000
Section 107	River & Harbor Act of 1960 (PL 90-483), as amended for navigation.	10,000,000	62,500,000
Section 111	River & Harbor Act of 1968 (PL 90-483), as amended, for mitigation of shoreline erosion damage caused by Federal navigation projects.	12,500,000	N/A
Section 145	Placement of Dredged Material on beaches, Water Resources Development Act of 1976 (PL 94-587), as amended.	N/A	N/A
Section 204	Beneficial Uses of Dredged Material, Water Resources Development Act of 1992 (PL 102-580), as amended.	10,000,000	62,500,000
Section 205	Flood Control Act of 1948 (PL 80-858), as amended, for flood control.	10,000,000	68,750,000
Section 206	Aquatic Ecosystem Restoration, Water Resources Development Act of 1996 (PL 104-303), as amended.	10,000,000	62,500,000
Section 208	Flood Control Act of 1954 (PL 83-780), as amended, originally Section 2, Flood Control Act of August 28, 1937 (PL 75-406) for snagging and clearing for flood control.	500,000	7,500,000
Section 1135	Project Modifications for Improvement of the Environment, Water Resource Development Act of 1986 (PL 99-662), as amended.	10,000,000	50,000,000

Color Codes	
State	**Color**
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Mispillion River Inlet, Sussex County, DE

Authority: Section 111 of the Rivers and Harbors Act of 1968

Congressional District: DE-AL

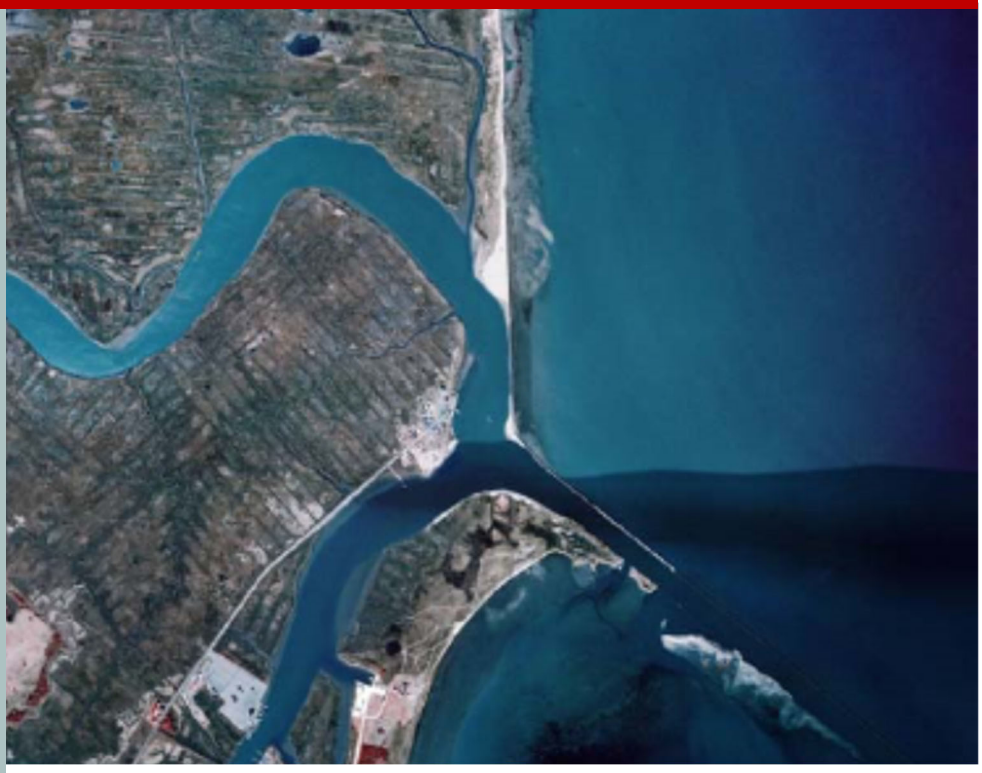
Non-Federal Sponsor: DNREC

Date of Feasibility Agreement: Not Required

Target Completion Date: TBD

Federal Funds Appropriated: $300,000

Non-Federal Share: $0



Mispillion River Inlet, DE

This study is authorized under Section 111 of the Rivers and Harbors Act (RHA) of 1968 as amended – Shore Damage Prevention or Mitigation of Damages Caused by Federal Navigation Projects, P.L. 90-483, as amended by Section 940 the of Water Resources Development Act (WRDA) 1986 (P.L. 99-662); Section 214, WRDA 1999 (P.L. 106-53)

The purpose of the feasibility study would be to determine if there is evidence that the Federal navigation project at Mispillion Inlet has caused damages to the non-Federal publicly and privately owned shorelines adjacent to the inlet. The study would also consider whether mitigation measures would provide storm risk management for the Dupont Nature Center, Delaware Launch Services, and residential and commercial structures located near the inlet, as well as any incidental ecosystem restoration benefits. The feasibility study would investigate the effects the jetties have on the state-owned beaches adjacent to the inlet, the stability of the inlet, and alternatives for mitigating those impacts.

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Mispillion River Inlet, Sussex County, DE

- **Project Goals:** An FID was completed in FY21 and determined that it is in the Federal interest to pursue further study of the area. Efforts are currently underway to prepare a Project Management Plan for the Feasibility Study.

The Delaware Estuary hosts the largest concentration in the Western Hemisphere of spawning horseshoe crabs. This is perhaps most prevalent near the mouth of the Mispillion River. Hundreds of thousands of shorebirds, dependent upon horseshoe crab eggs to fuel their northward migrations and breeding, stop along the shorelines of Delaware Bay to rest and feed almost exclusively on horseshoe crab eggs. The eggs provide the energy necessary for species such as red knots, dunlins, ruddy turnstones, sanderlings, semi-palmated sandpipers and other migratory species. The U.S. Fish and Wildlife Service proposes to list the *rufa* subspecies of the red knot (*Calidris canutus rufa*) as an endangered species. Like many migratory birds, the red knot is known for its miraculous long-distance flights. Red knots fly 19,000 miles round-trip, leaving the wintering grounds in southern Argentina, making only one stop on the coast of Brazil, then fly nonstop to Delaware Bay, a distance of 5,000 miles.

At Mispillion Inlet, migratory shorebirds and horseshoe crabs have an important connection. In late spring, red knots, ruddy turnstones, sanderlings, short- and long-billed dowagers, black-bellied plovers, and semi-plated and least sandpipers stop at the inlet to feast on the freshly laid horseshoe crab eggs. The Delaware Bay supports a large aggregation of these birds (>500,000 individuals) and is numerically one of the most important migratory stopover points in North America. The red knot, ruddy turnstone, and sanderling have been designated as species of high conservation concern by the US Fish and Wildlife Service. Given the Delaware Bay's significant contribution to these migratory shorebirds, it is identified as a Western Hemispheric Shorebird Reserve Network site of hemispheric importance, a Wetland of International Importance, and an Important Bird Area of Global Significance. (Andres 2003).

DNREC is the non-Federal sponsor. A draft PMP is currently under development to initiate the feasibility study.

Summarized Federal Financial Data ($000)		
Allocations through FY 20	100	
FY 21 Allocation	200	
Balance to Complete	500	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Wilmington Harbor, DE

Authority: Section 107 of the River and Harbors Act of 1960 as amended

Congressional District: DE-AL

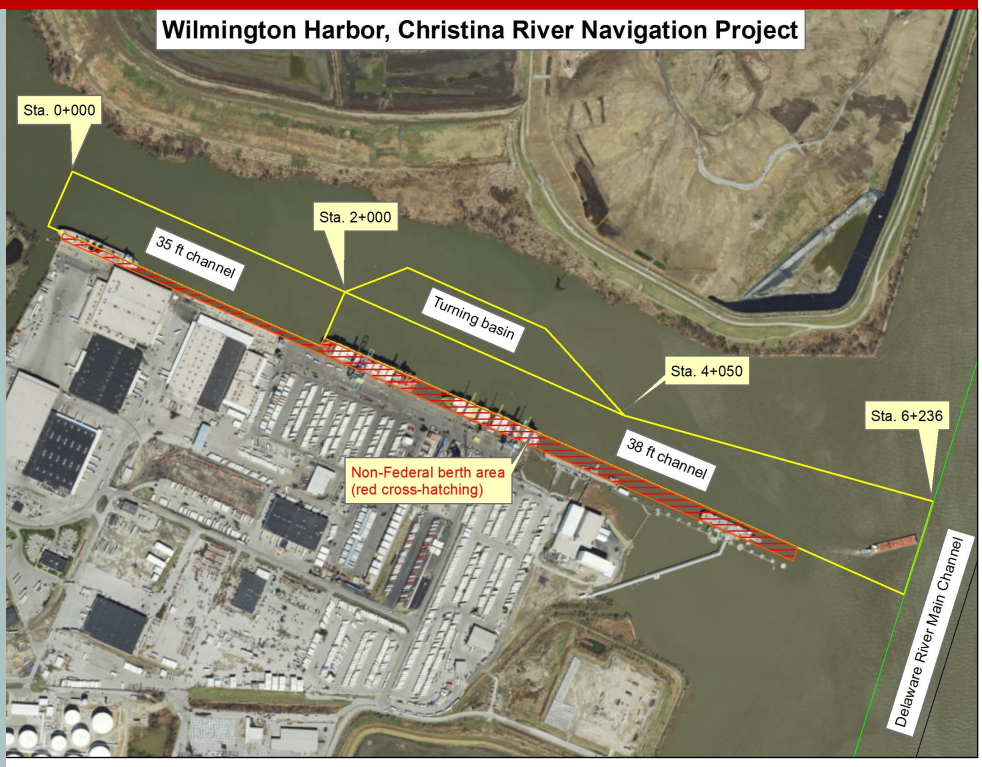
Non-Federal Sponsor: DSPC

Date of Project Agreement: PPA scheduled for January 2022 pending FID approval

Target Completion Date: October 2021

Federal Funds Appropriated: $50,000

Non-Federal Share: $0



Proposed Wilmington Harbor Upper Berth 38-foot Deepening

Diamond State Port Corporation (DSPC) has requested the Philadelphia District study the proposed deepening of the upper portion of the Christina River port berth area from the currently authorized 35-foot depth to match the remaining authorized 38-foot depth berth area.

Prior to conducting a study, the District must first conduct a determination of Federal Interest at Federal expense. Assuming the FID finding is favorable and approved by HQ-USACE and the ASA(CW), a cost sharing agreement to conduct a CAP 107 study will be negotiated with DSPC.

As DSPC is currently proposing to move the majority of future vessel traffic to their newly proposed port facility at Edgemoor DE, an analysis of remaining benefits must first be completed in order to confirm Federal interest in the Section 107 proposal. USACE Deep Draft Navigation Center will conduct this analysis for inclusion in a Federal Interest Determination estimated for completion by end of CY22.

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Wilmington Harbor, DE

- **Project Goals:** The purpose of this project phase is the completion and approval of an FID to authorize further study under CAP 107.

Summarized Federal Financial Data ($000)		
Allocations through FY 21	50	

Assunpink Creek, Hamilton Township, Mercer County, NJ

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: NJ-4

Non-Federal Sponsor: NJDEP

Date of Feasibility Agreement: May 2014

Target Completion Date: March 2023

Federal Funds Appropriated: $350,000

Non-Federal Share: $250,000

Assunpink Creek at Sweet Briar Ave in Hamilton Township, NJ

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, the USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The focus of this feasibility study is the lower reach of the Assunpink and its tributaries that are located in the City of Trenton, Hamilton Township, and Lawrence Township, New Jersey. Within the study area, flooding problems are widespread. The wide floodplains of the relatively low gradient streams are subject to chronic flooding and, on several occasions, extensive flood damage has occurred. Most recently, the study area experienced record flood levels and a great deal of property damage as a result of the heavy rains brought by Hurricane Irene in August of 2011. Flooding on the Assunpink Creek that resulted from Hurricane Irene shut down the rail lines in the City of Trenton for three days. This disrupted one of the busiest parts of the nation's passenger train system between Philadelphia and New York.

This feasibility study is examining the flooding problems along the Assunpink Creek and evaluating the Federal interest in implementing flood risk management solutions.

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Assunpink Creek, Hamilton Township, Mercer County, NJ

- **Project Goals:** The purpose of this project is to develop potential solutions to reduce frequent flooding problems.

The District executed a Feasibility Cost Share Agreement (FCSA) with the New Jersey Department of Environmental Protection (NJDEP) in FY14. The non-Federal sponsor is responsible for 50 percent of the costs of the Assunpink Creek Flood Risk Management Feasibility Study. NJDEP has developed hydraulic modeling to support the technical analyses as part of their required cost share match.

The Final Feasibility Report is anticipated to be completed by March 2023.

Summarized Federal Financial Data ($000)		
Allocations thru FY 17	250	
FY 18 Allocation	0	
FY 19 Allocation	100	
FY 20 Allocation	0	
FY 21 Allocation	0	
Balance to Complete	0	

Atlantic City, NJ (Erosion Hot Spot)

Authority: Section 111 of the Rivers and Harbors Act of 1968

Congressional District: NJ-2

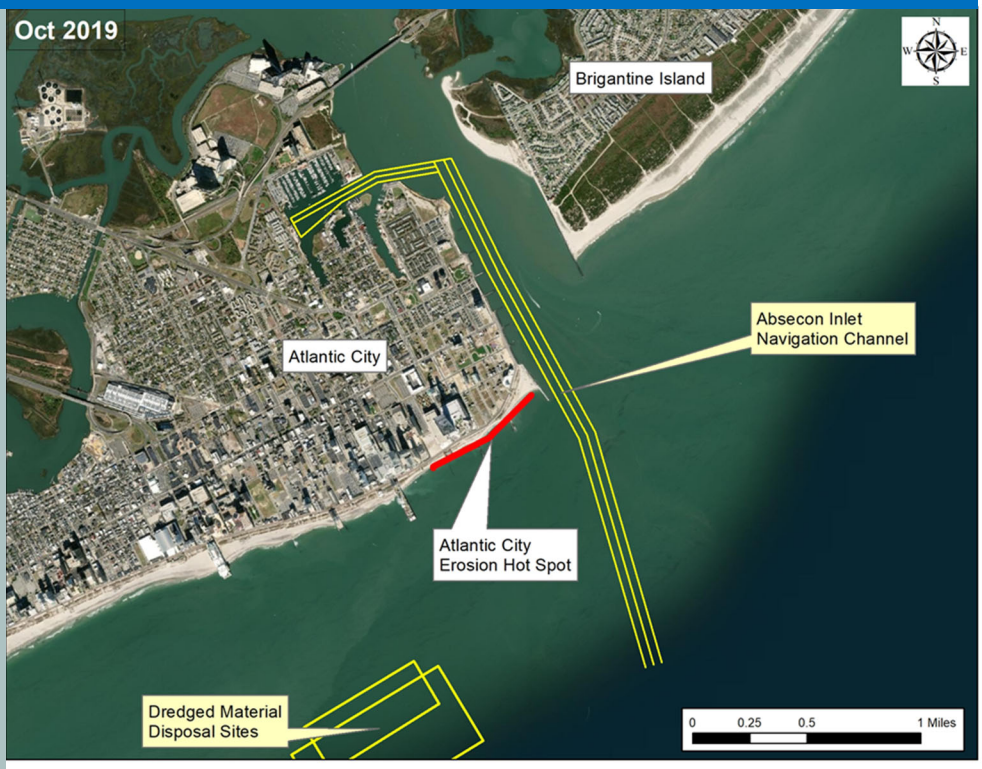
Non-Federal Sponsor: NJDEP

Date of Feasibility Agreement: Not Required

Target Completion Date: TBD

Federal Funds Appropriated: $50,000

Non-Federal Share: $0



Atlantic City, NJ

Section 111 of the River and Harbor Act of 1968, as amended authorizes the Federal government to initiate investigations and studies in the interest of mitigation of shore damage attributable to Federal navigation projects.

NJDEP requested study of the Absecon Inlet Federal navigation project in Atlantic City, Atlantic County, NJ and its detrimental effect on the beach and dunes within the northern end of Atlantic City.

Federal funds in the amount $50,000 were received in FY21 to complete a Federal Interest Determination (FID). This investigation is currently underway and is anticipated to be completed in June 2022.

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Atlantic City, NJ (Erosion Hot Spot)

- **Project Goals:** The purpose of this study is to determine whether or not there is Federal interest in pursuing a feasibility study.

Summarized Federal Financial Data ($000)		
Allocations through FY 22	50	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Cape May City (Delaware Avenue), NJ

Authority: Section 14 of the Flood Control Act of 1946

Congressional District: NJ-2

Non-Federal Sponsor: Cape May County

Date of Project Agreement: June 2019

Federal Funds Appropriated: $900,000

Non-Federal Share: $1,470,1258

Delaware Ave in the City of Cape May is threatened by erosive forces from the harbor.

This project is authorized by Section 14 of the Flood Control Act of 1946, as amended. The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion. Federal funding for each Section 14 project is limited to $5,000,000 (as amended by Section 1030 of the Water Resources Reform and Development Act of 2014, P.L. 113-121).

The study area is located on the north side of the City along the Cape May Harbor. This area is an approximate 0.4 mile length of Delaware Avenue that continually experiences severe shoreline erosion due to tidal surge and wave action during hurricanes and major nor'easters. The erosion threatens the integrity of Delaware Avenue, a county road, which is the main route for the delivery of supplies to the U.S. Coast Guard Training Center. The erosion also threatens an underground sewer utility line that runs along the northern right-of-way of the road.

The feasibility study has determined that it is within the Federal interest to construct the most environmentally suitable, least-cost protection alternative to address the shoreline erosion problems in the study area for the protection of Delaware Avenue and the sewer utility line .

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Cape May City (Delaware Avenue), NJ

- **Project Goals:** The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion.

The objectives of the Design and Implementation Phase of the project are to:

- Prepare a Project Management Plan (PMP) for the Design and Implementation (D&I) Phase
-
- Design and construct the project

The Feasibility Report was approved by NAD in February 2018. A PMP for the D&I phase was prepared and a Project Partnership Agreement (PPA) was executed with the NFS, Cape May County on June 10, 2019. 60% Plans & Specs completed on April 30, 2021. Project Cost Estimate increased on October 14, 2021 from $2,242,500 to $4,200,000.

Summarized Federal Financial Data ($000)		
Allocations through FY 19	500	SANDY
FY 20 Allocation	0	
FY 21 Allocation	0	
FY 22 Allocation	400	SANDY
Balance to Complete	1,830	

Cape May Seawall, City of Cape May, Cape May County, NJ

Authority: Section 103 of the Rivers and Harbors Act of 1962 and PL 113.2

Congressional District: NJ-2

Non-Federal Sponsor: City of Cape May

Date of Feasibility Agreement: May 2015

Target Completion Date: April 2022

Federal Funds Appropriated: $530,000

Non-Federal Share: $310,000

Existing seawall located along Beach Ave.

The authority for this feasibility study is provided by Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended, in accordance with the policies and procedures prescribed by the Chief of Engineers. Section 103 provides authority for the Corps of Engineers to develop and construct small beach erosion and coastal storm risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The study area is located along the ocean coast on the south side of the City of Cape May. Flooding in this low-lying area has been historically problematic during hurricanes and nor'easters. The study area appears to be vulnerable to ocean flooding due to the existing condition of a seawall that runs parallel between the beach and Beach Avenue. The seawall is a stone and concrete construction and was built following the destruction of the beachfront and boardwalk by the Ash Wednesday Storm in March 1962. The feasibility study will examine the existing conditions and explore coastal storm risk management solutions in the study area.

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Cape May Seawall, City of Cape May, Cape May County, NJ

- **Project Goals:** The purpose of this project is to develop potential solutions for Coastal Storm Risk Management.

Approximately 6 feet of sand that was washed over the seawall and onto the street at the corner of Wilmington Ave and Beach Ave during Hurricane Sandy.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan) as needed for completion of the Feasibility Report

Study completion date is scheduled for April 2022. Initial Federal funding is anticipated is early Summer 2022 to develop a Project Management Plan. Pending execution of a Project Partnering Agreement (scheduled for August 2022), the Design and Implementation Phase can commence. Construction is scheduled to commence in June of 2023 and is estimated to cost $3.298M (65% / 35% Fed / non-Fed cost share).

Summarized Federal Financial Data ($000)		
Allocations thru FY 22	530	SANDY
Balance to Complete	0	

Cumberland County Shore Protection, NJ (Maurice River Township)

Authority: Section 103 of the River and Harbors Act of 1962 and PL 113-2

Congressional District: NJ-2

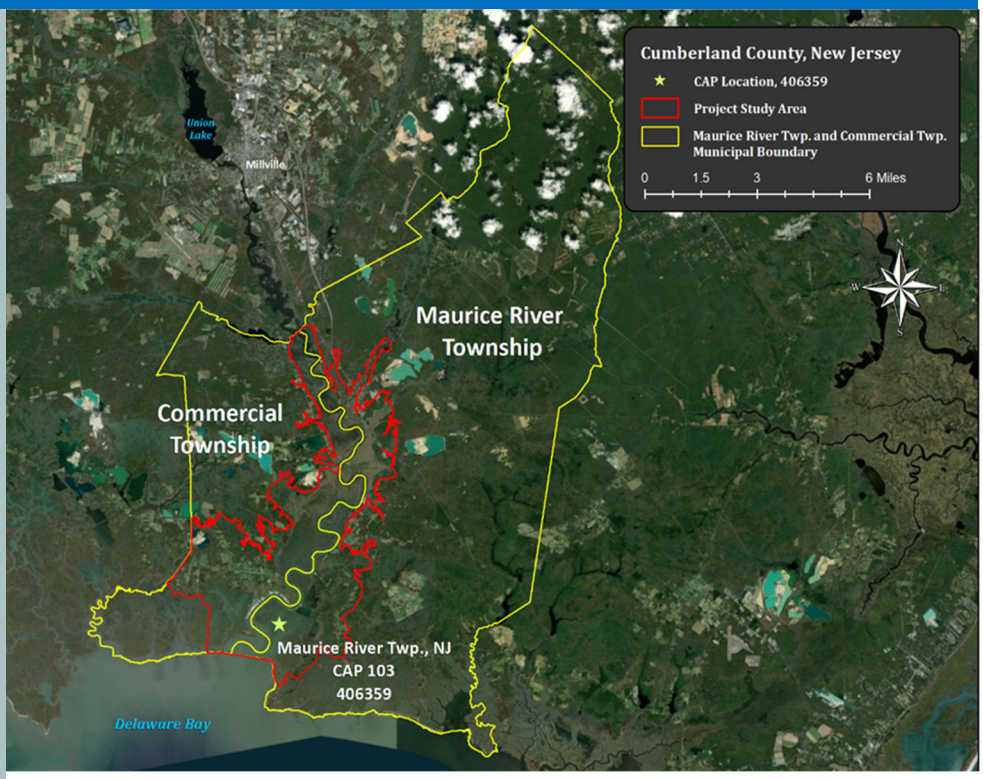
Non-Federal Sponsor: NJDEP

Date of Project Agreement: July 2018

Target Completion Date: TBD

Federal Share: $282,500

Non-Federal Share: $282,500



Study Area in Cumberland County, NJ outlined.

The authority for this project is Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended. Under this authority, USACE is authorized to plan, design, and construct small coastal storm risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The Cumberland County Shore Protection Project (Maurice Township, NJ) study area is located in Cumberland County, New Jersey. The study area is located at the confluence of the Delaware Bay and the Maurice River, approximately 50 miles southwest of Atlantic City. The study area is primarily composed of commercial establishments and residences, The area is experiencing increases in the frequency, duration, and intensity of tidal flooding and erosion during storm events including hurricanes and major nor'easters.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY16. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy. A feasibility Decision document is scheduled to be approved in 2023.

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Cumberland County Shore Protection, NJ (Maurice River Township)

- **Project Goals:** The purpose of this project is to develop potential solutions to reduce frequent flooding problems.

Summarized Federal Financial Data ($000)		
Allocations through FY 18	324	SANDY
FY 19 Allocation	0	
FY 20 Allocation	0	
FY 21 Allocation	0	
Balance to Complete	58.5	SANDY

Delran Township, NJ

Authority: Section 14 of the Flood Control Act of 1946

Congressional District: NJ-3

Non-Federal Sponsor: Delran Township, NJ

Date of Feasibility Agreement: TBD

Target Completion Date: TBD

Federal Funds Appropriated: $100,000

Non-Federal Share: $0

Rancocas Creek and River Drive, Delran Township, NJ

This study is authorized by Section 14 of the Flood Control Act of 1946, as amended. The purpose of Section 14 project is to protect public works and non-profit public facilities from streambank and shoreline erosion. Federal funding for each Section 14 project is limited to $5,000,000 (as amended by Section 1030 of the Water Resources Reform and Development Act of 2014, P.L. 113-121).

The Township of Delran, New Jersey is situated between Cinnaminson, Moorestown, and Riverside Townships, approximately 15 miles northeast of Philadelphia, PA. The study area is located along the Rancocas Creek, approximately 0.25 miles from the confluence of the Delaware River along River Drive, directly parallel to Hawk Island. The study area includes the Delran Sewerage Authority plant and is directly adjacent to the Riverside Marina. The rest of the properties surrounding the study area are predominately residential. The neighborhood along the study area is known as Riverside Park.

A Federal Interest Determination was completed in FY20 and determined that it is in the Federal interest to pursue further study of the area. Efforts are currently underway to prepare a Project Management Plan for the Feasibility Study and negotiate a Feasibility Cost Share Agreement with the non-Federal sponsor.

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Delran Township, NJ

- **Project Goals:** An FID was completed in FY20 and determined that it is in the Federal interest to pursue further study of the area. Efforts are currently underway to prepare a Project Management Plan for the Feasibility Study and negotiate a Feasibility Cost Share Agreement with the non-Federal sponsor.

Summarized Federal Financial Data ($000)		
Allocations thru FY 22	100	

Mordecai Island Coastal Wetlands Restoration, Ocean City, NJ

Authority: Section 1135 of the Water Resources Development Act of 1986

Congressional District: NJ-2 & NJ-3

Non-Federal Sponsor: NJDEP

Date of Feasibility Agreement: April 2017

Target Completion Date: August 2022

Federal Funds Appropriated: $190,000

Non-Federal Share: $190,000

Erosion along the coastline.

The Mordecai Island Coastal Wetlands Restoration Project, Beach Haven, NJ is authorized under Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, Project Modifications for Improvement of the Environment. The entire coastline of Mordecai Island has suffered from erosion; however, the western edge, adjacent to the Federal New Jersey Intracoastal Waterways navigation channel, has receded at a more substantial rate on the order of 3 - 6 ft. per year. Over the past 100 years, half the island has been lost through erosion. If nothing is done to protect the island, the erosion will continue and a highly valuable habitat, including a nesting colony of state-threatened black skimmers, will be at risk. The goal of the project is to preserve and protect Mordecai Island's diverse natural bird and marine habitats by stabilizing the shoreline and reducing future erosion and limit impacts to habitat.

Several erosion protection measures were evaluated and a 90% level design for an offshore wave barrier was completed in 2009; however, the expected wave reducing efficiency (40%) of the structure and new living shorelines rules in New Jersey prompted the sponsor to request another alternative incorporating living shorelines into the solution. Various types of hybrid living shorelines solutions (rock and vegetation) to the erosion were evaluated by USACE's Engineer Research and Development Center (ERDC).

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Mordecai Island Coastal Wetlands Restoration, Ocean City, NJ

- **Project Goals:** The goal of the project is to preserve and protect Mordecai Island's diverse natural bird and marine habitats by stabilizing the shoreline, reducing future erosion and limit impacts to habitat.

Continued erosion of Mordecai Island threatens an abundant diversity of natural wildlife habitats including open marsh, salt ponds, exposed mud flats, shrub-dominated areas and shallow water eelgrass beds. These habitats provide breeding, foraging, nesting and resting areas for many species of migratory birds, including shorebirds, wading birds, raptors and waterfowl. The continual erosion along the western edge of Mordecai Island threatens this rich diversity of natural habitats.

USACE's Operations Division recently beneficially placed dredged material from a shoal in the NJIWW in the breach of the island. The larger ecosystem restoration project (led by Planning) will build on this project. Planning and Operations will continue to coordinate as design progresses.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Summarized Federal Financial Data ($000)		
Allocations thru FY 16	493	
FY 17 Allocation	150	
FY 18 Allocation	0	
FY 19 Allocation	0	
FY 20 Allocation	20	
FY 21 Allocation	0	
FY 22 Allocation	20	
Balance to Complete	0	

Musconetcong River Dam Removal, Bloomsbury, NJ

Authority: Section 206 of the Water Resources Development Act of 1996

Congressional District: NJ-7

Non-Federal Sponsor: NJDEP

Date of Project Agreement: May 2015

Federal Funds Appropriated: $5,457,000

Non-Federal Share: $2,377,000

Bloomsbury Dam

This project is authorized under Section 206 of the Water Resources Development Act of 1996, Aquatic Restoration. Work under this authority may carry out aquatic ecosystem restoration projects that will improve the quality of the environment, are in the public interest, and are cost-effective.

This project will remove the Bloomsbury Dam in an effort to restore the connectivity of 8 miles of a Federally-designated National Wild and Scenic River. This project will restore natural river ecological functions and re-establish the free passage of aquatic species including resident fish, amphibians, freshwater crustaceans, and macro invertebrates. It will also remove a hazardous impediment and improve kayaking and canoeing conditions on a river that has been identified by the NJDEP Office of Natural Lands Management in its New Jersey Trails Plan as a Waterways Trail.

The Corps completed the feasibility study and environmental assessment in April 2013 recommending partial dam removal.

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Musconetcong River Dam Removal, Bloomsbury, NJ

- **Project Goals:** The purpose of this project is to remove the Bloomsbury Dam in an effort to restore the connectivity of 8 miles of a Federally-designated National Wild and Scenic River.

The Project Partnership Agreement was executed in May 2015 with the New Jersey Department of Environmental Protection (NJDEP). Survey and design efforts and cultural resource coordination are currently underway.

This project is part of a larger, river-wide effort to remove dams along the Musconetcong River and restore the passage of migratory fish (shad, alewife, and herring) from the Delaware River.

The Musconetcong River has been Federally designated as a National Wild and Scenic River that has outstanding ecological value in free-flowing condition. Bloomsbury Dam is one of two remaining dams on the lower Musconetcong River that acts as an impediment to migratory fish from the Delaware River. A partnership of Federal and state agencies and non-profit organizations is currently conducting a feasibility study for removal of the other dam. When these two dams are removed, it will restore 13.3 miles of the Musconetcong River to its natural, free-flowing condition and allow migratory fish to access spawning habitat which they have not been able to reach for over 200 years.

A construction contract award is targeted for March 2023.

Summarized Federal Financial Data ($000)		
Allocations thru FY 18	681	
FY 19 Allocation	298	
FY 20 Allocation	978	
FY 21 Allocation	0	
FY 22 Allocation	3,500	IIJA
Balance to Complete	0	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Salem River Cut-off Channel, NJ

Authority: Section 111 of the River and Harbors Act of 1968

Congressional District: NJ-2

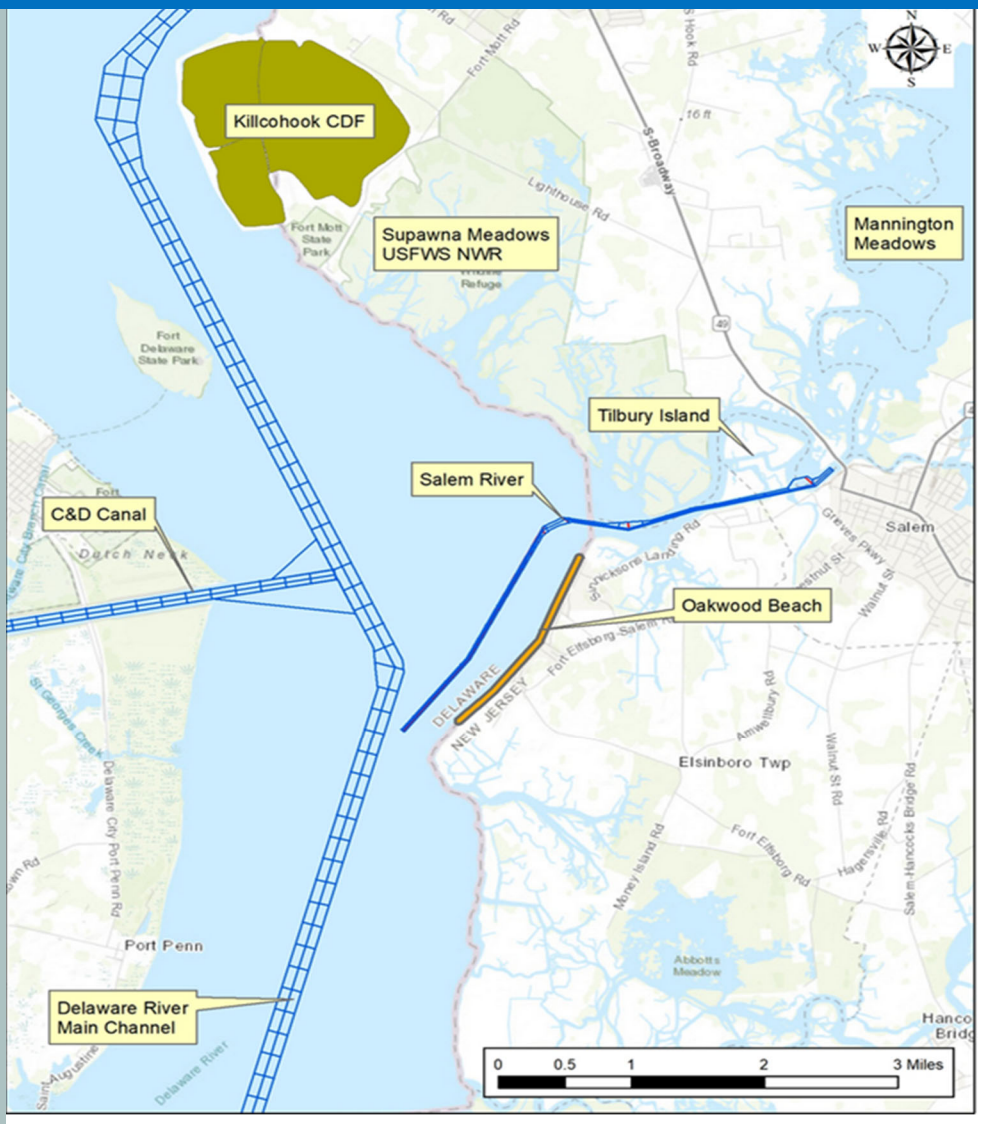
Non-Federal Sponsor: Ducks Unlimited

Date of Feasibility Agreement: Not Required

Target Completion Date: TBD

Federal Funds Appropriated: $50,000

Non-Federal Share: $0



Section 111 of the River and Harbor Act of 1968, as amended authorizes the Federal government to initiate investigations and studies in the interest of mitigation of shore damage attributable to Federal navigation projects.

Ducks Unlimited requested study of the Salem River Federal navigation project and its detrimental effect on marsh degradation at Tilbury Island.

Federal funds in the amount $50,000 were received in FY21 to complete a Federal Interest Determination (FID). This investigation is currently underway and is anticipated to be completed in June 2022.

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Salem River Cut-off Channel, NJ

- **Project Goals:** The purpose of this study is to determine whether or not there is Federal interest in pursuing a feasibility study for this area.

Summarized Federal Financial Data ($000)		
Allocations thru FY 22	50	

Supawna Meadows, Salem County, Pennsville, NJ

Authority: Section 204 of the Water Resources Development Act of 1992 as amended

Congressional District: NJ-2

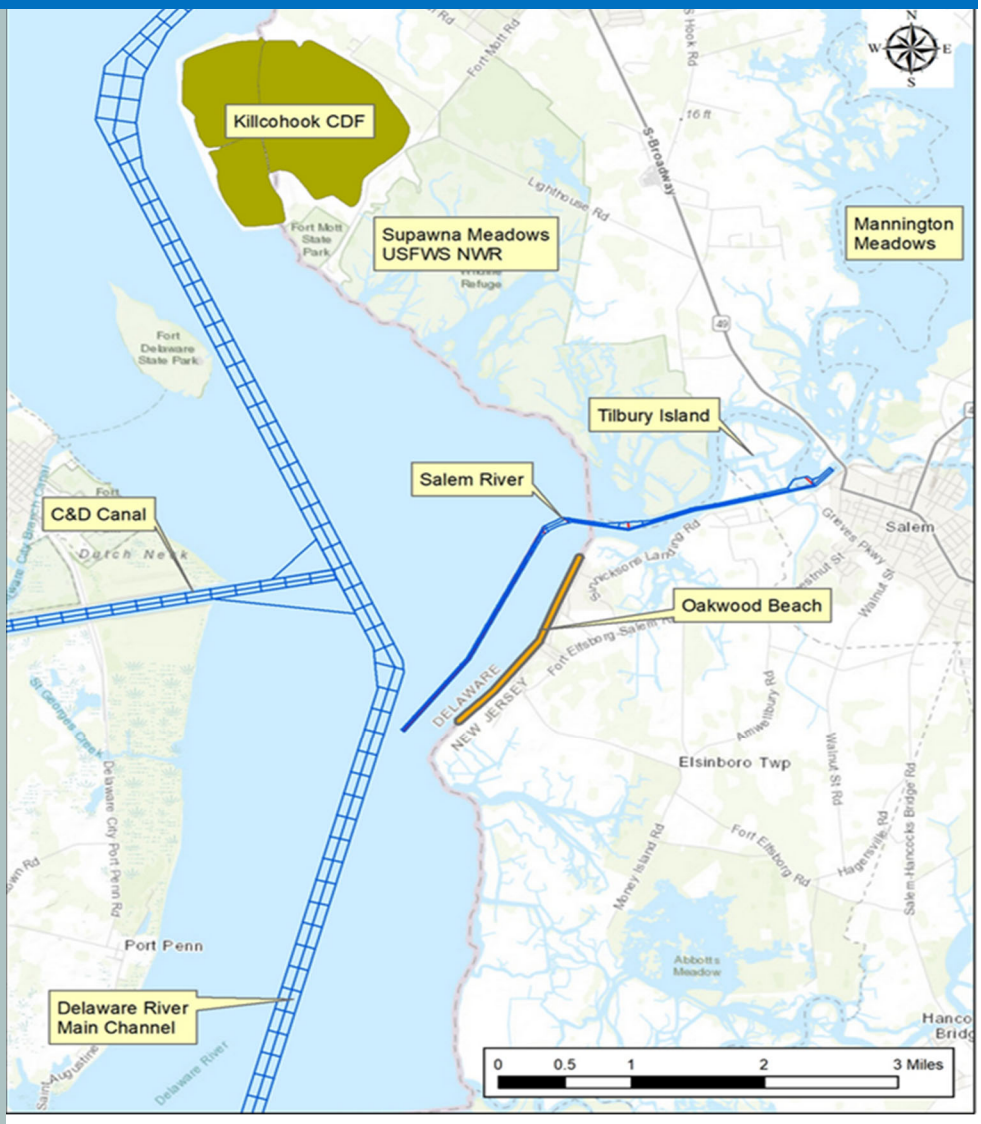
Non-Federal Sponsor: Ducks Unlimited

Date of Feasibility Agreement: TBD

Target Completion Date: TBD

Federal Funds Appropriated: $50,000

Non-Federal Share: $0



Section 204 of WRDA 1992 (PL 102-580) as amended provides authority for study of the use of dredged material from new or existing Federal navigation projects to protect, restore, or create aquatic and ecologically related habitats, including wetlands. Typically, these projects involve the beneficial use of dredged material from navigation channels to improve or create wetlands or waterbird nesting habitats, nourish beaches, or otherwise provide flood risk mitigation or coastal storm damage reduction benefits.

Federal funds in the amount $50,000 were received in FY21 to complete a Federal Interest Determination (FID). This investigation is currently underway and is anticipated to be completed in June 2022.

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Supawna Meadows, Salem County, Pennsville, NJ

- **Project Goals:** The purpose of this study is to determine whether or not there is Federal interest in pursuing a feasibility study for this area.

Summarized Federal Financial Data ($000)		
Allocations thru FY 22	50	

Upper Delaware River Watershed, Livingston Manor, NY

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: NY-19

Non-Federal Sponsor: NYSDEC

Date of Feasibility Agreement: March 2018

Target Completion Date: TBD

Federal Funds Appropriated: $25,000

Non-Federal Share: $25,000

Downtown flooding in the Livingston Manor Hamlet, Town of Rockland, NY.

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs to the feasibility study, design, and construction.

The recurring flooding problem in the Livingston Manor area have been documented since the late 1800s with significant events recorded in June 1969, June 1973, January 1996, November 1996, September 2004, April 2005, June 2006, and September 2012. Typical damages include inundation of residential and commercial structures, as well as erosion of roads, retaining walls, and bridge abutments. In addition, some of the storms have resulted in the loss of local bridges. From the January 1996 storm alone, Sullivan County reported infrastructure damages of $5,500,000 and property damages of $4,400,000.

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Upper Delaware River Watershed, Livingston Manor, NY

- **Project Goals:** The purpose of this project is to evaluate flood risk management for the Little Beaver Kill and Willowemoc Creek in the Town of Rockland (Livingston Manor).

The objectives of the Feasibility Phase of the project are to:

- Revise the GI Study Feasibility Report to comply with CAP Study Report requirements.
- Complete Cost PCX Certification and update construction schedule.
- Integrate Environmental Assessment and NEPA documentation for the project within the CAP Report.
- Once approved (scheduled for July 2022), CAP D&I funds will be requested to prepare a PMP and execute the PPA with NYSDEP.

A FCSA was executed with the NFS on March 1, 2018 to complete the feasibility study under the Continuing Authorities Program. This study was converted from the larger more comprehensive General Investigations Program to the smaller scale Continuing Authorities Program for completion of the feasibility study and design and implementation.

In response to a remaining concern expressed by the cost certification reviewer, the project design and cost estimate is required to include a replacement of the existing degraded retaining wall structure located above main street bridge as a preventive measure. This additional cost is not anticipated to impact the project's economic justification. A Project Partnership Agreement for project construction is currently scheduled for execution by end of CY22 (December 2022).

Summarized Federal Financial Data ($000)		
Allocations through FY 17	25	

Eastwick, Philadelphia County, PA

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: PA-1

Non-Federal Sponsor: City of Philadelphia Water Department

Date of Feasibility Agreement: May 2019

Target Completion Date: July 2023

Federal Funds Appropriated: $355,000

Non-Federal Share: $355,000

Eastwick neighborhood in Philadelphia County, PA

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, the USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for feasibility studies, planning, engineering, design, and construction.

The Eastwick study area is located in southwestern Philadelphia County, Pennsylvania. The study area is located along the confluence of Darby and Cobbs Creeks, west of the Schuylkill River, and north of the Delaware River and Philadelphia International Airport. Eastwick is primarily composed of residential and commercial establishments while the adjacent area to the south and east is explicitly comprised of industrial and commercial establishments. Eastwick is experiencing increases in the frequency, duration, and intensity of riverine and marsh flooding during storm events including hurricanes and major nor'easters.

The feasibility study will evaluate an array of alternatives to reduce flood risk in the area.

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Eastwick, Philadelphia County, PA

- **Project Goals:** The purpose of this project is to develop a technically feasible, economically justified and environmentally acceptable solution to the flooding problems in the Eastwick neighborhood in Philadelphia County.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Summarized Federal Financial Data ($000)		
FY 19 Allocation	118	
FY 20 Allocation	118	
FY 21 Allocation	0	
FY 22 Allocation	119	
Balance to Complete	0	

Tookany Creek, Cheltenham Township, Montgomery County, PA

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: PA-2 & PA-13

Non-Federal Sponsor: Cheltenham Township

Date of Feasibility Agreement: June 2012

Target Completion Date: May 2022

Federal Funds Appropriated: $512,900

Non-Federal Share: $330,000

Tookany Creek is partially channelized in concrete flumes.

This project is authorized under Section 205 of the Flood Control Act of 1948, as amended.

The study area comprises the Tookany Creek watershed, including, hydrologic analyses within Cheltenham and Abington Townships and Jenkintown and Rockledge Boroughs, hydraulic analyses within Cheltenham Township, environmental impacts within Cheltenham and Abington Townships and Jenkintown and Rockledge Boroughs, and economic analyses within Cheltenham Township. The formulation process involved establishing plan formulation rationale, identification and screening of alternatives, assessment and evaluation of plans responsive to identified problems and needs. The study investigates both structural and non-structural solutions to the flooding problem.

Structural measures decrease flood damage by physically limiting the flood-prone area. Non-structural measures reduce the potential for damages for structures and contents in floodplains. These measures do not significantly alter the depth or extent of flooding, but rather the negative impacts on houses and possessions.

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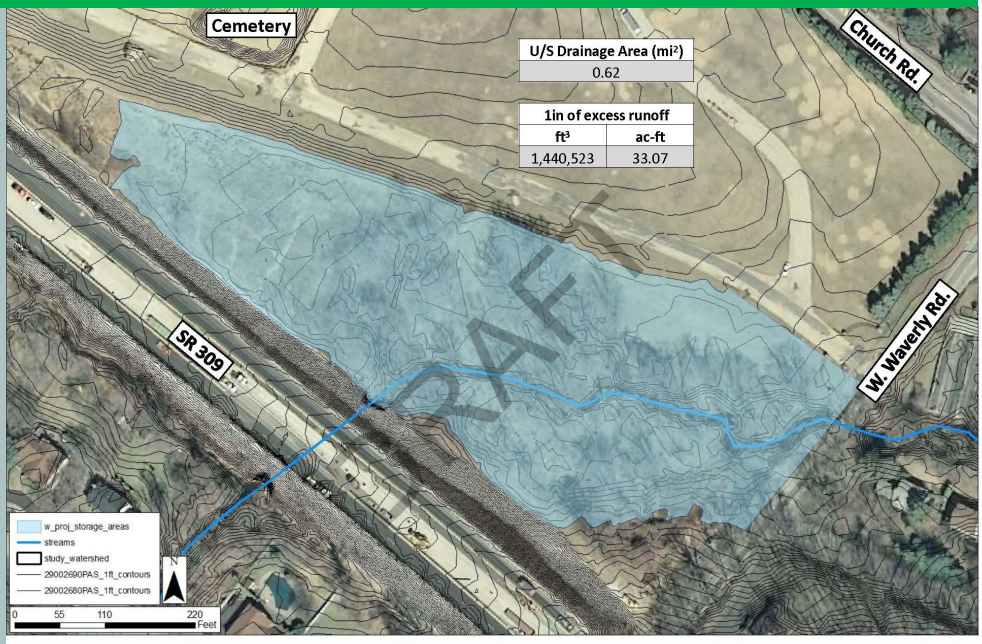
Tookany Creek, Cheltenham Township, Montgomery County, PA

- **Project Goals:** The purpose of this project is to develop a technically feasible, economically justified and environmentally acceptable solution to the flooding problems along Tookany Creek in Cheltenham Township and the surrounding areas.



Possible Storage Area
W. Waverly Rd.
DCNR / PAMAP Orthophotograph

Figure 9

JULY 2013

The District is currently finalizing the feasibility study and anticipates completion of the feasibility phase in May 2022. The District is currently preparing the final feasibility report and environmental assessment for final review and approval

Following approval of the report and recommendations by the Township, the Corps will pursue executing a Project Partnership Agreement (PPA) to implement construction.

Summarized Federal Financial Data ($000)		
Allocations thru FY 18	512.9	
FY 19 Allocation	5	
FY 20 Allocation	0	
FY 21 Allocation	0	
Balance to Complete	TBD	

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Philadelphia District

Construction General

Construction General (CG)

Construction projects are construction and major rehabilitation projects that relate to navigation, flood control, water supply, hydroelectric power, and environmental restoration. This also includes projects authorized under the Continuing Authorities Program (CAP).

- Environmental Infrastructure
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Hydropower
- Navigation
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance, Environmental Infrastructure and Hydropower)
- Shore Protection

State Color Codes
Delaware
New Jersey
New York
Pennsylvania
Multiple

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware Bay Coastline, DE & NJ, Broadkill Beach, DE

Authority: Section 101 of the Water Resources Development Act of 1999

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: TBD

Target Completion Date: 2054

Total Estimated Cost: $154.8M

Federal Funds Appropriated: $683,000

Non-Federal Share: $130,000

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Aerial view of Broadkill Beach, DE

This project was authorized by the House Committee Resolution dated 01 October 1986.

The Delaware Bay Coastline, DE & NJ – Broadkill Beach, DE project was authorized for construction by Title I, Section 101 (a) (11) of WRDA 1999. The plan proposed in the final feasibility report for the purpose of costal storm risk management at Broadkill Beach is a 100 foot wide berm with an elevation of +8.0 feet NGVD, and a dune with an elevation of +16.0 feet NGVD over a total project length of 14,600 feet. The selected plan includes dune grass, dune fencing and suitable advance beach fill and periodic nourishment every five years to ensure the integrity of the design. The estimated initial project cost is $14.3 million. The PED phase was completed in FY01 and consisted of completion of detailed plans and specifications for those features recommended in the feasibility report

Delaware Bay Coastline, DE & NJ, Broadkill Beach, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management along Broadkill Beach, which includes dune grass, dune fencing and sustainable advance beach fill and periodic nourishment every five year.

As part of the initial construction of the Delaware River Main Channel Deepening Project there was an opportunity to complete initial construction of the Broadkill project as a beneficial use of dredge material project. The Corps completed the work with DNREC and the local community on the necessary coordination and real estate requirements. The contract to complete initial construction was awarded under the Delaware Deepening project on 6 June 2014. Construction began on 30 Apr 2015 and was completed in March 2016.

The next step for the Broadkill project once adequate funding is provided is to complete a Limited Reevaluation Report (LRR) to update project information including benefits, costs and environmental information. The LRR would be used to support the development and execution of the Project Partnership Agreement (PPA) with DNREC. A model PPA has been provided to DNREC for review. The PPA will most likely need Corps' Higher Authority review and ASA(CW) approval in order to execute. An executed PPA is necessary for future periodic nourishment and project eligibility under PL 84-99 Flood Control and Coastal Emergency (FCCE).

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Mar 2016	
2nd Periodic Nourishment	FY 24 (S)		Was scheduled for FY 21, but without LRR & PPA nourishment will be delayed until at least FY 24

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Total Construction	100,653	54,119	154,772

Summarized Federal Financial Data ($000)		
Allocations thru FY20	683	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	99,970	

Delaware Bay Coastline, DE & NJ, Port Mahon, DE

Authority: Title I, Section 101 (a)(12) of the Water Resources Development Act of 1999

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: TBD

Target Completion Date: TBD

Total Estimated Cost: $17.08M Initial Construction

Federal Funds Appropriated: $1.1M

Non-Federal Share: $125,000

Overview of Project Site in Port Mahon, DE

The Delaware Bay Coastline, DE & NJ – Port Mahon, DE project was authorized for construction by Title I, Section 101 (a) (12) of WRDA 1999.

The plan proposed in the final feasibility report for the purpose of costal storm risk management and ecosystem restoration at Port Mahon consists of a 5,200 foot long beach fill with periodic nourishment to provide for horseshoe crab and shorebird habitat. It also includes raising State Road 89 for a distance of 7,500 feet and placing riprap along a 1,200 foot length of the road to protect wetlands, and restoring 21.4 acres of degraded wetland habitat west of the road. The estimated initial project cost is $14.5 million. The PED phase was completed in FY01 with finishing detailed plans and specifications for those features recommended in the feasibility report.

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Delaware Bay Coastline, DE & NJ, Port Mahon, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management and Ecosystem Restoration at Port Mahon, with a beach fill and periodic nourishment to provide for horse-shoe crab and shorebird habitat.

Funds have not been received for this project since FY 2007. A Limited Reevaluation Report (LRR) was completed and approved in May 2006. LRR are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

Initiation of construction is dependent on the establishment of adequate funding. The next steps toward initial construction once adequate funding is received is to update the LRR; develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract. The Office of Management and Budget (OMB) provided a clearance letter for this project to the Assistant Secretary of the Army for Civil Works in June 2008.

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	10,168	6,914	17,082

Summarized Federal Financial Data ($000)		
Allocations thru FY20	1,098	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	9,070	

Delaware Bay Coastline, Roosevelt Inlet-Lewes Beach, DE

Authority: Title I, Section 101 (a)(13) of the Water Resources Development Act of 1999

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: Nov 2002

Target Completion Date: 2053

Total Estimated Cost: $30.8M

Federal Funds Appropriated: $10.04M

Non-Federal Share: $3.1M

Beach along Delaware Bay Coastline between Roosevelt Inlet and Lewes Beach

The Delaware Bay Coastline, DE & NJ – Roosevelt Inlet-Lewes Beach, DE project was authorized for construction by Title I, Section 101 (a) (13) of WRDA 1999.

The plan proposed in the final feasibility report for the purpose of costal storm risk management and navigation mitigation is a 100-foot-wide berm at an elevation of +8.0 feet NAVD, and a dune at an elevation of +14.0 feet NAVD over a total project length of 1,400 feet. The selected plan includes dune grass, dune fencing and suitable advance beach fill and periodic nourishment every six years to ensure the integrity of the design. The plan also provides for reconstruction of the south jetty at Roosevelt Inlet.

Initial placement of beach fill was completed September 2004 while dune crossovers, sand fence, and dune grass were completed in December 2004. Artifacts were discovered on the beach during the dredging and subsequent beach placement operation. As a result, the District completed Phase 1 and 2 cultural investigations.

A portion of the FY 11 funds were used to award a contract to complete periodic nourishment cycle. The Contract was awarded in September 2011 and construction was completed in Jan 2012.

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Delaware Bay Coastline, Roosevelt Inlet-Lewes Beach, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management and Coastal Storm Damage Risk Reduction and Navigation Mitigation at Roosevelt Inlet-Lewes Beach, which includes dune grass, dune fencing and suitable advance beach fill with periodic nourishment every six years.

Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were utilized to complete a Project Information Report (PIR). The report did not recommend proceeding beyond the PIR because the damages to the project did not qualify for assistance under PL 84-99. A PIR Addendum was developed and approved which concluded the project was eligible for P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy) funding to restore the project to design template. A construction contract to restore the project was awarded 19 Jul 2013. Work began in mid Oct 2013 & was completed on 6 Nov 2013.

This project was damaged by the Jan 2016 Nor'easter. A PIR under the authority of PL 84-99 was completed. Ultimately it was determined that this project did not qualify for FCCE repair funds. However, FY17 Supplemental CG funds were provided which will allow for a contract to complete periodic renourishment. This contract was a truck fill contract and awarded in Sep 2017. Construction began in Dec 2017 and was completed in Jan 2018.

The next periodic nourishment cycle is scheduled for FY23. The FY23 Infrastructure Investment & Jobs Act (IIJA) will fund $4.5M to complete next nourishment. This contract will be scheduled for award by end of FY23 with work in fall 2023.

Timeline	Start	Complete	Comments
Initial Construction		Dec 2004	
Periodic Nourishment	Nov 2011	Jan 2012	
FCCE Emergency (Sandy)	Oct 2013	Nov 2013	
Periodic Nourishment	Dec 2017	Jan 2018	
Periodic Nourishment	FY 23 (S)		Funds provided in FY 23 IIJA

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	23,700	7,099	30,799

Summarized Federal Financial Data ($000)		
Allocations thru FY20	10,034	
FY 21 Allocation	0	
FY 22 Work Plan	4,500	FY 23 IIJA
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	9,166	

Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach/South Bethany, DE

Authority: Title I, Section 101 (a)(15) of the Water Resources Development Act of 1999

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

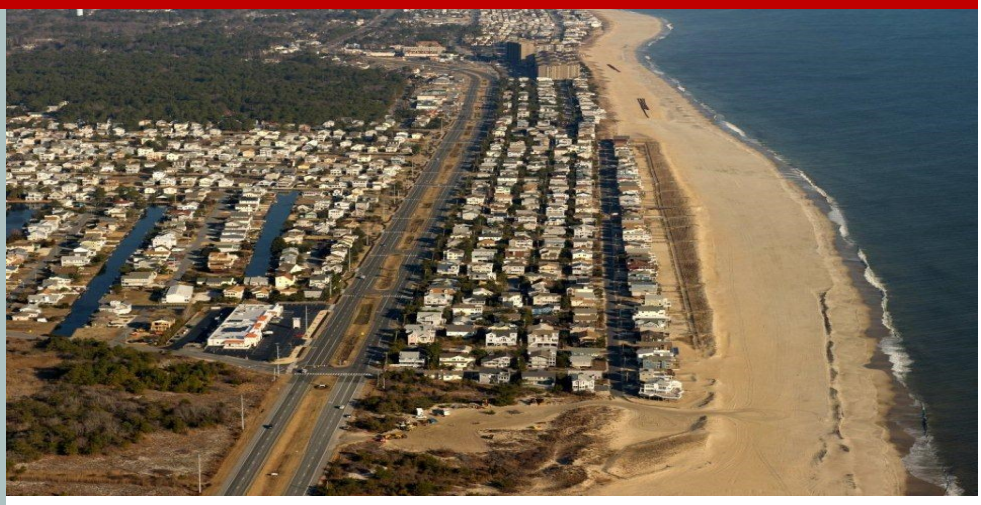
Date of Project Agreement: Jul 2006

Target Completion Date: 2057

Total Estimated Cost: $266.3M

Federal Funds Appropriated: $39.0M

Non-Federal Share: $21.0M



Aerial view of South Bethany looking north.

Authorized under the Senate Committee Resolution, 23 June 1988. Project authorized for construction by Title I, Section 101 (a) (15) of WRDA of 1999.

The Bethany Beach/South Bethany project area extends along approximately 3 miles of the Atlantic Ocean coast of Delaware in Sussex County, Delaware. The plan proposed in the final feasibility report for the purpose of costal storm risk management consisted of a sand fill beach and dune project, in two independent discontinuous segments, for both Bethany Beach and South Bethany. The project includes a 150-foot wide berm with an elevation of +7.0 feet NAVD, and a dune with an elevation of +16.0 feet NAVD over a total project length of 14,950 feet (2.8 miles). The recommended project consisted of providing 3.5 million cubic yards initial beach fill, with subsequent nourishment of 480,000 cubic yards every three years. The plan included dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every three years to ensure the integrity of the design.

Initial construction was completed in June 2008. A periodic nourishment contract was awarded in September 2011 with construction beginning in October 2011. Construction (Pumping) was completed in March 2012 for Bethany and October 2012 for South Bethany.

Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions.

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Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach/South Bethany, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management of a sand fill beach and dune project, in two independent segments, for both Bethany Beach and South Bethany. It includes a berm, a dune, beach fill, dune grass, dune fencing and periodic nourishment every three years.

Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved. A contract to complete the repairs and restoration was awarded on 25 June 2013. Pumping began on 18 August 2013 and was completed on 28 September 2013.

This project was damaged by the October 2015 & January 2016 Nor'easters. A PIR & PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds were received for engineering and design, plans and specification & construction. Additionally, FY17 Construction Work Plan funds of $6.5M & FY17 CG Supplemental funds of $4.0M were received to complete periodic nourishment. The FCCE funds were for construction to minimum design template while to Work Plan funds were used to complete periodic nourishment. CG Supplemental funds were determined to be excess and returned. The contract was awarded in September 2017. Construction began in June 2018 and was completed in August 2018.

FY20 Work Plan funds were used to award a periodic nourishment contract in September 2020. Construction began in October 2020 and was completed in February 2021.

The next periodic nourishment cycle is scheduled for FY23. The FY22 Infrastructure Investment & Jobs Act (IIJA) funded $8.65M to complete next nourishment. Corps will coordinate with DNREC to determine possibility to combine the work with the Rehoboth Beach/Dewey Beach and Fenwick Island FY22 nourishment contract.

Timeline	Start	Complete	Comments
Initial Construction		Jun 2008	
Emergency Work	Jan 2009	Jun 2009	
Periodic Nourishment	Oct 2011	Oct 2012	
FCCE Emergency (Sandy)	Aug 2013	Sep 2013	
FCCE Emergency (Oct 15 & Jan 16)	Jun 2018	Jul 2018	
Periodic Nourishment	Jun 2018	Jul 2018	
Periodic Nourishment	Oct 2020	Feb 2021	
Periodic Nourishment	FY 23 (S)		Funds rec'd in advance in FY 22 IIJA

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	173,100	93,195	266,295

* Reprogrammed to DE Coast Protection

Summarized Federal Financial Data ($000)		
Allocations thru FY20	39,028	
FY 21 Allocation	(50)*	
FY 22 Work Plan	8,650	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	125,472	

Delaware Coast, Cape Henlopen to Fenwick Island, Fenwick Island, DE

Authority: Water Resources Development Act of 2000

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: Sep 2004

Target Completion Date: 2054

Total Estimated Cost: $140.0M

Federal Funds Appropriated: $8.3M

Non-Federal Share: $5.6M

Aerial view of Fenwick Island looking south.

This project is authorized under the Senate Committee Resolution, 23 June 1988. Project authorized for construction is included in the Water Resourced Development Act (WRDA) of 2000.

The plan proposed in the final feasibility report for the purpose of costal storm risk management at Fenwick Island is a 200-foot wide berm with an elevation of +7.7 feet NAVD, and a dune with an elevation of +17.7 feet NAVD over a total project length of 6,500 feet. The plan includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every four years to ensure the integrity of the design.

Initial construction was completed in November 2005. Limited Construction funds were received between FY 08 and FY 17. The funds received were used for project monitoring. Periodic nourishment originally scheduled for FY09 was delayed until FY17 which is 4 years from the completion of the repair and restoration work in response to Hurricane Sandy. The 4 years is based on the approved periodic nourishment cycle.

Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved.

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Delaware Coast, Cape Henlopen to Fenwick Island, Fenwick Island, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management at Fenwick Island, with a berm and a dune that includes dune grass, dune fencing, and beach fill and periodic nourishment every four years.

A contract to complete the repairs and restoration required due to the damage of Hurricane Sandy was awarded on 25 June 2013. Pumping began in mid-July 13 & was completed on 9 August 2013.

This project was damaged by the Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 were completed which recommended repair and restoration of the project. This PIR was ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 Work Plan funds of $4.0M & FY17 CG Supplemental funds of $1.9M were received. The FCCE funds were for construction to minimum design template while the Work Plan funds were used to complete periodic nourishment. CG Supplemental funds were excess and returned. The contract was awarded in Sep 2017. Construction began in Jul 2018 and completed in Aug 2018.

FY22 Work Plan has provided $5.0M to initiate and complete periodic nourishment. Contract award is scheduled by the end of 2022 with construction in the winter of 2022/2023. Nourishment was originally scheduled for FY21 but was delayed awaiting adequate funds.

Timeline	Start	Complete	Comments
Initial Construction	Sep 2004	Nov 2005	
FCCE Emergency (Sandy)	Jul 2013	Aug 2013	
FCCE Emergency (Jan 16)	Jul 2018	Aug 2018	
Periodic Nourishment	Jul 2018	Aug 2018	
Periodic Nourishment	FY 22 (S)		Funds provided in FY 22 Work Plan

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	70,892	69,084	139,976

Summarized Federal Financial Data ($000)		
Allocations thru FY20	8,327	
FY 21 Allocation	0	
FY 22 Work Plan	4,000	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	58,565	

Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach and Dewey Beach, DE

Authority: Section 101 (b)(6) of the Water Resources Development Act of 1996 with a modification in 2000

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

Date of Project Agreement: Dec 2003

Target Completion Date: 2054

Total Estimated Cost: $127.8M

Federal Funds Appropriated: $39.4M

Non-Federal Share: $20.6M

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A view of the beach looking south

Authorized under the Senate Committee Resolution, 23 June 1988. Project authorized by Section 101 (b)(6) of WRDA 1996 and modified by Section 307 of WRDA 2000.

The plan proposed in the final feasibility report for the purpose of costal storm risk management at Rehoboth Beach and Dewey Beach consists of one continuous project, from the northern end of Rehoboth Beach to the southern border of Dewey Beach, a distance of 13,500 linear feet. Along Rehoboth Beach, the plan provides for a 125-foot wide berm at elevation +7.2 feet NAVD and a dune at elevation +13.2 feet NAVD. At Dewey Beach, the project would transition to a 150-foot wide berm at elevation +7.2 feet NAVD and a dune at elevation +13.2 feet NAVD. The plan includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every three years to ensure the integrity of the design. The PED phase consisted of the completion of detailed plans and specifications for those features recommended in the feasibility report.

The beach fill portion of initial construction was completed in July 2005 with the other project features, including dune grass, dune fencing and crossovers completed in January 2006. FY08 funds were used to award a contract to initiate the periodic nourishment. Due to limited funds, only Dewey Beach received nourishment. FY11 funds were used to modify the FCCE contract to complete the periodic nourishment cycle (originally scheduled for 09).

FY 12 funds were used to permanently extend three outfalls that were covered after the completion of the renourishment. Work on these outfall extensions was completed in July 2013.

Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach and Dewey Beach, DE

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management at Rehoboth Beach and Dewey Beach, with a berm and a dune for each beach, including dune grass, dune fencing, beach fill and periodic nourishment every three years.

Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved.

The Corps awarded the contract for FCCE Sandy work on 25 June 2013. Pumping was completed on 3 Nov 2013. Crossover, etc repairs were completed in March 2014.

FY15 work plan funds were used to award a periodic nourishment contract on 16 July 16. Pumping began in November 2016 & was completed in December 2016. Outfall extension, sand fence & dune grass were completed in April 17. This project was damaged by the October 2015 & January 2016 Nor'easters. A PIR & PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. However, it was determined that periodic nourishment would take the project to construction template so there was no FCCE work completed.
FY19 Work Plan funds were used to complete periodic nourishment. Contract was awarded in Sep 2019. Construction began in Oct 2019 and was completed in Nov 2019.

Timeline	Start	Complete	Comments
Initial Construction		Jan 2006	
Periodic Nourishment	Nov 2008	Jun 2009	Dewey Beach Only
Periodic Nourishment	Oct 2011	Feb 2012	
FCCE Emergency (Sandy)	Jun 2013	Nov 2013	
Periodic Nourishment	Nov 2016	Dec 2016	
Periodic Nourishment	Oct 2019	Nov 2019	
Periodic Nourishment	FY 22 (S)		Funds provided in FY22 in Work Plan

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	81,076	46,733	127,809

Summarized Federal Financial Data ($000)		
Allocations thru FY20	39,358	
FY 21 Allocation	0	
FY 22 Work Plan	7,650	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	34,068	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE

Authority: Water Resources Development Act of 1986

Congressional District: DE-AL

Non-Federal Sponsor: DNREC

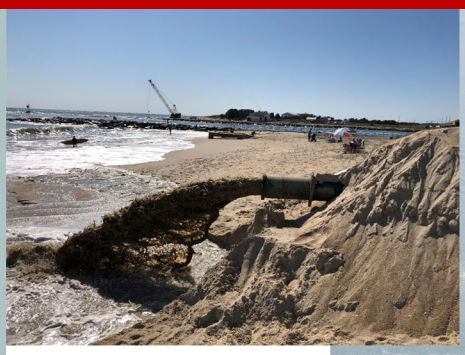
Date of Project Agreement: Oct 1988, Amended Jun 2021

Target Completion Date: 2028

Total Estimated Cost: $35.3M

Federal Funds Appropriated: $12.2M

Non-Federal Share: $1.6M



The state of Delaware operates the Indian River Inlet sand bypass plant in Sussex County, DE. Sand is pumped from the south side to the sand-starved north side. Federal construction funds are used to reimburse the

This project is authorized by the Flood Control Act of 1968 and the Water Resources Development Act of 1986 (P.L. 99-662). The plan of improvement consisted of constructing a sand bypassing plant and operation of said plant for periodic nourishment of a feeder beach (approximately 100,000 cubic yards of sand, annually) to nourish approximately 3,500 feet of feeder beach on the north side of the inlet and protect the Delaware Route 1 highway. Construction of the sand bypass plant began in 1989 and was completed in 1990. Per the agreement the State of Delaware operates and maintains the plant and the Corps reimburses them for the Federal share of the operation and maintenance.

Between FY 91 & FY15 the project consistently received Federal appropriations. These funds were used to reimburse the State of Delaware along with conducting proper project monitoring.
Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were utilized to complete a Project Information Report (PIR).

The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved. A contract to complete the repairs and restoration was awarded on 15 May 2013. Physical construction began in July 2013 and completed on 12 November 2013.

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Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE

- **Project Goals:** The purpose of this project provides for construction of a sand bypassing beach plant and operation of the plant for periodic nourishment of a feeder beach.

Some of the FY 15 funds were used to award a contract for pump house renovations. Contract was awarded on 19 Feb 16. Construction began in June 2016 and was completed in March 2017.

Per the partnership agreement executed on 26 October 1988 the project was authorized through end of 2021. Utilizing WRDA 2014 Section 1037(a)(2) which allows for extensions of authorized water resources development projects that will expire within 10 years, Corps worked with DNREC on a LCA Amendment. This LCA Amendment was executed on 14 June 2021 and extends the project through December 2028.

FY22 Work plan has provided 1.2M. Until FY22 Work Plan the project had not been funded to capability since FY15. There were nominal allocations of $49,999 in FY16, FY18, FY19 & FY21 through reprogramming. The FY22 Work Plan funds will be used to reimbursement the State of Delaware including shortage from prior fiscal years for the Federal portion of the operation of the sand bypass plant and project monitoring.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	15,515	19,744	35,259

Summarized Federal Financial Data ($000)		
Allocations thru FY20	10,931	
FY 21 Allocation	50	
FY 22 Work Plan	1,200	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	3,334	

Barnegat Inlet to Little Egg Inlet, NJ

Authority: Section 101 (a)(1) of the Water Resources Development Act of 2000

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Aug 2005 (PCA)/ Jul 2014 (PPA)

Target Completion Date: 2055

Total Estimated Cost: $1.06B

Federal Funds Appropriated: $242.7M (includes Sandy CG funds)

Non-Federal Share: $32.0M

Preconstruction & During Construction

The project for the purpose of costal storm risk management consists of a beach fill and dune along the oceanfront of Long Beach Island.

FY 06 funds were used to award a contract in Sep 2006 for project construction in Surf City and a portion of Ship Bottom. FY07 funds were used to complete this portion of the project. FY08 and FY09 funds were used to prepare for and award an initial construction contract at Harvey Cedars. This contract was awarded in Sep 2009 and completed in June 2010. Additionally Supplemental funds totaling $15.7M were received in FY08. These funds were used for Munitions and Explosives of Concern (MEC) Phase III response in Surf City and are not considered project costs. MEC Phase III response was successfully completed in May 2009. FY10 funds were used for project monitoring. FY11 funds were used to award a contract in Sep 2011 to complete the Brant Beach portion of the project. Construction was completed in Jun 2012.

Between Oct 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (Act).

The legislation provides supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities, and reduce the economic costs and risks associated with large-scale flood and storm events.

As a result of the storm FCCE funds under Public Law 84-99 were used to complete a Project Information Report (PIR) & PIR Addendum for the completed portions of the project. The results of the PIR & Addendum determined that the project was eligible for FCCE funding to repair & restore the project to pre-storm conditions & design template. PL 113-2 funds were used to award a contract for the repairs and restoration Apr 2013. Repairs & restoration began in Apr 2013 with pumping complete in Aug 2013.

This project is also considered an on-going Authorized but Unconstructed project under P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy). The term “authorized but unconstructed project” refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Therefore, the remaining initial construction portions of the project may be eligible to be completed at 100% Federal with no sponsor payback.

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Barnegat Inlet to Little Egg Inlet, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management, with a beach fill and dune along the oceanfront of Long Beach Island.

In FY13, FY14 & FY15 $1.3M has been received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts. For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 20 Jul 14.

The contract to initiate and complete initial construction was awarded on 5 Dec 14. Physical construction began in Spring 2015 & was completed in May 2017. Sandy funds (PL 113-2) totaling $168.3M were rec'd to complete initial construction. During initial construction the project was impacted by Oct 15 and Jan 16 nor'easters. Contract was modified to repair areas impacted by the storms. All pumping & placement was completed in Nov 2016. Ancillary work was completed in May 2017. Based on PL 113-2 initial construction was at 100% Federal with no sponsor payback.

For previously (prior to Sandy—Harvey Cedars, Surf City & Brant Beach) completed project segments that were damaged by the Oct 2015 and Jan 2016 Nor'easters, a Project Information Report (PIR) and a PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds were used for engineering and design, plans and specification & construction. Additionally, FY17 CG Supplemental funds of $16.8M were received. The FCCE funds were used for construction to minimum design template while Supplemental CG funds were used to complete periodic nourishment. The contract was awarded on 25 Sep 2017. Construction began in Apr 2018 & completed in Oct 2018.

Periodic nourishment is scheduled for FY22 but is dependent of receipt of adequate funds. If nourishment funds are not received in FY22 then funding request will be made for FY23.

Timeline	Start	Complete	Comments
Initial Construction			Surf City
Initial Construction	Sep 2009	Spring 2010	Harvey Cedars
MEC Phase III Response	Jan 2009	May 2009	Surf City
Emergency Rehab (FCCE)	Jun 2011	Dec 2011	Surf City
Initial Construction	Mar 2012	Jun 2012	Brant Beach
FCCE Emergency (Sandy)	Apr 2013	Aug 2013	
Initial Construction Completion	Spring 2015	May 2017	
FCCE Emergency (Oct 15 & Jan 16) Nourishment	Apr 2018	Oct 2018	Surf City, Harvey Cedars, Brant Beach
Periodic Nourishment	FY 22 (S)		Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	749,875	315,607	1,065,483
Sandy P.L. 113.2 CG funds of $168.0M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	74,971	
FY 21 Allocation	215	Reprogrammed excess Sup funds
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	507,119	Accounts for Sandy CG Funds

Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ

Authority: Water Resources Development Act of 1996

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

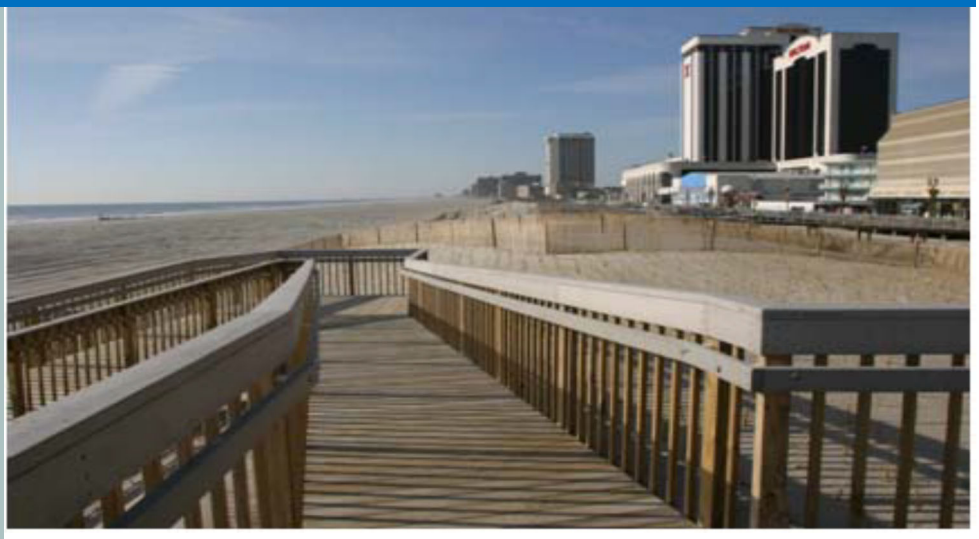
Date of Project Agreement: Jul 2003 (PCA)/ Jun 2014 (PPA)

Target Completion Date: 2053

Total Estimated Cost: $966.4M

Federal Funds Appropriated: $174.3M (includes Sandy CG funds)

Non-Federal Share: $39.1M



Completed Handicap Dune Crossing, Absecon Island, NJ

The purpose of this project is costal storm risk management along Absecon Island. The selected plan includes beach fill, with a 200-foot-wide berm and a dune to elevation +14.75 feet for Atlantic City and a 100-foot wide berm and a dune to elevation 12.75 for Ventnor, Margate and Longport. The plan also includes 0.3 miles of bulkhead construction along the Absecon Inlet frontage of Atlantic City.

Initial construction of the beachfill in Atlantic City and Ventnor City was completed in Jun 2004. The second nourishment cycle was scheduled for FY07 but did not receive funding. Funding provided in FY08, FY09 and FY10 were inadequate to initiate the second nourishment cycle. FY11 funds were used to award a contract to complete the 2nd renourishment cycle. The contract was awarded in Sep 2011with construction completed in Jun 2012. FY12 funds were used for project monitoring and completion of the Plans & Specifications for the construction of the initial section of the Atlantic City bulkhead. This contract was originally advertised on 28 Aug 2012. However, based on contractor questions and necessary design changes in light of Hurricane Sandy in Oct 2012 the advertisement was delayed.

Between Oct 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (Act).

As a result of the storm FCCE funds under Public Law 84-99 were used to complete a Project Information Report (PIR) & PIR Addendum for the completed portions of the project. The results of the PIR & Addendum determined that the project was eligible for FCCE funding to repair & restore the project to pre-storm conditions & design template. PL 113-2 funds were used to award a contract for the repairs and restoration Apr 2013. Repairs & restoration began in Jul 2013 with pumping complete on 12 Dec 2013.

This project is also an on-going Authorized but Unconstructed project under P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy). The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Therefore, the remaining initial construction portions of the project may be eligible to be completed at 100% Federal with no sponsor payback. These components include Atlantic City Bulkhead and beach fills at Margate & Longport.

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U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management along Absecon Island, beach fills with berm and dunes.

In FY13, FY14 & FY15 $950K was received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts. For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 23 Jun 14.

All the necessary real estate acquisitions were completed along with the plans and specifications for the Beach fill (Margate & Longport) & bulkhead contracts. Bulkhead contract was awarded in Dec 2014. Construction began in Aug 2015 & is expected to be completed in Apr 2018. Beach fill contract had been delayed due to real estate challenges and acquisition. In Jul 2016 sponsor acquired all the necessary real estate for Margate & Longport. This allowed for the joint contract for the initial construction of Margate & Longport with Sandy funding and renourishment of Atlantic City & Ventnor with Regular CG funds to be advertised in Aug 2016. The contract was awarded 23 Nov 16. Construction began on the nourishment in May 2017 & completed in Aug 2017. Construction on the remaining initial construction in Margate & Longport began in Margate in Jul 2017 and completed in Jan 2018. Pumping in Longport was completed in May 2018. During construction it was recognized that the storm water drainage plan which included drainage ponds was not functioning as anticipated. After an investigation the decision was made to construct a storm water management system consisting of collection basins, manifold pipes, manholes, & ocean outfalls as a project feature. Construction began in Feb 2018 & was completed in Apr 2019. Sandy funds (PL 113-2) totaling $102.0M were rec'd to complete initial construction (Bulkhead & Beach fill of Margate & Longport). Initial construction is at 100% Federal with no sponsor payback.

FY20 funds are being used for periodic nourishment. Contract was awarded in July 2020. Construction began in October 2020 & pumping was completed in February 2021. Ancillary work including outfall extension and ramp repair will be completed in October 2021.

Next periodic nourishment is scheduled for FY23 but is dependent on receipt of adequate funds.

Timeline	Start	Complete	Comments
Initial Construction		Jun 2004	Atlantic City & Ventnor
Periodic Nourishment	Mar 2012	Jun 2012	Atlantic City & Ventnor
FCCE Emergency (Sandy)	Jul 2013	Dec 2013	Atlantic City & Ventnor
Periodic Nourishment	May 2017	Aug 2017	Atlantic City & Ventnor
Initial Construction	Jul 2017	May 2018	Margate & Longport
Periodic Nourishment	Oct 2020	Feb 2021	
Periodic Nourishment	FY 23 (S)		Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	664,174	302,232	966,406
Sandy P.L. 113.2 funds of $101.7M were rec'd to complete initial construction including Atlantic City Bulkhead, Beach fill at Margate & Longport & Margate Storm Water Management System.			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	72,619	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	489,855	Accounts for Sandy CG Funds

Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ

Authority: Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Sep 2004

Target Completion Date: 2054

Total Estimated Cost: $94.6M

Federal Funds Appropriated: $17.6M

Non-Federal Share: $5.5M

Left: Beach fill construction near 15th Street North in Feb 2018
Right: Completed storm damage reduction beach fill—Brigantine Island

This project is authorized by the Water Resources Development Act (WRDA) of 1999.

The project is for the purpose of costal storm risk management along Brigantine Island, utilizing sand from an offshore borrow source. The project will consist of berm and dune restoration along approximately 1.8 miles of coastline fronting the northern third of the city. The initial project construction cost is estimated at approximately $4.5 million.

FY 04, 05, & 06 funds were used to complete initial construction. The beach fill portion of the project was completed in February 2006. Dune grass, sand fencing and crossovers were also completed. FY11 funds were used for project monitoring. FY12 funds were used to award a contract to complete periodic nourishment. The contract was awarded in September 2012 and completed in February 2013.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. PIR was approved, funding provided and the previously awarded a nourishment contract was modified to complete the repairs and nourishment concurrently. Pumping began in January 2013 and completed in February 2013.

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Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management along Brigantine Island, consisting of a berm and dune restoration.

Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. This Addendum was approved. The previously awarded nourishment contract was modified to complete the restoration. The pumping of sand was completed in June 2013 and the project was complete in July 2013.

This project was damaged by damaged by the Oct 2015 and Jan 2016 Nor'easters, a Project Information Report (PIR) and a PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 CG Supplemental funds of $2.5M received. The FCCE funds were only for construction to minimum design template while Supplemental CG funds were be used to complete periodic nourishment. The contract was awarded in Sep 2017. Construction began in Jan 2018 and completed in Apr 2018.

Next nourishment cycle is scheduled for FY23. FY23 Infrastructure Investment & Jobs Act (IIJA) has provided $7.58M to initiate and complete periodic nourishment. Contract award is scheduled by the end of FY23 with construction in the fall of 2023.

Timeline	Start	Complete	Comments
Initial Construction		Feb 2006	
FCCE Emergency Rehab	Sep 2011	Dec 2011	
Periodic Nourishment	Jan 2013	Feb 2012	
FCCE Emergency (Sandy)	Jan 2013	Jul 2013	
FCCE Emergency (Oct 15 & Jan 16)	Jan 2018	Apr 2018	
Periodic Nourishment	Jan 2018	Apr 2018	
Periodic Nourishment	FY 22 (S)		FY 23 IIJA have been provided

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	61,462	33,094	944,556

Summarized Federal Financial Data ($000)		
Allocations thru FY20	10,022	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	7,580	FY 23 IIJA
Balance to Complete	43,860	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Cape May Inlet to Lower Township, NJ

Authority: P.L. 168 of the Rivers and Harbors Act of 1907 & P.L. 99-662 of the Water Resources Development Act of 1986

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Nov 1998

Target Completion Date: 2039

Total Estimated Cost: $197.7M

Federal Funds (including USCG) Appropriated: $81.1M

Non-Federal Share: $7.2M

Aerial view of Initial Construction and Continued Periodic Nourishment, Cape May, NJ

The project is located on the Atlantic coast of New Jersey in Cape May County, extending from the southwest jetty of Cape May Inlet to 3rd Ave. in Cape May City. It includes the communities of the City of Cape May and Lower Township, and the US Coast Guard Training Center.

The project for the purpose of costal storm risk management to the above-mentioned communities and USCG Training Center. The project consists of initial beach fill (25 to 180-foot wide berm at elevation +8 feet NGVD) with periodic nourishment on a 2-year cycle, extension of 17 storm water outfalls, reconstruction of 7 groins and construction of two new groins, and a shoreline monitoring program for the project area. Construction of a 2,560-foot rubble mound weir-breakwater is deferred pending demonstration of need.

FY 11 funds were used to complete periodic nourishment. This contract was awarded in September 2011 and completed in January 2012. Another periodic nourishment cycle originally scheduled for FY 13 was rescheduled 2 years from the completion of the repair and restoration work currently scheduled and described below in response to Hurricane Sandy. The 2 years is based on the periodic renourishment cycle.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. FCCE - Flood Control and Coastal Emergencies funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions.

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Cape May Inlet to Lower Township, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management to the communities and USCG Training Center.

Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved. A contract to complete the repairs and restoration was awarded in Apr 2013 with physical construction beginning in Nov 2013 and completed on 18 Jan 14.

A periodic nourishment contract was awarded on 28 Sep 2016. Construction began in Jan 2017 & completed in Apr 2017. NJ requested rehab assistance due to Jan 16 Nor'easter. A Project Information Report (PIR) was completed using FCCE PL 84-99 funds which recommended repair & restoration. PIR was approved HQUSACE. However, it was determined that the nourishment contract would take the project to construction template so there was no FCCE work. FY19 Budgeted funds were used to complete the next periodic nourishment cycle. Contract was awarded in Jul 2019 and construction was completed in Sep 2019.

FY21 funds were used to complete the next periodic nourishment cycle. Contract was awarded in Jul 2021. Pumping began 22 NOV 2021 and was completed on 24 DEC 2021.

FY22 Work Plan (O&M Appropriation) provided $300K for monitoring. Next nourishment cycle scheduled for FY23. Infrastructure Investment & Jobs Act (IIJA) has provided $12.5M to initiate and complete periodic nourishment. Contract award is scheduled by the end of FY23 with construction in the fall of 2023.

Timeline	Start	Complete	Comments
Initial Construction		Jul 1991	
Periodic Nourishment	Oct 2011	Jan 2012	Truck Fill
Periodic Nourishment (FCCE Sandy)	Nov 2013	Jan 2014	
Periodic Nourishment	Jan 2017	Apr 2017	
Periodic Nourishment	Sep 2019	Sep 2019	
Periodic Nourishment	Nov 2021	Dec 2021	
Periodic Nourishment	FY 23 (S)		Funding provided in FY 22 IIJA

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	183,636*	14,090	197,726

*USCG—56,802 & USACE—126,834
** FY 22 WP in O&M ($300k) & FY 22 IIJA ($12.5M)

Summarized Federal Financial Data ($000)		
Allocations thru FY20	52,033	
FY 21 Allocation	12,500	
FY 22 Work Plan	12,800**	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	49,501	

Delaware Bay Coastline, DE & NJ, Oakwood Beach, NJ

Authority: Title I, Section 101 (b)(5) of the Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: May 2014

Target Completion Date: 2064

Total Estimated Cost: $57.7M

Federal Funds Appropriated: $16.7M (includes Sandy CG funds)

Non-Federal Share: $137,000

Aerial view of Oakwood Beach, NJ

The plan for costal storm risk management at Oakwood Beach is a 50-foot wide berm at an elevation of +6.0 feet NAVD over a project length of 9,500 lineal feet. The plan includes suitable advance beach fill and periodic nourishment every eight years to ensure the integrity of the design. The source of sand for the initial construction and periodic nourishment is the Delaware River Main channel. This project is not a component of the Delaware River Main Channel Deepening project. The estimated initial project cost is $12 million.

FY 01 funds of $222,000 were used to complete PED. FY12 funds were reprogrammed into the project to conduct project development team meetings and sponsor coordination. Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. In response, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (Act).

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed project. The term “authorized but unconstructed project” refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed.

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Delaware Bay Coastline, DE & NJ, Oakwood Beach, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management along Oakwood Beach, which includes a suitable advance beach fill and periodic nourishment every eight years.

In FY13 & FY14 $600,000 in PL 113-2 funds were provided to begin the process towards initiation and completion of initial construction. These funds were used to complete the necessary steps towards initial construction. These steps included completing the Hurricane Sandy Limited Reevaluation Report (HSLRR); develop, approve and execute the Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

An LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 6 May 14.

All the necessary real estate acquisitions were completed along with the plans and specifications for the contract. The contract to initiate and complete initial construction was then awarded in Sep 14. Pumping of sand began on 12 Nov 14 & was completed on 22 Dec 14. 354kcy of sand was placed. Outfalls & access construction were completed in May 2015. Sandy funds (PL 113-2) totaling $11.4M were used to complete initial construction at 100% Federal. Based on PL 113-2 this project required the non-Federal sponsor to reimbursed 35% (~$4.2M) of the initial construction costs. The sponsor reimbursed the government in Mar 2016.

FY22 Work Plan has provided $5.0M to initiate and complete periodic nourishment. This was originally scheduled for FY21. Contract award is scheduled by the end of 2022 with construction in the winter of 2022/2023.

Timeline	Start	Complete	Comments
Initial Construction	Nov 2014	May 2015	
2nd Periodic Nourishment	FY 22 (S)		Funds Provided in the FY 22 Work Plan

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	40,067	17,605	57,672
Sandy P.L. 113.2 funds of $11.4M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	332	
FY 21 Allocation	50	
FY 22 Work Plan	5,000	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	23,285	Accounts for Sandy CG Funds

Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ

Authority: Title I, Section 101 (b)(6) of the Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Feasibility Agreement: TBD

Target Completion Date: TBD

Total Estimated Cost: $12.4M

Federal Funds Appropriated: $1.0M

Non-Federal Share: $108,000

Delaware Bay Coastline between Reeds Beach and Pierces Point

The Reeds Beach and Pierces Point project was authorized for construction by Title I, Section 101 (b) (6) of WRDA 1999.

The plan for the purpose of ecosystem restoration at Reeds Beach and Pierces Point is an 80-foot wide berm at an elevation of +5.5 feet NAVD over a project length of 6,800 feet. The plan entails a one-time placement of sand for horseshoe crab and shorebird habitat.

With the FY 2006 funds, the Corps completed a Limited Reevaluation Report (LRR) in July 2006. Limited Re-valuation Reports (LRR) are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken. The LRR for this project updated costs and demonstrated continued project viability.

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Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ

- **Project Goals:** The purpose of this project is to provide ecosystem restoration at Reeds Beach and Pierces Point, with a one-time placement of sand for horse-shoe crab and shorebird habitat.

FY 2006 funds were also used to develop a Draft Project Partnership Agreement. This project has not received funding since FY 06. The initiation of initial construction is dependent on the establishment of an adequate funding stream. The next steps toward initial construction once adequate funding is received is to update the 2006 LRR; approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	7,169	5,207	12,376

Summarized Federal Financial Data ($000)		
Allocations thru FY20	1,039	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	6,130	

Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ

Authority: Title I, Section 101 (a)(14) of the Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: TBD

Target Completion Date: TBD

Total Estimated Cost: $18.7M

Federal Funds Appropriated: $1.3M

Non-Federal Share: $255,000

Delaware Bay in the vicinity of the Villas

Authorized under Title I, Section 101 (a) (14) of WRDA 1999.

The plan for the purpose of ecosystem restoration at Villas and Vicinity is an 80-foot wide berm over a project length of 29,000 feet. The plan entails a one-time placement of sand for horseshoe crab and shorebird habitat.

FY04 funds were added to initiate construction. FY06 funds were used to continue the Limited Reevaluation Report (LRR). LRR are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken. For this project the LRR updated costs and demonstrated a continued project viability.

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Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ

- **Project Goals:** The purpose of this project is Ecosystem Restoration at Villas and the Vicinity, with a one-time placement of sand for horseshoe crab and shorebird habitat.

This project has not received funding since FY 06. The initiation of initial construction is dependent on the establishment of an adequate funding stream. The next steps toward initial construction once adequate funding is received is to complete the LRR; develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	11,917	6,749	18,666

Summarized Federal Financial Data ($000)		
Allocations thru FY20	1,277	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	10,640	

Great Egg Harbor Inlet to Townsends Inlet, NJ

Authority: Section 1001 (30) of the Water Resources Development Act of 2007

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

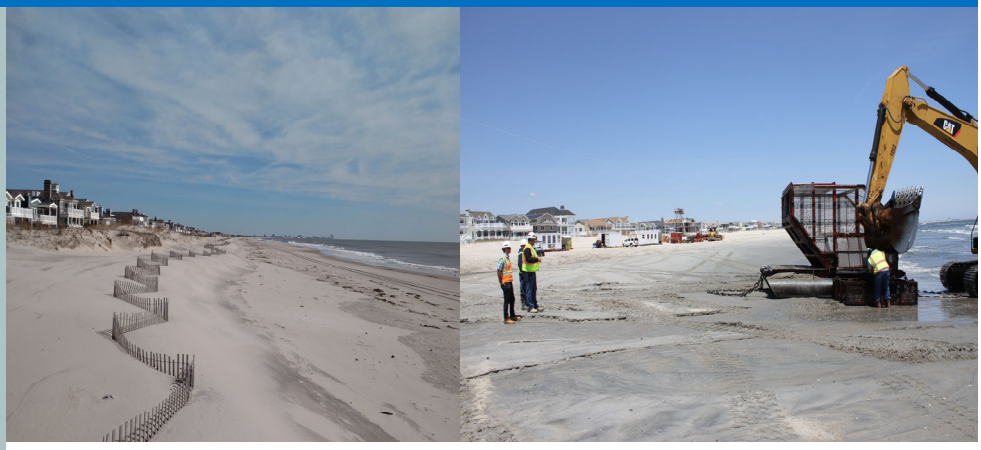
Date of Project Agreement: June 2014

Target Completion Date: 2064

Total Estimated Cost: $765.6M

Federal Funds Appropriated: $108.5M (includes Sandy CG funds)

Non-Federal Share: $12.3M



Preconstruction & During Construction

This project is authorized under Section 1001 (30) of the Water Resources Development Act of 2007.

The study investigated costal storm risk management measures with a view toward reducing impacts from coastal erosion and storms. The recommended plan calls for construction of a beach fill with a berm and dune along the study area oceanfront utilizing sand from an offshore borrow source and periodic nourishment for a period of 50 years.

PED was completed in FY05. Chief of Engineer's Report was signed on 24 October 2006. The project was authorized in the 2007 Water Resources Development Act. The Record of Decision was signed on 18 October 2011.

Between October 27 & 30, 2012, Hurricane Sandy significantly damaged the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (Act).

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed (ABU) project. The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Additionally this project is considered an on-going ABU project under P.L. 113-2. Therefore, the remaining initial construction portions of the project are eligible to completed at 100% Federal with no sponsor payback.

In FY13, FY14 & FY15 $70.6M has been received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts.

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Great Egg Harbor Inlet to Townsends Inlet, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management, with a view toward reducing impacts from coastal erosion and storms

A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 23 Jun 2014.

All the necessary real estate acquisitions were completed along with the plans and specifications for the contract. The contract to initiate and complete initial construction was awarded on 10 Nov 2014. Physical construction began in Apr 2015 with pumping completed in May 2016. Ancillary work including crossovers were completed in Aug 2016. During construction the project was impacted by the Oct 2015 and Jan 2016 nor'easters. Repairs were made prior to completion in May 16. Sandy funds (PL 113-2) totaling $95.12M were received to complete initial construction. Based on PL 113-2 initial construction was at 100% Federal with no sponsor payback.

FY19 Work Plan funds were used to complete periodic nourishment. Contract was awarded in Sep 2019. Construction began in Nov 2019 with Strathmere and Southern Ocean City completed in Jan 2020. Sea Isle City was completed between July 2020 & August 2020.

Periodic nourishment scheduled for FY22 but is dependent on receipt of adequate funds. If nourishment funds are not received in FY22 then funding request will be made for FY23.

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Aug 2016	
Periodic Nourishment	Nov 2019	Aug 2020	
Periodic Nourishment	FY 22 (S)		Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Total Project	431,855	333,764	765,619
Sandy P.L. 113.2 CG funds of $95.12M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	13,389	
FY 21 Allocation	0	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	323,346	Accounts for Sandy CG Funds Rec'd

Great Egg Harbor Inlet and Peck Beach (Ocean City), NJ

Authority: Committee Resolution on Dec 15, 1970 under the provisions of Section 201 of P.L. 89-298 & Section 931 (1) of the Water Resources Development Act of 1986, P.L. 99-662

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Sep 1991

Target Completion Date: 2041

Total Estimated Cost: $493.4M

Federal Funds Appropriated: $106.9M

Non-Federal Share: $48.4M

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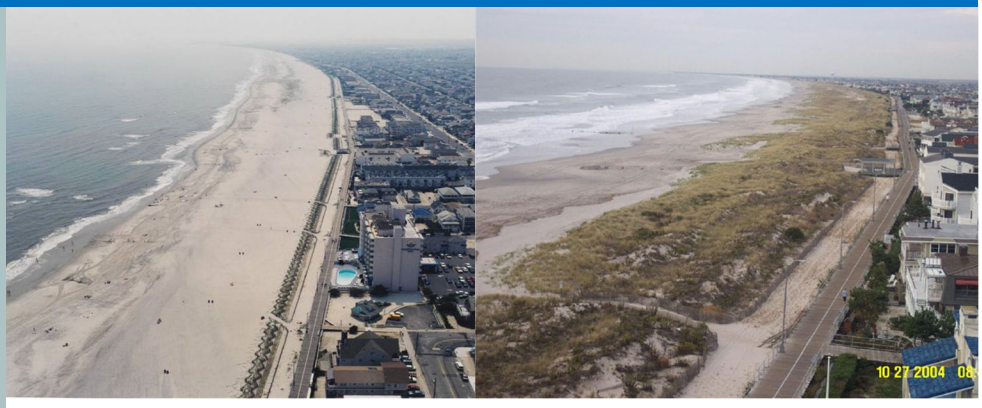

Shortly after the completion of initial construction, the City of Ocean City planted beach grass and installed sand fence to encourage dune growth. Years later, as shown above, continued periodic nourishment by the Corps has allowed the same area to expand into a substantial dune field.

Authorized by the Committee Resolution on December 15, 1970 under the provisions of Section 201 of P.L. 89-298. Project reauthorized with provisions for construction of separable elements under Section 831(1) of the Water Resources Development Act of 1986, P.L. 99-662.

The project consists of providing initial beach fill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of +8.0 National Geodetic Vertical Datum (NGVD). The beach fill extends from Surf Road southwest to 34th Street with a 1,000-foot taper south of 34th Street. This plan required the initial placement of approximately 6.2 million cubic yards of material and subsequent periodic nourishment of approximately 1.1 million cubic yards every 3 years. The material for the initial construction and periodic nourishment is being taken from the ebb shoal area located approximately 5,000 feet offshore of the Great Egg Harbor Inlet. This periodic dredging of the ebb shoal area will help alleviate the navigation difficulties in the inlet. Additionally, the initial construction of the project required the extension of 38 storm drain pipes.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were utilized to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funds to repair the project to pre-storm conditions. The PIR was approved, funding provided and the previously awarded renourishment contract was modified to complete the repairs and renourishment concurrently. Physical construction was completed in May 2013. The repairs and nourishment brought the project back to the design template.

Great Egg Harbor Inlet and Peck Beach (Ocean City), NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management. This project provides a beach fill with periodic nourishment and a berm along Surf Road southwest to 34th Street in Great Egg Harbor and Peck Beach.

This project was damaged by the Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 were completed which recommended repair and restoration of the project. PIR was ultimately approved by Corps HQUSACE. PL 84-99 funds were received for design, plans and specification & construction. Additionally, FY17 Work Plan funds of $6.5M & FY17 CG Supplemental funds of $4.0M were received. The FCCE funds were for construction to minimum design template while to Work Plan funds were used to complete periodic nourishment. Excess FY17 CG Supplemental funds were returned. The contract was advertised awarded in Sep 2017. Construction began in Nov 2017 & completed in Dec 2017.

FY19 funds were used to award the next contract for periodic nourishment. Contract was awarded in Sep 2019 with construction completed in September 2020.
FY22 Work Plan has provided $17.0M to initiate and complete periodic nourishment. Contract award is scheduled by the end of FY22 with construction in the winter of 2022/2023.

Timeline	Start	Complete	Comments
Initial Construction (Ph I)		Oct 1992	
Initial Construction (Ph II)		Mar 1993	
Storm Rehab		Jul 1993	
Periodic Nourishment (Ph I)		Dec 1994	
Periodic Nourishment (Ph II)		Aug 1995	
Periodic Nourishment		Oct 1997	
Periodic Nourishment		Dec 2000	
Periodic Nourishment		Feb 2004	
Periodic Nourishment		Mar 2010	
Periodic Nourishment		May 2013	
FCCE Emergency (Sandy)		May 2013	
Periodic Nourishment	Nov 2015	Dec 2015	
FCCE Emergency (Oct 15 & Jan 16)	Nov 2017	Dec 2017	
Periodic Nourishment	Nov 2017	Dec 2017	
Periodic Nourishment	Jun 2020	Sep 2020	
Periodic Nourishment	FY 22 (S)		Funds received in Work Plan

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	320,680	172,672	493,352

Summarized Federal Financial Data ($000)		
Allocations thru FY20	89,917	
FY 21 Allocation	0	
FY 22 Work Plan	17,000	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	213,763	

Hereford Inlet to Cape May Inlet, NJ

Authority: House Resolution, Committee on Public Works and Transportation & Water Resources Development Act of 2016

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Jan 2017

Target Completion Date: Dec 2020 (Initial Construction)

Total Estimated Cost: $202.7M

Federal Funds Appropriated: $1.3M (Sandy CG Funds)

Non-Federal Share: $0 (CG Cost Share)

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Left: North Wildwood Beach 1989
Right: North Wildwood Beach 2004

The Hereford Inlet to Cape May General Investigation was undertaken by authority of The New Jersey Shore Protection Study, by resolutions adopted within the Committee on Public Works and Transportation of the U.S. House of Representatives and the Committee on Environment and Public Works of the U.S. Senate in December 1987.

The project area consists of the municipalities of North Wildwood, Wildwood, Wildwood Crest and Lower Township. These municipalities are vulnerable to storm damage all year round from a combination of hurricanes and nor'easters. The project area will be restricted to the beachfront, and tapered at the southern and northern ends at Hereford Inlet and the USFW/Coast Guard properties. The Non-Federal sponsor is the New Jersey Department of Environmental Protection (NJDEP).

The project successfully completed a Civil Works Review Board on 21 Aug 2014 and obtained a signed Chief's Report on 23 Jan 2015. Following Congressional notification, the district began the Planning Engineering and Design (PED) phase and executed a Project Partnership Agreement (PPA) with NJDEP on 17 Jan 17.

The City of North Wildwood is experiencing significant erosion of its berm and dune. What was the largest beach in the state now suffers from tidal flooding and wave run-up over a formerly protective beach. The municipality of North Wildwood has lost approximately 1,000 feet of beach during the past 5-10 years.

Hereford Inlet to Cape May Inlet, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management for the municipalities on Five Mile Island. The design includes a berm and dune extending from North Wildwood to the discontinuous dunes in Wildwood and Wildwood Crest using sediment back-passing technology. The creation of a continuous dune and berm from Hereford Inlet to Cape May Inlet will reduce risk from coastal storms.

In contrast to North Wildwood, sand accretion in Wildwood and Wildwood Crest is causing extensive maintenance problems and health hazards with their storm water management system. The excess sand clogs storm-water outfalls, creates pools of stagnant water, produces unhealthy beach conditions and causes associated interior flooding . During combined periods of heavy rain and high waves the City can not access the outfalls for excavation and rainwater becomes trapped within the pipes. The subsequent high volume discharge of impounded storm water can also cause spikes in poor water quality.

The recommended plan includes a berm and dune system along the Atlantic Coast for the communities of North Wildwood, Wildwood, Wildwood Crest & Lower Twp. The total project length is approximately 25,000 feet with a dune elevation would be 16 feet. The project would be accomplished by backpassing sand from those areas along the project in Wildwood and Wildwood Crest that have an excess accumulation. The project includes periodic nourishment.

FY16 & FY21 Sandy CG funds have been utilized to initiate and continue the Design Phase. Since the PPA was executed the sponsor has begun to executed State Aid Agreements with the 4 communities and acquire the necessary real estate to construct the project. It is expected that real estate acquisition could take several years to acquire. Therefore, it is anticipated that construction would not start until at least late 2023.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	16,973	9,139	26,112
Renourishment	88,305	88,305	176,610
Construction	105,278	97,444	202,722

$1.3M in Sandy CG funds have been provided for the Design Phase. As this project is a Sandy project the expectation is that if there are adequate Sandy funds initial construction would be funded through that program. There are no current Regular CG capabilities until initial construction is complete.

Summarized Federal Financial Data ($000)		
	Regular	**Sandy**
Allocations thru FY20	0	1,056
FY 21 Allocation	0	250
FY 22 Work Plan	0	0
FY 23 Budget	0	0
FY 23 Work Plan	0	0
Balance to Complete	88,305	15,667

Lower Cape May Meadows - Cape May Point, NJ

Authority: Title I, Section 101 (a)(25) of the Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Jul 2003

Target Completion Date: 2054

Total Estimated Cost: $103.5M

Federal Funds Appropriated: $53.2M

Non-Federal Share: $13.8M

Left: Beach and wetlands that were lost to long-term erosion have been restored, and the dune line has been reconstructed seaward.

Right: Beach is restored in the Borough of Cape May Point

The Lower Cape May Meadows – Cape May Point project was authorized for construction by Title I, Section 101 (a) (25) of WRDA 1999.

Lower Cape May Meadows Project for the purposes of ecosystem restoration, costal storm risk management and navigation mitigation is approximately 350 acres in area containing Cape May Point State Park and the Nature Conservancy's Cape May Migratory Bird Refuge. The Meadows consists of important coastal freshwater wetlands, which are vital resting areas for shorebirds and birds of prey during their seasonal migration along the Atlantic flyway. The project restores and protects fish and wildlife habitat and provides flood and storm damage reduction throughout the entire study area. This project was completed on 15 June 2007.

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Lower Cape May Meadows - Cape May Point, NJ

- **Project Goals:** The purpose of this project provides Ecosystem Restoration, is Coastal Storm Risk Management and Navigation Mitigation in an area containing Cape May Point State Park and the Nature Conservancy's Cape May Migratory Bird Refuge.

FY 08 funds were used to award a contract to initiate periodic nourishment. This contract was completed in March 2009. FY 11 funds in the amount of $8,920,000 were used for project monitoring and periodic nourishment. The contract for periodic nourishment was awarded on 5 November 2010. Physical construction began in December 2010 and was completed in February 2011. FY12 funds were used to award a contract for periodic nourishment. The contract was awarded in September 2012. Physical construction began in November 2012 with sand pumping completed in January 2013. Other project features will be completed by May 2013.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the recent renourishment brought the project back to design template. Therefore it was not eligible for PL 84-99 funding.

FY 16 funds were used to award and complete the construction of the 3rd renourishment cycle. Contract was awarded on 28 Sep 2016. Construction began in Dec 2016 and was completed in Jan 2017.

FY 20 funds are being used for periodic nourishment. Based on erosion rates & accretion project delivery team including sponsor determined a smaller scale nourishment was required & could be accomplished by land-based back passing operation. Contract was awarded in October 2020. Construction began in December 2020 and was completed in February 2021.

Timeline	Start	Complete	Comments
Initial Construction		Jun 2007	Beach fill
Initial Construction		Jun 2007	Environmental Restoration
Periodic Nourishment	Dec 2010	Feb 2011	
Periodic Nourishment	Nov 2012	Jan 2013	
Periodic Nourishment	Dec 2016	Jan 2017	
Periodic Nourishment	Dec 2020	Feb 2021	
Periodic Nourishment	FY 24 (S)		Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	79,448	24,081	103,529

Summarized Federal Financial Data ($000)		
Allocations thru FY20	52,761	
FY 21 Allocation	400	
FY 22 Work Plan	0	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	26,287	

Manasquan Inlet to Barnegat Inlet, NJ

Authority: Section 1001 (32) of the Water Resources Development Act of 2007

Congressional District: NJ-3 & NJ-4

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Jul 2014

Target Completion Date: 2066

Total Estimated Cost: $1.17B

Federal Funds Appropriated: $167.8M (Includes Sandy CG funds)

Non-Federal Share: $255K

This project was authorized by Section 1001 (32) of the Water Resources Development Act of 2007.

The study investigated flood and coastal storm damage effects with a view toward costal storm risk management. The recommended plan calls for construction of a beach fill with a berm and dune along the study area oceanfront utilizing sand from an offshore borrow source and periodic nourishment for a period of 50 years. Initial fill requirements would be about 10 million cubic yards, with periodic nourishment at 4-year intervals with about 1 million cubic yards placed.

The Chief of Engineers Report was completed in December 2003. This project was authorized in the 2007 Water Resources Development Act (WRDA).

Between October 27 & 30, 2012, Hurricane Sandy significantly damaged the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. This project was hit especially hard with a breach in Mantoloking and significant damage to Seaside Heights, Mantoloking, Ortley Beach, Lavallette and Seaside Park. Significant damage also occurred to piers, boardwalks, amusements, residential and commercial properties. In response, the Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (Act).

The legislation provides supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities, and reduce the economic costs and risks associated with large-scale flood and storm events.

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed project. The term “authorized but unconstructed project” refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed.

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Manasquan Inlet to Barnegat Inlet, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management and recommended beach fill, with a berm and dune and a periodic nourishment for a period of 50 years.

In FY13 & FY14 $1,750,000 in PL 113-2 funds were provided to begin the process towards initiation and completion of initial construction. These funds are being used to complete the necessary steps towards initial construction. These steps include completion of the Limited Reevaluation Report (LRR); develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract. A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 18 July 2014.

The sponsor acquired the necessary real estate for a large portion of the project which allowed for a base plus options contract to be advertised in Sep 2016. Bids were opened in Nov 2016 and the contract for initial construction was awarded on 10 Jan 2017. Post award sponsor acquired all outstanding real estate and options exercised. Entire project is under contract. PL 113-2 funds were rec'd to award and complete this contract at 100% Federal. Based on PL 113-2 this project requires the non-Federal sponsor to reimburse 35% of the initial construction cost. The project includes communities of Pt. Pleasant Beach, Bay Head, Mantoloking, Brick Twp, Tom's River North, Lavallette, Tom's River South, Seaside Heights, Seaside Park & Berkeley Twp. Construction began in Oct 2017 and was completed in Jul 2019.

A nor'easter impacted the northern coast of NJ between 1 Feb & 3 Feb 2021. This event impacted several communities within the project & received considerable visibility and outreach including congressional, state and local governments. Technical data indicated that the nor'easter was not considered an extraordinary event, which means it was not a qualifying event and PL 84-99 (FCCE funds) is not applicable. Post-storm, NAP continued to work with NJDEP and local communities to provide technical assistance for them to modify the slopes for safety purposes and to minimize further erosion.

FY22 Infrastructure Investment & Jobs Act (IIJA) has provided $30.2M to initiate and complete periodic nourishment. Contract award is scheduled by the end of 2022 with construction in the winter and spring of 2023.

Timeline	Start	Complete	Comments
Initial Construction	Oct 20174	Jul 2019	
Periodic Nourishment	FY 22 (S)		Environmental Restoration

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	604,570	566,224	1,170,794

Summarized Federal Financial Data ($000)		
Allocations thru FY20	764	
FY 21 Allocation	0	
FY 22 Work Plan	30,200	IIJA
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	436,026	Accounts for Sandy CG funds

Townsends Inlet to Cape May Inlet, NJ

Authority: Section 101 (a)(26) of the Water Resources Development Act of 1999

Congressional District: NJ-2

Non-Federal Sponsor: NJDEP

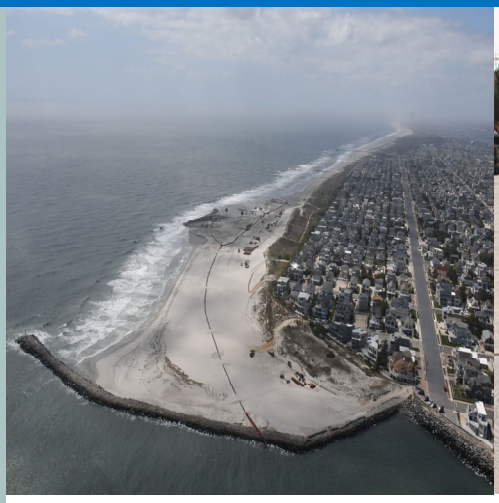
Date of Project Agreement: Mar 2002

Target Completion Date: 2052

Total Estimated Cost: $425.7M

Federal Funds Appropriated: $102.2M

Non-Federal Share: $43.5M



The recommended plan for costal storm risk management includes: (1) 4.3 miles of beach fill with a berm width of 150-feet and a dune crest at +14.75 feet NAVD, with periodic nourishment at 3 year intervals; (2) 2.2 miles of seawall construction along the Townsends Inlet frontage of Avalon and the Hereford Inlet frontage of North Wildwood; (3) ecosystem restoration of approximately 116 acres of natural barrier island habitat at Stone Harbor Point including beach fill and dune construction. The restoration includes the planting of approximately 56 acres of bayberry and red cedar roosting habitat.

The initial beachfill construction within Avalon and Stone Harbor was completed in FY03. Initial construction contracts were awarded for both the Avalon and North Wildwood seawalls in FY04. Construction of both the Avalon (September 2006) and Hereford (June 2009) Seawalls are complete. These seawalls were completed utilizing FY 05, 06, 07 and 08 funds. The 2nd nourishment cycle was scheduled for FY07. However, renourishment did not proceed due to inadequate funding. FY11 funds were also inadequate to proceed with initiation of the nourishment cycle. A small portion of the funds were used for project monitoring. Additionally in FY09 $1.5M in Emergency Supplemental funds were used to initiate and complete a truck-fill operation in Avalon.

As a result of Hurricane Irene in Aug 2011$40,000 in FCCE funds were provided to complete a Project Information Report under Public Law 84-99. The PIR completed in Mar 2012 determined that the project met the requirements of PL84-99 and was eligible for FCCE funding. A contract to repair the project was awarded in Sep 2012. Physical construction began in Dec 2012 and completed in Jul 2013.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. FCCE under PL 84-99 were again used to complete a PIR Addendum to the Hurricane Irene PIR. The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. Therefore, the previously awarded Hurricane Irene repair contract was modified to complete the repairs for Hurricanes Irene & Sandy concurrently. Additionally, in response to P.L. 113-2 a second PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. This Addendum was approved. The contract was further modified to complete the restorations. Pumping of sand was completed in Jul 2013. Repairs to Hereford Seawall were completed in Apr 2014.

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Townsends Inlet to Cape May Inlet, NJ

- **Project Goals:** The purpose of this project is Coastal Storm Risk Management and includes a beach fill with a berm and dune, and a periodic nourishment at three year intervals.

FY16 carryover funds were used to award the 2nd periodic nourishment contract on 14 Dec 16. Pumping began in Feb 2017. Additionally due Nor'easters that damaged the project in Oct 2015 and Jan 2016 Project Information Reports were completed & approved. Under the authority of PL 84-99 FCCE funds were received and used to modify the nourishment contract to complete the FCCE work and nourishment concurrently. Pumping began in Feb 2017 and was completed in Jun 2017.

Storms that occurred in 2016 & 2017 damaged the Hereford Seawall which required repairs. FY17 & FY18 Supplemental funds were provided to complete the repairs. A contract for the repair was awarded in Jan 2020. Work began in June 2020 and completed in Dec 2021.

FY19 allocated funds were used to complete periodic nourishment (Avalon only). Construction was completed in Nov 2019.

In a letter dated 4 Nov 2019 the Secretary of Interior made the decision regarding the Coastal Barrier Resources Act that sand from units with the System may be used to nourish beaches located outside the System, provided the project is consistent with the purposes of the Act. A previous interpretation had prevented the use of the Hereford Inlet as a borrow source for Stone Harbor. However DOI rescinded that decision on 14 Jul 2021. Investigations are needed for an alternative borrow area for Hereford Inlet for Stone Harbor.

FY22 Work Plan has provided $15.5M for periodic nourishment. Contract award is scheduled by the end of 2022 with construction in the winter of 2022/2023. This was originally scheduled for FY21 was delayed due to inadequate funds.

Timeline	Start	Complete	Comments
Initial Construction		Jul 2002	Beach Fill
Initial Construction		Jun 2009	Avalon & Hereford Seawalls
FCCE Emergency (Nor'Ida Nov 09)	Apr 2011	Dec 2011	Pumping completed in Jun 2011
FCCD Emergency (Irene & Sandy)	Dec 2012	Apr 2014*	Pumping completed in Jul 2013
Periodic Nourishment	Feb 2017	Jun 2017	
FCCE Emergency (Oct 15 & Jan 16)	Feb 2017	Jun 2017	
Periodic Nourishment	Oct 2019	Nov 2019	
Periodic Nourishment	FY 22 (S)		FY 22 funds have been provided

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	275,700	150,038	425,738

*Hereford Seawall completed in Apr 2014

Summarized Federal Financial Data ($000)		
Allocations thru FY20	86,509	
FY 21 Allocation	215	Hereford Seawall Repair
FY 22 Work Plan	15,500	
FY 23 Budget	0	President's Budget
FY 23 Work Plan	TBD	
Balance to Complete	173,476	

Southeastern Pennsylvania Environmental Improvement Program

Authority: Section 566 of the Water Resources Development Act of 1996, as amended by Section 552 of WRDA 1999

Congressional District: PA-1, PA-2., PA-3, PA-4, PA-5 and PA-6

Federal Funds Appropriated: $16.6M (Authorized to $25M)

Non-Federal Share: 25%

Jurisdictions:

Bucks County
Chester County
Delaware County
Montgomery County
Philadelphia County

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Construction of a vault structure to control sewer overflow, Philadelphia, PA

The Southeastern Pennsylvania Environmental Improvements Program (566 Program) is authorized under Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.

Funding for this authority is provided to the Corps through appropriated funding under Environmental Infrastructure and distributed to specific projects through the annual Work Plan or Congressional Earmark. The 566 Program allows USACE to provide design and construction assistance to non-Federal interests for carrying out water related environmental infrastructure, resource protection and development projects in southeastern Pennsylvania, including projects for wastewater treatment and related facilities, water supply and related facilities, surface water resource protection and development, and environmental restoration. Section 552 of WRDA 1999 amended the authority to include environmental restoration as an authorized project purpose under this program.

The process consists of three phases:

(1) Project Approval
(2) Project Design, and
(3) Project Construction

All phases are cost-shared with a non-Federal sponsor with the sponsor providing 25% of the total project costs.

Southeastern Pennsylvania Environmental Improvement Program

The authority allows the Government to enter into agreements with a non-Federal sponsor to provide design assistance, construction assistance or both design and construction assistance. The authority also allows for the non-Federal sponsor to provide some or all of the work for design and/or construction. While sound judgment and prudent analytical approaches should be employed, the specific requirements for conducting and reporting on economic and environmental procedures as outlined in Principles and Guidelines (P&G) and Corps regulations based on P&G are not required. Because this is a service to non-Federal parties, the character and form of the Assistance should be established in partnership with the non-Federal partner.

Active/Potential Projects	Sponsor	Status	Allocation/Budget Data (000)					
			Prior to FY18	FY18	FY19	FY20	FY21	FY22
Abington Township Environmental Improvement	Abington Township	Design Phase	200	500	0	2,100	0	0
Roosevelt Boulevard Dam Removal	PWD	Design Phase	1,400*	0	1,000	0	0	0
Whitpain Township	TBD	Project Approval	0	0	0	0	0	0
Upper Dublin Township Ecosystem Improvement	TBD	Project Approval	0	0	0	0	0	0
Closed/Inactive Projects	**Sponsor**	**Status**	**Federal Funds**	**Non-Fed Funds**	**Credits**	**Total**		
Cobbs Creek Fish Passage Restoration	PWD	Deferred	733,732	239,847	306,578	1,280,158		
Cobbs Creek Habitat Restoration	PWD	Closed	3,386,891	628,184	500,779	4,515,856		
Hatfield Borough Sewer Improvements	Hatfield Borough	Closed	340,886	26,298	87,330	454,516		
Mill Creek Diversion	PWD	Closed	671,618	112,740	112,041	896,401		
Tacony Creek Ecological Improvements	PWD	Closed	1,900,794	283,253	350,344	2,534,393		
Chester, Delaware and Montgomery County Watershed	PADEP	Closed	506,354	0	230,299	736,653		
Sandyford Run	PWD	Closed	9,262	0	0	9,262		
Logan/Wissinoming Homes	PWD	Closed	293,600	97,866		391,466		
Philadelphia Incinerator	PWD	Closed	3,277,825	1,092,608		4,370,433		
Delaware Canal	None	Closed	273,524	91,174		364,698		
New Logan Homes	PWD	Closed	27,808	9,269		37,077		

Abington Township Environmental Infrastructure Improvement

Authority: Section 566 of the Water Resources Development Act of 1996, as amended by Section 552 of WRDA 1999

Congressional District: PA-4

Non-Federal Sponsor: Abington Township, Montgomery County, PA

Date of Project Agreement: Nov 2016

Target Construction Date: Sep 2022

Target Completion Date: 2023

Total Estimated Cost: $3.1M

Federal Funds Appropriated: $2.8M

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Existing concrete lined channel at Grove Park, Abington, PA

The Abington Environmental Infrastructure Improvement Project is a stream and habitat enhancement project in Abington Township, Pennsylvania adjacent to and along Sandy Run Creek. The project is authorized under Section 566 of the Water Resources Development Act (WRDA) of 1996 (Public Law 104-303), which was amended by Section 552 of WRDA 1999 (Public Law 106-53) to include environmental restoration as an authorized project purpose.

Sandy Run Creek (also referred to as Sandy Run), which is part of the Wissahickon Creek Watershed, has been adversely affected by development and land use practices over the past century. Due to high levels of impervious surfaces throughout the watershed, the creek responds quickly during rain events with erosive forces occurring almost immediately following the onset of storm events. These changes in hydrologic conditions within the watershed have caused severe channel destabilization and riparian habitat degradation within much of the watershed.

The project is needed to reduce erosion and improve habitat function along the upper reaches of Sandy Run Creek. The specific objectives are to enhance and restore aquatic, wetland, and riparian habitat, improve infiltration of flood waters, stabilize stream banks, control invasive species, and reconnect floodplains along the Sandy Run Creek in Roychester Park and Grove Park in Abington Township, Pennsylvania.

Abington Township Environmental Infrastructure Improvement

- **Project Goals:** The purpose of this project is to provide design and construction assistance for carrying out water related environmental infrastructure and resource protection, including projects for waste water treatment, water supply and surface water resource protection.

  The project will result in an improved riparian buffer and stream corridor. Improvements to the stream bed and channel will improve habitat for benthic species such as dragonflies (spp.), which function as important food resources in stream ecosystems. Riparian buffers and stream corridors are key habitat and migration routes for many species, including migratory birds, reptiles and amphibians, and local resident mammalian species.

Left: Exposed manhole at Roychester Park
Right: Historic channel at Grove Park

At Roychester Park, opportunities exist to stabilize eroding banks, reconnect the floodplains, and restore riparian and wetland habitat along the eroded above ground reaches of the creek (approximately 800 linear feet). This would include restoring riparian and wetland habitat within Roychester Park where the stream banks are currently extremely eroded. The proposed action includes the following components: Bank Stabilization, Culvert Replacement, Sanitary Sewer Relocation, Riparian Enhancement, and Upland Native Planting.

At Grove Park, opportunities exist to reconnect the floodplains and restore riparian habitat by removing the concrete lining on approximately 400 linear feet of stream bed and gabion baskets lining the approximately 1,300 linear feet of stream banks. The use natural stream stabilization methods and native vegetation plantings will enhance the biodiversity of the stream. The forested floodplain south of Sandy Run contains wetlands and two ephemeral tributaries; parts of these may be remnants of the former main stem of Sandy Run Creek within Grove Park. The forested floodplains are dominated by invasive species (especially multiflora rose [*Rosa polyantha]*). The tributaries are degraded due to sedimentation, disconnection from regular flow, and predominance of invasive plants. The forested floodplain and wetland habitat will be enhanced by relocating a tributary through the forested floodplain to increase storm water storage within the forested floodplain.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Initial Appraisal	10	0	0		FY 16 Allocation	200	
Design Agreement	12	4	16		FY 18 Allocation	500	
Final Design	400	133	533		FY 20 Work Plan	2,100	
Construction	2,378	793	3,171		FY 23 Budget	0	
					Balance to Complete	0	

Boulevard Dam Removal

Authority: Section 566 of the Water Resources Development Act of 1996, as amended by Section 552 of WRDA 1999

Congressional District: PA-2

Non-Federal Sponsor: Philadelphia Water Department

Date of Project Agreement: Apr 2019

Target Construction Date: Sep 2023

Target Completion Date: 2024

Total Estimated Cost: $3.1M

Federal Funds Appropriated: $2.4M

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Roosevelt Boulevard Dam

The project site is located on Pennypack Creek, just west of the Roosevelt Boulevard bridge (old Bensalem Avenue bridge) and is within the park system managed by Philadelphia's Parks and Recreation Department. The Roosevelt Boulevard dam is located just upstream of the Roosevelt Boulevard bridge. The 56 square mile Pennypack Creek watershed is located in southeastern Pennsylvania with the creek flowing through Pennypack Park within the City of Philadelphia.

Boulevard dam was constructed in 1923 and was designed for recreational purposes. The dam is a concrete and embedded stone structure with a solid concrete foundation. The crest of the dam consists of cut granite capstones, although several of the original capstones have been dislodged and expose the underlying masonry. Flanked on both sides by masonry retaining walls, the existing dam has a wall-to-wall crest length of 112.3 feet and a height of 6.75 Feet. Currently, the dam inhibits fish passage and creates unsafe stream conditions in its vicinity that threaten public safety and local infrastructure. The project will eliminate the significant pool depth above the dam, reduce the drop below the structure, stabilize the existing eroding stream banks, and create in-stream conditions that favor fish passage.

Work efforts include the removal of the top 3.9 feet of dam, the construction of a rock ramp to provide fish passage over the remaining portion of the dam, the stabilization of the existing masonry wall, and the addition of scour protection.

Anadromous fish vary greatly in their swimming and jumping ability and therefore in their ability to pass physical obstacles during upstream migration. Design for upstream passage must therefore always be focused on passing the largest percentage possible of a particular species of type of fish (the target population) in order to ensure that the project is successful. For this project the design target species for upstream fish passage is the river herring (blueback herring [*Alosa aestivalis*] and alewife [*Alosa pseudoharengus*]).

Boulevard Dam Removal

- **Project Goals:** The purpose of this project is to investigate, select, and construct the best alternative to reestablish fish passage on Pennypack Creek and to provide for streambank stabilization and protection of an existing sanitary sewer line.

To implement this project, the Philadelphia Water Department (PWD) will complete the project designs using an independent Architectural & Engineering firm. The USACE will provide technical assistance and review of the project designs, ensure compliance with the National Environmental Policy Act and other environmental regulations, and provide contract oversight (Supervision & Administration) during construction.

Permitting requirements resulted in a re-design to minimize the footprint of the project as well as delays in permit approval pushed construction of the project until late FY23.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Initial Appraisal	9	3	12		FY 18 Allocation	0	
Design Agreement	18	6	24		FY 19 Allocation	2,400	$1.4M transferred from Cobbs Fish Passage
Review P&S	75	25	100		FY 23 Budget	0	
Construction (Est.)	2,300	775	3,100		Balance to Complete	0	

Delaware River Main Channel Deepening, DE, NJ & PA

Authority: Water Resources Development Act of 1992, 1999 & 2000

Congressional District: DE-AL, NJ-1, NJ-2, PA-1, PA-7, and PA-13

Non-Federal Sponsor: PhilaPort

Date of Project Agreement: June 2008

Target Completion Date: Feb 2020

Total Estimated Cost: $473.5M

Federal Funds Appropriated: $339.8M

Non-Federal Share: $133.7M

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The project was authorized for construction by Public Law 102-580, Section 101 (6) of WRDA 1992; modified by Public Law 106-53, Section 308 of WRDA 1999 and further modified by Public Law 106-541, Section 306 of WRDA 2000.

The project included: deepening the existing Delaware River Federal Navigation Channel from 40 to 45 feet from Philadelphia, Pennsylvania, and Camden, New Jersey, to the mouth of the Delaware Bay; appropriate bend widening; partial deepening of the Marcus Hook anchorage; and relocation and addition of aids to navigation. Cutter-suction, hopper, and mechanical dredges will be used to remove material from the channel. The dredged material from the Delaware River portion of the project will be placed in Federally-owned confined upland disposal facilities. Dredged material from the Delaware Bay portion of the project will be used for two beneficial use projects.

Since FY 99, Congress appropriated funds for project construction. The Project Partnership Agreement (PPA) between the Corps and the non-Federal sponsor, the Philadelphia Regional Port Authority (PRPA), was executed on 23 Jun 2008. Sponsor subsequently changed its name to PhilaPort.

In Oct 2009, the Corps awarded a contract for the regularly scheduled maintenance dredging of the existing Federal channel. An Option for deepening Reach C (Station 182+000 to Station 242+514) was awarded in Feb 2010. Dredging in Reach C commenced in Mar 2010 and was completed in Sep 2010.

The second project construction contract awarded was to deepen the lower portion of Reach B (Station 155+000 to Station 176+000). Bids for the contract were opened on 21 Jul 2011, and the contract was awarded on 6 Oct 2011 using accelerated non-Federal funds as there were not adequate Federal funds. Dredging began in Nov 2011 and was completed in Jan 2012.

The third project construction contract awarded was to deepen the upper portion of Reach A (Station 32+755 to Station 82+700). Contract was awarded on 31 Jul 2012 using FY 12 funds. Dredging began in Sep 2012 and was completed in Feb 2013.

The fourth project construction contract awarded was to deepen Reach D (Station 261+000 to Station 317+000). Contract was awarded on 18 Oct 2012 using FY 13 CRA funds. Dredging began in Feb 2013 and was completed in Nov 2013.

The fifth project construction contract awarded was to deepen the lower portion of Reach A (Station 72+574 to Station 90+000). Contract was awarded on 28 Jan 2014. Construction began in Jul 2014 and was complete in Jan 2015.

Delaware River Main Channel Deepening, DE, NJ & PA

- **Project Goals:** The purpose of this project provides deepening of the existing Delaware River Federal Navigation Channel, bend widening, partial deepening of the Marcus Hook anchorage with relocation and addition of aids to navigation.

The sixth project construction contract awarded was to deepen Reach AA (Station 20+300 to Station 32+900). The contract was awarded on 30 May 2014 using FY14 funds. Construction started in Sept 2014 and was completed in Mar 2015.

The seventh project construction contract is to deepen the lower portion of Reach E (Station 432+200 to Station 512+000) with beneficial use of dredge material at Broadkill Beach. The contract was awarded on 6 Jun 2014 using FY14 funds and later supplemented with FY15 CRA funds of $35M. Dredging began in Apr 2015 and was completed in May 2016.

The eighth construction contract. FY15 Work Plan funds were used to award the rock removal contract on Sep 30, 2015. Work began in Dec 2015 and continued the following years (2016, 2017, 2018) to complete rock blasting. In Mar 2019, just prior to the end of the environmental window for blasting and dredging, contractor encountered additional rock at approx. 43 feet below MLLW at several locations. A portion of the area was located within 50 feet of an active pipeline. NAP worked with the contractor, pipeline company and sponsor to develop a path forward that was technically acceptable. Utilizing rock blasting, hydrohammer, bucket dredge, clamshell dredge and drag barge the remaining rock above 45 feet was removed between Nov 2019 & Feb 2020. This was the final construction activity.

The ninth construction contract. FY16 Work Plan & a portion of FY17 CRA funds were used to award the contract to deepen Upper Reach E on 21 Oct 2016. Work began in Sep 2017 &s completed in Aug 2018.

The 10th and final project contract was to deepen Upper Reach B. Contract was awarded in Jul 2017 utilizing FY 17 Budgeted and Work Plan funds. Construction began in Aug 2017. Due to differing site conditions the work was not completed and de-scoped. The work was completed in Mar 2018 under a construction modification to the eighth contract (rock removal) utilizing FY19 Work Plan funds.

With the completion of the rock blasting contract (8th construction contract) the project to deepen the Delaware River Main Channel to 45 feet was completed in Feb 2020. Fiscal close-out is underway.

The Pilots' Association for the Bay and River Delaware & Maritime Advisory Committee requested in a May 2020 letter that hazardous shoal areas be removed as they directly affect their ability to safely turn and dock container vessels in the vicinity of Packer Avenue Marine Terminal. Corps has reviewed the request & USACEHQ in a 1 Dec 2020 memorandum delegated authority to the NAD Commander to approve proposed dredging under Section 5 of the RHAA of 1915, subject to the NAD Commander's determination that the work is necessary to allow design vessels to maneuver with greater ease and safety. A determination analysis has been completed by the District & on 24 Mar 21 NAD completed its review and approved NAP's Determination Analysis and concluded the work is necessary to allow design vessels to maneuver with greater ease and safety. On 30 Mar 21 meeting held with PhilaPort to discuss approval, path forward and need for NFS funding for investigations, design and construction. As approved the work would be singular dredging operation and not apply to future dredging cycles. It is also understood that the work would be considered a project cost for cost sharing purposes. Additional Federal funds are not required. PhilaPort would fund this work with a combination of accelerated funds and Section 308 credits as permitted in the PPA. NAP awaiting PhilaPort decision on path forward.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	339,793	133,698*	473,491
*Does not include non-Federal associated costs.			

Summarized Federal Financial Data ($000)		
Allocations thru FY20	339,793	
FY 21 Allocation	0	
FY 22 Work Plan	0	
Balance to Complete	0	

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US ARMY CORPS OF ENGINEERS
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Philadelphia District

Operations and Maintenance

Operations and Maintenance (O&M)

Operations and maintenance projects include the preservation, operation, maintenance, and care of existing river and harbor, flood control, and related activities at the projects that the Corps operates and maintains.

- Deep-Draft Harbor and Channel Maintenance
- Inland Waterway Maintenance
- Navigation Maintenance
- Other Authorized Project Purposes
- Small, Remote, or Subsistence Navigation Maintenance

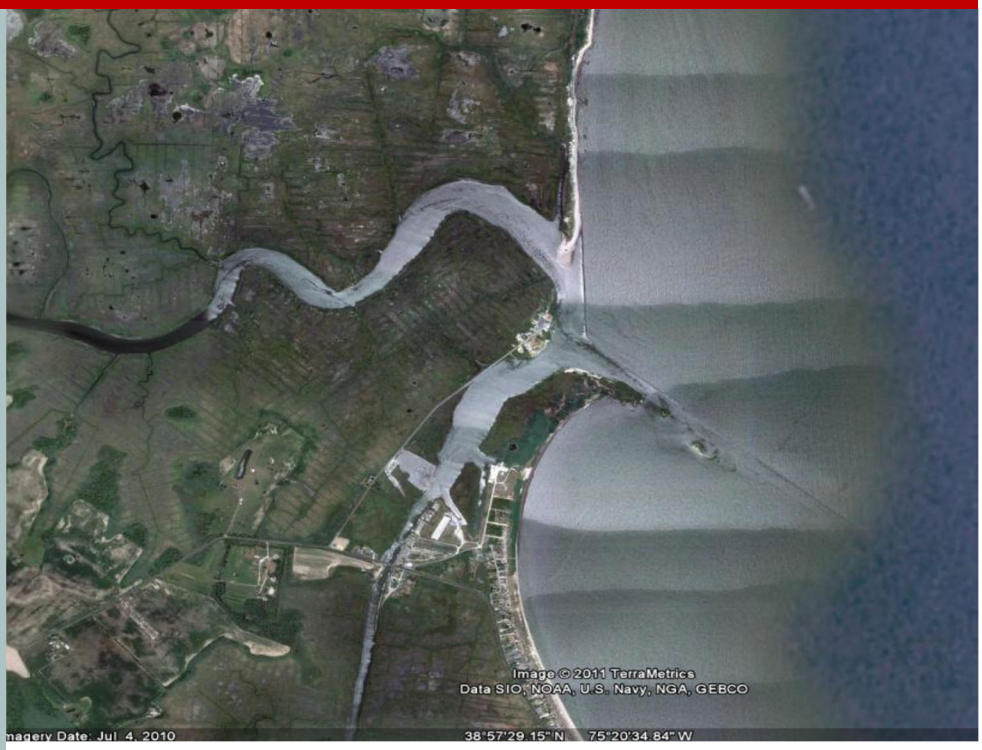
State Color Codes
Delaware
New Jersey
New York
Pennsylvania
Multiple

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Cedar Creek, Sussex County, DE

Authority: Section 107 of the Rivers and Harbors Act

Congressional District: DE-AL



Confluence of Mispillion River and Cedar Creek

The existing project was adopted by the Chief of Engineers on 23 December 1981 under the authority of the Rivers and Harbors Act of 1960, Section 107.

The Project provides a channel five feet deep, 80 feet wide and 3,730 feet long from the confluence of Cedar Creek with the Mispillion River to the state launching ramp, and five feet deep and 50 feet wide thereafter for a distance of 2,470 feet to a point 1,000 feet upstream of the State Route 36 Bridge.

In 2019, maintenance dredging of approximately 5,000 cubic yards of fine-grained material was removed from the Cedar Creek channel between the Delaware Bay Launch Service and the juncture with Mispillion River.

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Cedar Creek, Sussex County, DE

- **Project Goals:** The purpose of this project is to deepen the channel from the confluence of Cedar Creek with the Mispillion River, to the state launching ramp.

The U.S. Coast Guard has expressed concerns that poor channel conditions could delay the response of oil spill emergency clean-up and containment contractors during lower tide stages. The Corps performed a new channel condition survey in January 2021.

This waterway supports the only launch service that provides safe transport of personnel and supplies to large tanker vessels anchored in the Delaware Bay and the nearby Atlantic Ocean. This is a critical part of the logistics of lightering tankers so they can proceed up the Delaware River to the various refineries. The launch service operates four commercial crew boats that require drafts up to 6 feet. They annually complete over 5000 vessel trips per year and transport 12,000 tons of supplies, as well as transporting 10,000 passengers including Delaware River pilots, Coast Guard and Homeland Security Inspectors.

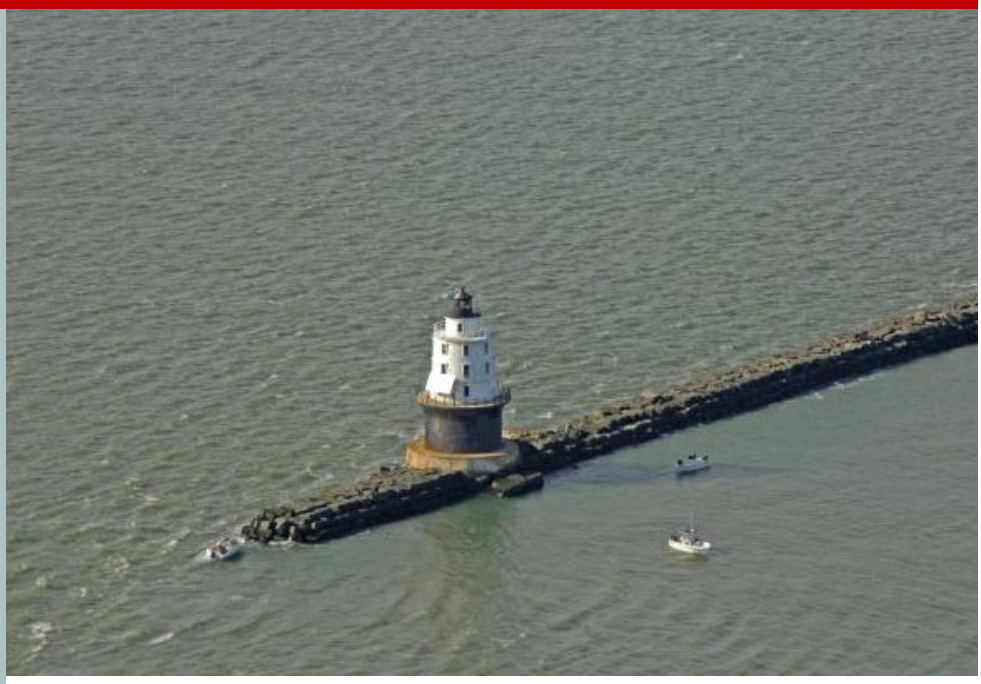
The local commercial fishing fleet stationed within this project totals approximately 35 vessels. A large number of tourists are attracted to the charter fishing opportunities at Cedar Creek. Recreational use of this waterway is also significant. The State of Delaware operates a public launching facility within the project limits.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 23 Budget	0	Impacted by Low Use Navigation budget cuts

Harbor of Refuge, Lewes, DE

Authority: HD 52-112, 70-15 and 74-56

Congressional District: DE-AL



Harbor of Refuge Lighthouse and Breakwater

Authorized by HD 52-112 in 1894, HD 70-15 in 1930 and HD 74-56 in 1935.

The Harbor of Refuge project provides for the stone breakwater, which is listed in the National Register of Historic Places. The Harbor of Refuge Lighthouse, an historic 1926 structure, is located on the south end of the National Harbor of Refuge Breakwater.

The Corps of Engineers built two stone breakwaters in the 19th and early 20th centuries to create a safe refuge near the entrance to the Delaware Bay. A lighthouse was built in 1926. The Federal project was originally authorized to protect commercial navigation. The navigation channel was authorized to provide deep draft landing for vessels such as tugs, and vessels carrying passengers and injured seafarers. The lighthouse is still used as a navigation aid, and the breakwater provides protection for the Lewes shoreline. The entire Harbor of Refuge complex is listed on the National Register of Historic Places. Cape May-Lewes Ferry vessels, commercial fishing boats, marine lubricant delivery vessels, Coast guard vessels, and recreational watercraft still actively seek shelter from bad weather at the Harbor of Refuge.

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Harbor of Refuge, Lewes, DE

- **Project Goals:** The purpose of this project provides for a breakwater approximately 8,000 feet long; 11 ice piers; and an inner navigation channel and turning basin.

In the interest of protecting the historic Harbor of Refuge Breakwater itself along with the historic lighthouse, periodic inspections of the breakwater, especially after hurricane season, should be conducted. FY 2022 IIJA funds will be utilized to conduct surveys and an inspection as well as to complete a Major Maintenance Report (MMR) as required by HQUSACE guidance. The purpose of the MMR is to document current conditions, make recommendations for repairs and refine repair cost estimates.

Both the Delaware River and Bay Lighthouse Foundation and the Delaware State Historical Preservation Office have repeatedly indicated that the deterioration of the government-owned breakwater is impacting valuable historic properties in the Harbor of Refuge. A recent inspection of this site confirms these concerns. The destructive wave action from past storms, have had an erosive effect on the breakwater especially in the vicinity of the lighthouse. Many of the huge breakwater stones that once formed an interlocking protection wall at the base of the lighthouse have been dislodged.

During calendar year 2011, repairs of a near-breach on the north side of the wall, replacement of missing breakwater stone and grouting of voids threatening to undermine the stability of the breakwater where the lighthouse is located were successfully completed. All of this work has experienced significant deterioration and damage by several storms including

Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	250	Allocation is IIJA Funds.
FY 23 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Indian River Inlet & Bay, Sussex County, DE

Authority: R&H Doc. 41. HD 330

Congressional District: DE-AL

Aerial View of the project area showing Indian River Inlet with Real Estate Boundaries

The project was authorized in 1937 (R&H Doc 41, 75th Cong, 1st Session) and modified in 1945 (HD 330, 76th Cong, 1st Session).

The project authorization includes stabilizing the inlet by construction of parallel jetties 500 ft apart; the dredging of a channel generally 200 ft wide and 15 ft deep from the inner ends of the jetties to a point in the Bay substantially 7000 ft from the ocean shoreline, dredging a channel 9 ft deep, 100 ft wide in the Bay and 80 ft wide in the River, from that depth in the existing channel in Indian River Bay to and including a turning basin 9 ft deep, 175 ft wide and 300 ft long at Old Landing; then about 8200 ft to highway bridge at Millsboro, 60 ft wide, 4 ft deep.

Project Condition Surveys of the navigation channel were conducted in FY21. Additional data collection in the inlet and especially of the failed bulkhead area was conducted in FY21 and is ongoing in FY22 as part of the IIJA funded repairs to the jetties and bulkhead. Continued monitoring of the channel, jetties and scour holes is critical to protect surrounding infrastructure and assets and to inform the critically needed and complex repairs.

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Indian River Inlet & Bay, Sussex County, DE

- **Project Goals:** The purpose of this project provides safe navigation channel for commercial, recreational and U.S. Coast Guard use. Indian River Inlet is the only water access point into the Delaware Inland Bay area that includes Indian River Bay and Rehoboth Bay.

Concerns: A failed section of bulkhead/revetment along the interior north shoreline is compromising a section of sidewalk and other infrastructure near the Delaware Seashore State Park. The condition continues to deteriorate and expand to adjacent areas. Public access to the failed area has been restricted due to the safety risk and USACE continues to monitor the damage. Funding for investigations, design and repair was received in January 2022 and repair is anticipated to be costly due to the steep slope into the inlet. Additionally, the Indian River Inlet jetties are in poor condition with over 350 linear ft of loss from the north jetty seaward end since 1960 and the south jetty requires sand tightening.

A Major Maintenance Report is being finalized and will serve as the decision document for repair of the degraded bulkhead and jetties. An initial Class 4 cost estimate to repair the failed jetties is included in the 2022 Report to Congress on Cost to Repair the most degraded coastal navigation structures in the nation.

Ongoing Activities: Supplemental funds in the amount of $43.9M were received in January 2022 for design and repair of the failed bulkhead on the north interior shoreline, repair of the north and south jetties including sand tightening and to conduct a sediment budget for the inlet system. A project delivery team was formalized in January and design work and data collection are ongoing. Contract award for repair of the failed bulkhead is anticipated in November 2022 and contract award for repair of the jetties is anticipated in January 2023. Both projects have complicated designs but technical expertise from the long-standing Indian River Inlet Working Group and across USACE are being utilized for these critical and high profile repairs.

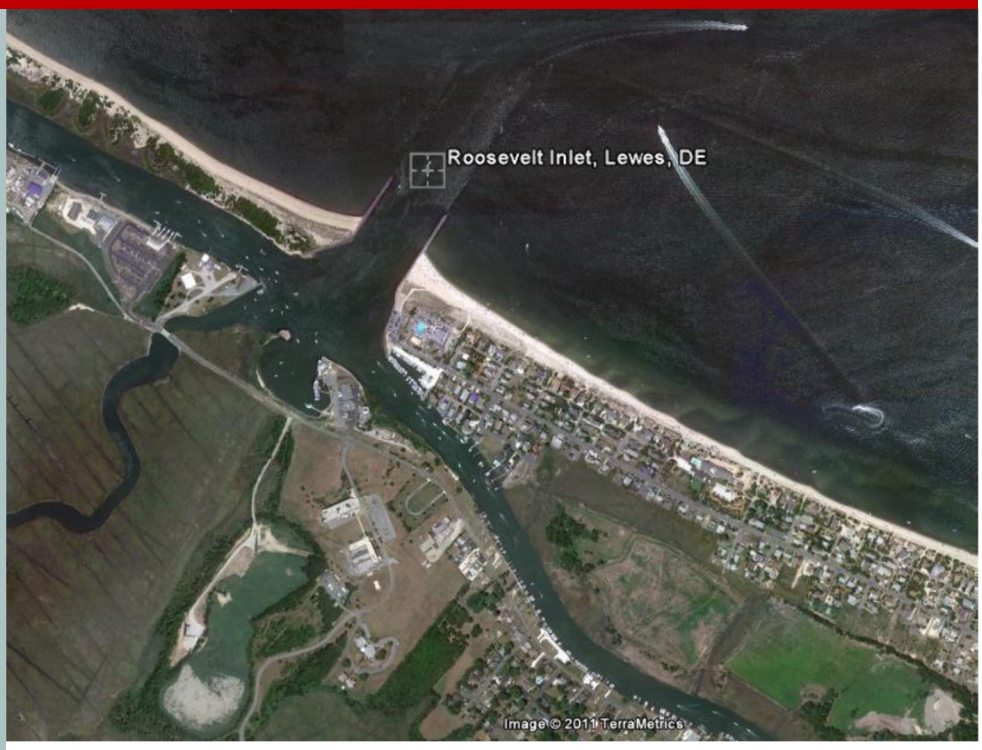
Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 19 Allocation	27	Impacted by Low Use Navigation budget cuts; Additional funding ($20) provided thru Work Plan
FY 20 Allocation	33	Funds will be used for managing the project, channel surveys and geospatial real estate efforts.
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	43,901	$43,871,000 is IIJA funds.
FY 23 Budget	281	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE

Authority: HD 832, 77-344, R&H Comm. Doc. 54, 74-56

Congressional District: DE-AL



Roosevelt Inlet at Lewes, DE

The existing project was adopted in 1912 (HD 823, 60th Congress, 1st session and R&H Committee Doc. 51, 61st Congress, 3rd session) and modified in 1935 (R&H Committee Doc 74-56) and 1945 (HD 77-344)

The project provides for an entrance channel through Roosevelt Inlet near Lewes, Delaware, 10 feet deep and 200 feet wide protected by two parallel jetties 500 feet apart, an extension of the jetties; a channel 10 feet deep and 100 feet wide to the Savannah Road Bridge at Lewes; a channel 6 feet deep and 50 feet wide from Savannah Road Bridge to the Rehoboth Bay entrance and a channel 6 feet deep and 100 feet wide from Roosevelt Inlet to Broadkill River.

A channel condition survey of the entire waterway was last performed in November of 2021. Maintenance dredging of the Roosevelt Inlet Entrance Channel was conducted using the Government Dredge Murden in February 2022. Sand was dredged from the inlet channel and placed in a designated nearshore area to support the federal beach nourishment project in Lewes. FY 22 IIJA funds will be utilized to conduct maintenance dredging of the canal between Roosevelt Inlet and the Rt. 9 Bridge in Lewes, DE.

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Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE

- **Project Goals:** The purpose of this project provides for an entrance channel through Roosevelt Inlet near Lewes, Delaware, a channel to the Savannah Road Bridge at Lewes, a channel from the inlet to the Broadkill River and a channel from Savannah Road Bridge to the Rehoboth Bay entrance.

The Inland Waterway from Rehoboth Bay to Delaware Bay (DE) is a shallow draft navigation project utilized by both commercial and recreational users. It has an authorized depth of 10 feet through the entrance channel.

The local commercial fleet consists numerous charter and head boats. The University of Delaware maintains several research vessels that are stationed within the project, and mooring for research vessels from visiting universities.

The Roosevelt Inlet Coast Guard Station located on the waterway performs routine patrols and emergency response activities. Lack of periodic maintenance of the channel will affect the ability of the Coast Guard to respond to emergency situations at lower tide stages.

The Delaware Bay and River Cooperative (DBRC), whose mission is oil spill emergency response/cleanup for events occurring in the Delaware River and Bay, is based in this waterway. The DBRC has positioned the oil spill response vessel DELRIVER in Lewes. The location of DELRIVER in the University of Delaware's harbor, with direct access to Roosevelt Inlet, is strategically important for response to potential spills in the Big Stone Beach Anchorage and approaches. On average more than one million barrels of crude oil a day move into the Delaware Bay and River area. A majority of the bulk crude oil carriers lighter at Big Stone Beach Anchorage, and require spill coverage before proceeding up the Bay to the Delaware River refineries. DBRC located the DELRIVER in Lewes because a 45 minute response time is possible from its mooring location at Roosevelt Inlet. Continuing maintenance dredging, when needed, is critical to the ability of the DELRIVER to respond to emergency situations in a timely manner regardless of tide stage.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 19 Allocation	30	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	30	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	3,934	$3,785,000 is IIJA funds.
FY 23 Budget	550	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Mispillion River, Sussex County, DE

Authority: HD 56-102, 74-83, 678. R&H Comm. Doc. 83. SD 229

Congressional District: DE-AL

Mispillion Project Area

Authorized under HD 56-102 in 1907 and modified as HD 74-83 in R & H Act HD 678, 62nd Congress, 2nd Session (1919) and modified by R & H Com Doc. 83, 74th Congress, 2nd Session (1937) and modified by SD 229, 81st Congress, 2nd Session (1954).

The waterway rises in Kent and Sussex Counties, Delaware. It flows northeasterly 13 miles along the boundary line between the two counties and empties into the Delaware Bay about 16 miles above Cape Henlopen, Delaware. The waterway provides an entrance channel six feet deep and 60 feet wide from Delaware Bay to the landward side of the jetties.

Along with the Cedar Creek federal channel, this waterway supports the only launch service that provides safe transport of personnel and supplies to tanker vessels anchored in Delaware Bay and the nearby Atlantic Ocean. The U.S. Coast Guard has expressed concern that future shoaling in the channel could delay the response of oil spill emergency clean-up and containment contractors during lower tide stages. Failure to perform routine maintenance dredging will result in hazardous navigating conditions, damage to commercial, charter and recreational vessels, delays in service to the shipping industry utilizing the Delaware River, Philadelphia to Sea Channel, restricted and/or delayed Coast Guard national security. vessel audits and economic hardships.

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Mispillion River, Sussex County, DE

- **Project Goals:** The purpose of this project provides for an entrance channel from the Delaware Bay to the landward side of the jetties.

Dredging and placement with the Government Dredge Currituck was designed and permitted in FY19 and conducted in February 2020 and February 2021. Dredging was conducted again in February 2022 with the Government Dredge Murden removing approximately 2,600 cubic yards of sediment from the Mispillion and Cedar Creek channels with beneficial use placement. Use of the government dredges has proven to cost-effectively remove the relatively small but critical shoaling from the interior channel and the entrance to the Delaware Bay. The placement area is located to the north of the entrance, keeping sediments in the system and supporting coastal resilience and the adjacent beaches.

Channel condition and maintenance dredging surveys were performed in FY 21 and FY 22. Channel shoaling rates will be monitored.

The jetties were assessed and rated failed relative to structural condition, but are still considered adequate relative to functional condition ratings. Funding has been requested for a Major Maintenance Report as the decision document needed for jetty repairs. An initial cost estimate to repair the failed jetties is included in the 2022 Report to Congress on Cost to Repair the most degraded coastal navigation structures in the nation.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	1,050	Funding was provided through the Work Plan.
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 23 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Murderkill River, Sussex County, DE

Authority: HD 21, 62-1058.
SD 71-106

Congressional District: DE-AL

Entrance channel of Murderkill River at Delaware Bay

The existing project was authorized in 1892 (HD 21, 52nd Cong, 1st Session) and modified in 1912 (HD 62-1058) and 1930 (SD 71-106).

The project provides for a channel 7 feet deep at mean low water, 60 feet wide in Delaware Bay to mouth, and then 60 feet wide to Frederica, 7.5 miles above mouth. Total length of section included in project is about 8.5 miles.

A channel condition survey of the federal channel was conducted in January 2021 and will be conducted in Fiscal Year 2022.

Since federal funds have not been received in recent years, the channel was last dredged by the State of Delaware in 2014 and material was used beneficially on adjacent beaches.

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Murderkill River, Sussex County, DE

- **Project Goals:** The purpose of this project provides for a channel in Delaware Bay and Frederica.

A new channel exam was conducted in January 2021 to update conditions and inform project users of shoals in the federal channel.

Concerns have been raised by locals that the USCG has removed the seasonal markers from the federal channel and not reinstalled them due to excessive shoaling and unsafe conditions. The USCG cannot adequately mark navigable water until maintenance dredging is accomplished.

Approximately ten commercial fishing and crabbing vessels are based at Murderkill River. During peak seasons, there are additional commercial vessels operating out of the inlet, peaking at more than 100. A large number of tourists are attracted to the charter fishing opportunities.

Deteriorating shoaling conditions negatively impact the use of this project as a safe harbor in the event of dangerous weather conditions. The U.S. Coast Guard, which operates an auxiliary station at Murderkill River, is impacted at lower tide stages due to draft restrictions.

Failure to fund and perform maintenance dredging may result in safety concerns, damage to commercial vessels and severely impacts the economy of the local communities since a majority of the local residents have occupations which are waterway-related (commercial/charter fisherman).

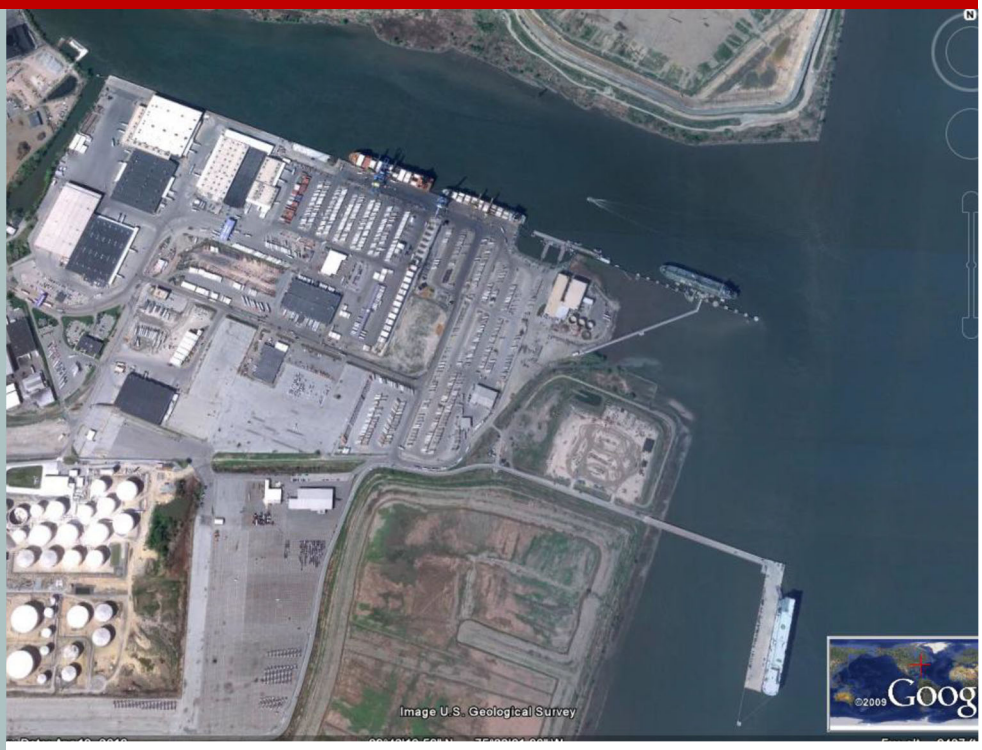
Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 23 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Wilmington Harbor, New Castle County, DE

Authority: HD 54-66, 67-114, 71-20, 73-32, 76-568. SD 86-88. Section 10 of the River and Harbor Act of 1960

Congressional District: DE-AL



Aerial view of Wilmington Harbor

The existing project, adopted as HD 54-66 in 1896 and 1899, and modified by HD 67-114 in 1922, by HD 71-20 in 1930, by HD 73-32 in 1935, by HD 76-658 in 1940, by SD 86-88 in 1960, and further modified pursuant to the authority of Section 107 of the River and Harbor Act of 1960 (PL 86-645).

The project provides for a channel with depths of 38, 35, 21, 10, and 7 feet from the Delaware River to Newport, DE, a turning basin 2050 feet long, 640 feet wide and 38 feet deep opposite the Wilmington Marine Terminal, and jetties at the mouths of Christina and Brandywine Rivers.

The Port of Wilmington is a full service Mid-Atlantic seaport strategically located to provide overnight access to 200 million North American consumers. Wilmington ranks as the world's top banana port, and the nations leading gateway for imports of fresh fruit and juice concentrates. An economic engine for the State of Delaware and the region, it is responsible for over thousands of jobs, hundreds of millions of dollars in business revenue impact, and tens of millions of dollars in regional annual tax revenue. The Port is owned by the Diamond State Port Corporation, a corporation of the State of Delaware and operated by Gulftainer, USA.

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Wilmington Harbor, New Castle County, DE

- **Project Goals:** The purpose of this project is to provide for a channel from the Delaware River to Newport, DE, a turning basin opposite of the Wilmington Marine Terminal, and jetties at the mouths of Christina and Brandywine Rivers.

The annual maintenance dredging for both the 35-foot and 38-foot project channels and turning basin was completed in March of 2022. Approximately 800,000 cubic yards of material was removed.

The following work will be accomplished in FY 2022: semi-monthly channel condition surveys and issuance of channel statements to the maritime community, disposal area maintenance and construction activities by in house hired-labor group along with earthwork preparation service contract work and environmental support services.

The annual maintenance-dredging contract for both the 35-foot and 38-foot project channels and turning basin is scheduled to be advertised in August of 2022. Actual dredging should commence in November of 2022 with completion within approximately 30 days. Similar to FY21, it is anticipated that this work will be advertised as a consolidated contract with the Delaware River, Philadelphia to Sea, Project Maintenance Dredging solicitation.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	13,780	Additional funds ($5,775) was received thru the Work Plan.
FY 19 Allocation	11,291	Additional funds ($5,800) was received thru the Work Plan.
FY 20 Allocation	10,263	Additional funds ($2,600) was received thru the Work Plan.
FY 21 Allocation	10,640	Additional funds ($2,750) was received thru the Work Plan.
FY 22 Allocation	8,861	
FY 23 Budget	10,537	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Absecon Inlet, Atlantic County, NJ

Authority: HD 375, 504

Congressional District: NJ-2

Project area showing Absecon Inlet, located between Brigantine and Atlantic City

Approved by HD 375, 67th Congress and HD 504, 79th Congress.

The project provides for an inlet entrance 20 feet deep at mean low water and 400 feet wide, an entrance channel 15 feet deep and 200 feet wide from the inlet channel into Clam Creek, and a turning basin 15 feet within Clam Creek. The total length of the section included in the project is about 1.5 miles.

This project was authorized to provide a safe navigation channel for commercial, recreational and US Coast Guard use. The USCG, Station Atlantic City uses this federal channel to conduct their critical life safety operations. The channel supports the commercial fishing industry with a direct fish value of $12M annually (NOAA, 2020).

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Absecon Inlet, Atlantic County, NJ

- **Project Goals:** The purpose of this project provides for an inlet entrance 20 feet deep at mean low water and 400 feet wide, an entrance channel 115 feet deep and 200 feet wide from the inlet channel into Clam Creek, and a turning basin 15 feet within Clam Creek.

In FY21, condition surveys were conducted for the inlet entrance and Clam Creek portions of the channel and the project was coordinated with the public, local stakeholders, NJ State Police and the US Coast Guard. Since FY12, the project had been affected by Low Use Navigation budget cuts but received FY18 funds to conduct limited dredging of shoaling in the entrance channel. In FY21, Work Plan funds were received for design, sediment samples, environmental coordination and a contract to dredge the Clam Creek channel, however the State of NJ was not able to provide a cost-effective placement area for the fine-grained sediments. Permits were obtained and dredging of approximately 17,000 cubic yards of sand in the Clam Creek entrance was conducted in November 2021 using the Government Dredge Murden with placement in the nearshore supporting the Absecon Island federal shore protection project. Future beach fill operations should continue to utilize the inlet entrance channel as a borrow source in a Regional Sediment Management approach.

Shoaling of approximately 50,000 cy composed of fine-grained material remains in the interior portion of the Clam Creek channel. Sediment analyses were conducted in 2010, but no placement area or funding has been available to remove the shoal, which continues to impede navigation into Gardiner's Basin. The State of New Jersey is required to provide a placement area and is working along with USACE and a local team to identify potential placement areas. Beneficial use placement options are also being investigated. The local community continues to express concern as they try to promote recreational use and economic development of the area, including significant interest by the offshore wind industry.

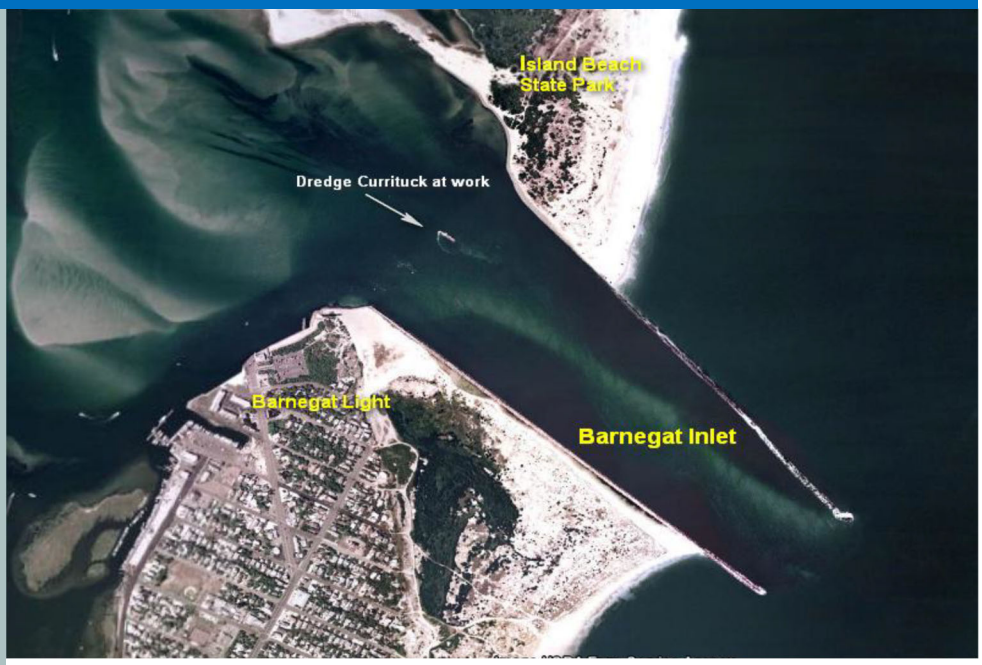
Summarized Federal Financial Data ($000)		
FY 18 Allocation	175	Maintenance Dredging of Inlet
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	1,355	$1,355 Work Plan funds provided to dredge Clam Creek.
FY 22 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 23 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Barnegat Inlet, Ocean County, NJ

Authority: HD 73-19, 74-85, 79-358

Congressional District: NJ-2 & NJ3



Project area showing Barnegat Inlet between Island Beach State Park and Barnegat Light

Project provides for a channel 8 feet deep through the inlet and 10 feet deep through the outer bar, a channel of suitable hydraulic characteristics extending in a northwesterly direction from the inlet gorge to Oyster Creek channel and through the latter channel to deep water in the bay, and the maintenance of a channel 8 feet deep and 200 feet wide to connect Barnegat Light Harbor with the main inlet channel. Project has two rubble-mound jetties. The project length is about 4.5 miles as described above. It was originally completed in 1940, but the Supplemental Appropriation Act of 1985 contained language stating that the existing project had not worked as projected and, in fact, created a hazard to navigation. As a result, the following administratively approved modifications were constructed in 1991 as design deficiency measures: a new south jetty 4,270 feet in length along an alignment generally parallel to existing north jetty, a navigation channel 300 feet wide to a depth of 10 feet below mean low water from the outer bar in the Atlantic Ocean to north end of existing sand dike in Barnegat Bay, jetty sport fishing facilities on the new jetty.

Barnegat Inlet was selected as one of ten national beneficial use pilot projects authorized by WRDA 2016 Section 1122 with the State of NJ as the non-federal sponsor. The initial component, constructed in late December 2020, consisted of the first lift of a new island in Barnegat Bay using Oyster Creek dredged sediments. The second component completed in August 2021, includes dredging of the inlet entrance channel with innovative nearshore placement off of the Borough of Harvey Cedars using the Dredge Murden, supporting the federal beachfill project.

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Barnegat Inlet, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a channel through the inlet and through the outer bar, a channel of suitable hydraulic characteristics extending in a northwesterly direction from the gorge in the inlet to Oyster Creek channel and through the latter channel to deep water in the bay, and the maintenance of a channel to connect Barnegat Light Harbor with the main inlet channel. The project also provides for protecting the inlet channel with two converging stone jetties.

The project did not receive maintenance dredging funds in the FY19 budget for the first time in recent history. Funds were received in the FY19 and FY20 Work Plans to conduct inlet maintenance dredging using the Government Dredge, maintenance dredging of Oyster Creek channel and surveys for this critical navigation project. Channel surveys and maintenance dredging with the Government Dredge Murden with placement in the nearshore zone of Long Beach Island was conducted in FY21 as part of the WRDA Section 1122 project. Dredging of the Oyster Creek portion with new island creation was conducted in December 2020 and will be conducted again in Fall 2022 under a dredging contract awarded in FY22. Permits were obtained for the 1122 project that will also support future maintenance operations and beneficial use, optimizing placement and sediment needs along the downdrift shoreline. USACE is evaluating repair of the seaward portion of the north jetty.

The inlet entrance channel continues to have significant shoaling rates in this sediment rich coastal system. A sediment budget analysis and maintenance of the inlet channel using the Dredge Murden was funded in the FY22 Infrastructure bill. Use of the Government dredges continues to be a good return on investment as the channel can be maintained on limited annual funds while supporting the federal Coastal Storm Risk Management project along Long Beach Island.

The project requires dredging to provide a safe, reliable navigation channel for a critical refuge between the Atlantic Ocean and the bay. The US Coast Guard designates this site as a “Surf Station” due to the hazardous inlet and requires a safe channel to fulfill their Homeland Security mission and critical life safety, search and rescue operations. The project is critical to a large fishing fleet consisting of full-time commercial, charter and recreational vessels that contribute to the economic value of the nation and an annual direct fish value of over $25M/year (NMFS, 2019).

Summarized Federal Financial Data ($000)		
FY 18 Allocation	1,396	Dredge Inlet & perform channel surveys
FY 19 Allocation	699	
FY 20 Allocation	479	
FY 21 Allocation	759	$750,000 was provided in Work Plan funds to complete work related to the 1122 RSM project.
FY 22 Allocation	1,675	$922,000 is IIJA funds to conduct dredging and a sediment budget analysis.
FY 23 Budget	329	$329,000 is IIJA funds.

Cold Spring (Cape May) Inlet, Cape May County, NJ

Authority: Existing project, adopted in 1907 and modified in 1945

Congressional District: NJ-2

Project Area showing Cold Spring Inlet and Cape May Harbor

This project provides for an entrance channel 25 feet deep and 400 feet wide, protected by two parallel stone jetties, and extending from the 25-foot depth curve in the ocean to a line 500 feet landward of a line joining the inner ends of the jetties; thence 20 feet deep and 300 feet wide to deep water in Cape May Harbor. The total length of the section included in the project is about 2 1/4 miles.

This authorized project provides a safe navigation channel for commercial, recreational and US Coast Guard use. The USCG, Station Cape May uses this federal channel to conduct critical life safety operations. The channel supports the commercial fishing industry, specifically the largest Fishery Landing in NJ (13th largest in the US), contributing $93M/year in direct fish value (NOAA, 2020) and over $300M in economic value to the region.

The authorized project services the only US Coast Guard enlisted training base in the country. USCG Station, Cape May is also located on the waterway and needs a reliable channel for their Homeland Security mission and critical life safety, search and rescue operations.

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Cold Spring (Cape May) Inlet, Cape May County, NJ

- **Project Goals:** The purpose of this project is to provide a safe navigation channel for commercial, recreational and US Coast Guard.

FY21 funds were used to conduct condition surveys, complete environmental coordination and conduct maintenance dredging in the inlet and harbor channel with the Government Dredge Murden in 2021 and in April 2022. The funding historically provided for this project proves a good return on investment since minimal funding can be used efficiently to maintain the inlet entrance channel. A small, but persistent shoal forms and impedes navigation near the channel centerline at the entrance to the jetties, impacting USCG operations if not maintained.

FY19 Work Plan funding was used to award a contract for dredging of the Cape May Harbor channel that supports the USCG and large commercial fishing fleet as well confined disposal facility maintenance. This maintenance dredging in the harbor channel has been conducted periodically with the most recent contract work to be conducted in May 2022.

FY22 IIJA funds were received to conduct channel condition surveys and maintenance dredging with the Government Dredge Murden and to conduct an efficiency investigation evaluating the cause of the shoaling between the jetties as well as the deep scour hole at the tip of the west jetty.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	870	Dredge Inlet and perform surveys
FY 19 Allocation	3,353	Dredge Inlet, Dredge Cape May Harbor channel, disposal area maintenance, operate project and perform surveys
FY 20 Allocation	20	Impacted by Low Use Navigation Budget Cuts.
FY 21 Allocation	396	Dredge Inlet and perform surveys.
FY 22 Allocation	847	$297,000 is for project monitoring at Cape May Inlet to Lower Township, NJ. $550,000 is IIJA funds.
FY 23 Budget	429	$409,000 is IIJA funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware River at Camden, Camden County, NJ

Authority: Section (3a) of the Water Resources Development Act

Congressional District: NJ-1

Joe Balzano Terminal—Camden, NJ

The existing project which is a modification to the Delaware River from Philadelphia to the Sea project was adopted as House Document No. 63 1120 in 1919 and modified by House Document No. 70-111 in 1930 and House Document No. 77-353 in 1945. Section (3a) of the Water Resources Development Act of 1988 authorized the modification of the existing Delaware River in the vicinity of Camden, New Jersey project. The project document referenced in the authorizing legislation is House Document 100-167 (Delaware River, Philadelphia to Wilmington, Pennsylvania and Delaware). Federal participation in the latest modification work (to 40') within Beckett Street Terminal (renamed Joe Balzano Terminal) was accomplished as a result of the project sponsor furnishing assurances of compliance with Section 221 of the Flood Control Act of 1970 (Public Law 91-611) and, entering into a Local Cooperation Agreement as per the Water Resources Development Act of 1986 (PL99-662).

The Port of Camden has all of the necessary infrastructure for efficient cargo transportation: rail links, major highways, access to trucking services, and a network of warehouses. The Port handles industrial and commercial cargo, as well as perishables. The Port is known for its handling of breakbulk cargoes, especially wood and steel products.

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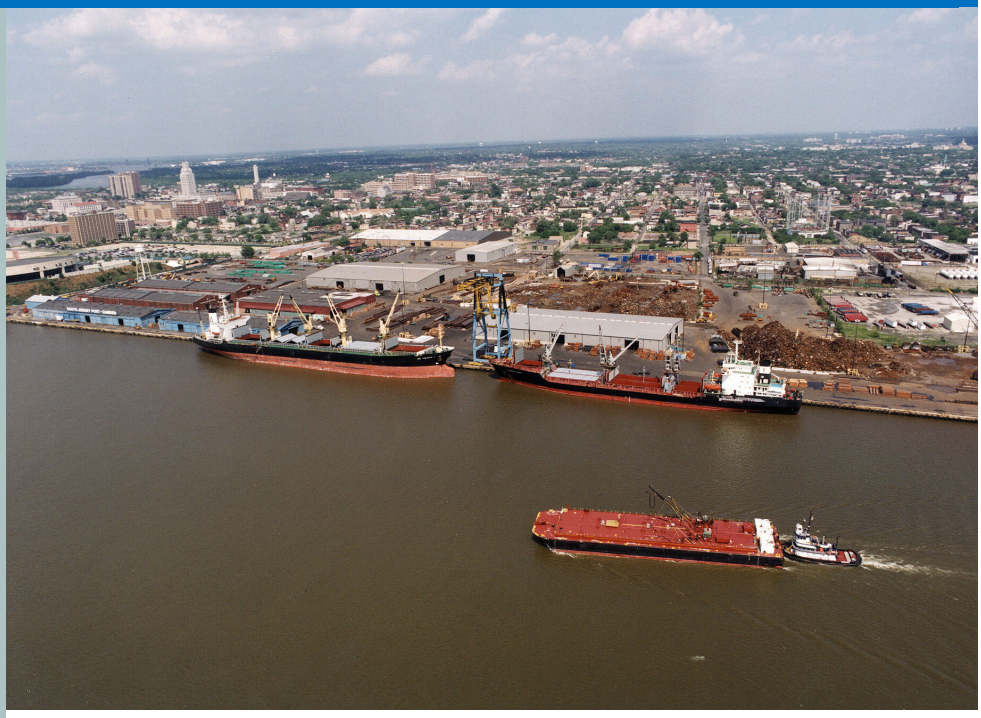
Delaware River at Camden, Camden County, NJ

- **Project Goals:** The purpose of this project provides for modification of the existing Delaware River project in the vicinity of Camden, New Jersey.



Port Activity in the Vicinity of Camden, NJ

Condition surveys are performed annually with project funds to ensure the project is at the authorized depths.

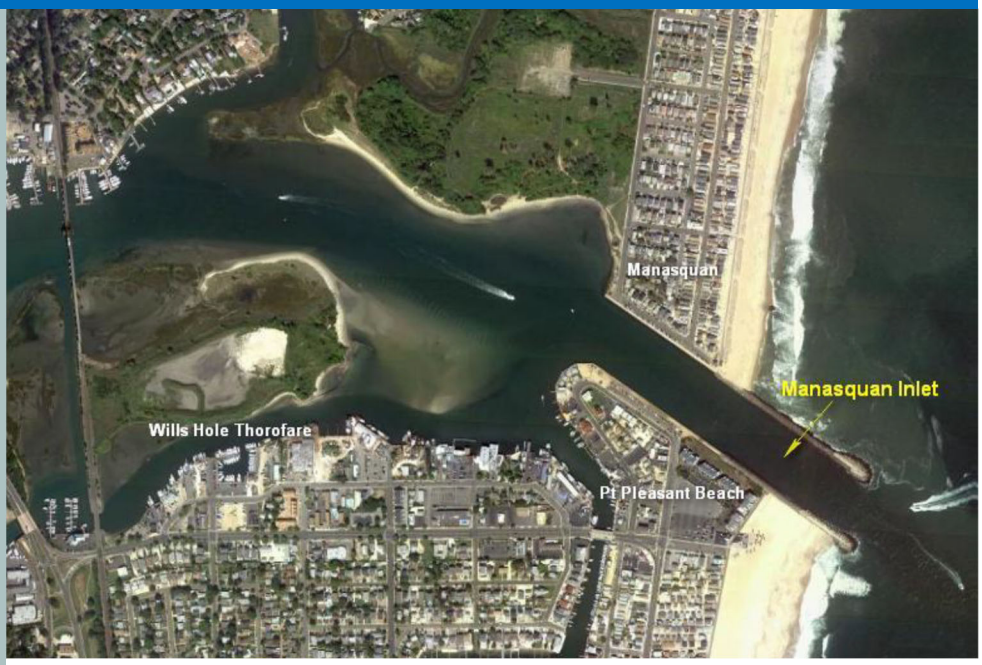
Summarized Federal Financial Data ($000)		
FY 18 Allocation	15	Channel Surveys
FY 19 Allocation	15	Channel Surveys
FY 20 Allocation	15	Channel Surveys
FY 21 Allocation	15	Channel Surveys
FY 22 Allocation	15	Channel Surveys
FY 23 Budget	15	Channel Surveys

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Manasquan River, Ocean County, NJ

Authority: The River and Harbor Act of 1930 (46 Sta. 918) and modified by the Water Resources Development Act of 1986 (P.L. 99-662)

Congressional District: NJ-3 & NJ-4



Project area showing Manasquan Inlet, Pt. Pleasant Beach and Wills Hole Thorofare

This project provides for a channel 14 feet deep and 250 feet wide, protected by jetties and bulkheads, from the Atlantic Ocean to the inshore end of the north jetty; thence 12 feet deep and 300 feet wide to within 300 feet of the New York and Long Branch RR Bridge. The channel is approximately 1.5 miles long. Improvements to the Wills Hole portion of the project were made through the Continuing Authorities Program in conjunction with the State of New Jersey.

The project provides a safe, reliable navigation channel for commercial, recreational and US Coast Guard use. The USCG Station, Manasquan requires a safe channel to fulfill their Homeland Security mission and critical life safety, search and rescue operations.

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Manasquan River, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a navigation channel protected by jetties and bulkheads, from the Atlantic Ocean to the inshore of the north jetty.

Historically, O&M funds were provided and used to perform channel condition surveys and dredge the inlet using the Government Dredge Currituck or Murden. In November 2021, funds were used to conduct annual maintenance dredging in the inlet channel and Wills Hole channel entrance. Use of the Government Dredges proves to be a good return on investment since minimal funding can be used efficiently to maintain the channel. Sand dredged is beneficially used by placing it back in the nearshore system in support of the New York District's federal coastal storm risk management project to the north of the inlet. In FY21, environmental coordination was completed with the resource agencies and placement areas to the south of the inlet were approved in addition to the existing placement site to the north of the inlet. Placement to the south of Manasquan Inlet supports the Philadelphia District federal coastal storm risk management project from Manasquan to Barnegat Inlet.

A new location to dock the Currituck or Murden is required to ensure efficient dredging operations and safe crew changes. The Currituck presently uses facilities at Shark River Inlet. Coordination of required facilities and potential local options is ongoing with the Wilmington District.

The project supports the commercial fishing industry with an annual direct fish value of over $35M/year (NOAA, 2020). During the summer months, over 500 commercial and recreational vessels pass through the channel per day. The channel supports the life safety, search and rescue mission of the US Coast Guard.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	666	Dredge Inlet and perform channel surveys
FY 19 Allocation	657	Additional funding provided through Work Plan to dredge inlet and perform surveys.
FY 20 Allocation	428	Dredge Inlet and perform channel surveys
FY 21 Allocation	2	Impacted by Low Use Navigation Budget Cuts.
FY 22 Allocation	372	Dredge Inlet and perform channel surveys
FY 23 Budget	435	Dredge Inlet and perform channel surveys

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Maurice River, New Jersey

Authority: The River and Harbor Act of 1910 (P.L. 61-264) and modified by the River and Harbor Act of 1935 (P.L. 74-409)

Congressional District: NJ-2

Maurice River upstream view

The existing project adopted as HD 59-644 in 1910 and modified as HD 73-275 in 1935. This provides for a channel 7 feet deep and 150 feet wide in Delaware Bay across Maurice Cove to the mouth; thence a channel 7 feet deep, 100 feet wide to the fixed bridge at Millville, 21.5 miles above the mouth, and then 60 feet wide to the mill dam, a further distance of one-half mile, including a turning basin 7 feet deep at Millville. The total length of the section included in the project is about 24 miles. The extreme tide range is from about 1 foot below mean low water to about 1 foot above mean high water. The Maurice River supports local fishing, the oyster industry and ship repair industries. The shipyards perform repairs on Federally owned assets including USACE and US Coast Guard vessels, which serve the greater Philadelphia Port Complex.

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Maurice River, New Jersey

- **Project Goals:** The purpose of this project provides for maintenance dredging to authorized 7 ft MLLW.

Project condition surveys were conducted in 2021 to inform project stakeholders of shoaled areas and report channel conditions. These shoaled conditions in the federal channel are causing significant vessel delays and impacts to industries that rely on this channel.

The last time this channel was dredged, material was barged to and placed in the USACE Cape May Confined Disposal Facility on the Cape May Canal. Beneficial use placement using dredged material is being designed to reduce the cost and increase the efficiency of the maintenance dredging project, while also building coastal resilience for a highly eroded region of the Delaware Bay shoreline. USACE is collaborating with the State of NJ and other partners on these efforts along with other beneficial use placement projects within the State. Lessons learned at other projects are being applied along with Regional Sediment Management and Engineering with Nature principles to develop a more efficient concept for placement of the fine-grained Maurice River channel sediments. These efforts will benefit both the navigation channel users and environmental stakeholders with objectives to restore marsh and provide coastal resilience measures along the Heislerville Dike located within the Heislerville State Wildlife Management Area.

A project delivery team has been developed including staff from the Philadelphia District, USACE's Engineering Research and Development Center, the NJ Department of Environmental Protection and the University of Penn's Weitzman School of Design. A contract award for maintenance dredging is planned for September 2022. Pre-project monitoring data is being collected including topo and bathymetric surveys, remote sensing and additional sediment sampling. Environmental coordination for maintenance dredging with beneficial use placement in the vicinity of the Heislerville Dike is ongoing.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 19 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 20 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 21 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 22 Allocation	3,970	Funds are to Dredge and perform channel surveys.
FY 23 Budget	0	Impacted by Low Use Navigation Budget Cuts

New Jersey Intracoastal Waterway, NJ

Authority: P.L. 79-14, 79-535 and 99-662

Congressional District: NJ-2, NJ-3 & NJ-4

Project location of the Cape May Canal disposal areas as part of the NJIWW project

Authorization: River and Harbor Act of 1945 (P.L. 79-14) and modified by the River and Harbor Act of 1946 (P.L. 79-525) and the Water Resources Development Act of 1986 (P.L. 99-662).

This sea-level inland waterway, extends along the New Jersey Coast from the Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, NJ to the Delaware Bay about 3 miles north of Cape May Point. The waterway extends through the inlet and up Manasquan River about 2 miles and thence through Point Pleasant Canal about 2 miles to the head of Barnegat Bay. It then passes through a series of bays, lagoons and thoroughfares along the New Jersey coast to Cape May Harbor and thence across Cape May County to Delaware Bay (Cape May Canal). This project is maintained to a depth of 6 feet Mean Low Water (MLW), except in the southern portion in the vicinity of the Cape May Canal where it is maintained to a depth of up to 12 feet MLW. Project length is 117 miles.

This project provides a safe, reliable, and operational navigation channel for the East Coast's largest and 5th most valuable commercial fishing fleet in the U.S. (Cape May/Wildwood) and nine U.S. Coast Guard Stations including Cape May training base. The USCG requires a reliable channel to fulfill their Homeland Security requirements, and conduct search & rescue operations. The Delaware River and Bay Authority operates a ferry service between Cape May, NJ and Lewes, DE and the ferries dock in the Cape May Canal. Almost 1.5 million passengers and $17.2 million in revenues are dependent on maintenance dredging to keep the four vessels operating. Discontinuance of this ferry service would result in vehicle detours of 183 miles. The South Jersey economy is heavily dependent on recreational and commercial fishing and tourism, and these industries rely on the maintained channels of the NJIWW.

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New Jersey Intracoastal Waterway, NJ

- **Project Goals:** The purpose of this project provides for a sea-level island waterway, extending along the New Jersey Coast from the Atlantic Ocean at Manasquan Inlet to the Delaware Bay. It extends through the inlet and up the Manasquan River, then passes through a series of bays, lagoons and thoroughfares along the New Jersey coast.

Habitat Creation at Great Flats, near Stone Harbor NJ conducted as part of the NJIWW dredging and beneficial use placement project in December 2018 and again in February 2021. Barnegat Bay Dredging from Harvey Cedars, NJ was contractor for this and several innovative placement projects done through collaboration with the State of NJ.

FY 21 funds were utilized to conduct surveys, real estate actions, manage the project and award a contract to conduct placement area maintenance and dredging operations including the Cape May Lewes Ferry channel and other shoals near Avalon and Sea Isle City, areas identified by the US Coast Guard as a high priority for needed maintenance dredging. Additional critical shoals remain in several locations along the waterway with placement areas proving to be challenging but progress is being made on beneficial use alternatives through important partnerships with the State of NJ. Using FY22 IIJA funds, a contract will be awarded in September 2022 to conduct additional maintenance dredging to clear critical shoals along the entire NJIWW. A rental dredging contract structure has been used historically to cost-effectively manage this dynamic waterway but USACE Contracting/Counsel is now requiring approval at higher levels. This contract structure was unsuccessfully pursued in FY21 but will be sought again in FY22 to accomplish the IIJA-funded work.

In recent years and especially post Superstorm Sandy, dredging and placement activities have developed beneficial use alternatives using Regional Sediment Management and Engineering with Nature principles to help restore and bolster coastal system resilience. NJIWW sediments have been used to support shorelines and marshes near areas such as Mordecai Island and Seven Mile Island. USACE continues to partner to dredge critical shoals while building habitat and restoring marsh including Ring Island, Great Flats, Sturgeon and Gull Islands. Collaborative efforts have been precedent setting and continue to develop innovative solutions for future marsh enhancements in NJ and nationally. These efforts led to the creation of the Seven Mile Island Innovation Laboratory, an ongoing partnership with USACE, the State of NJ and The Wetlands Institute.

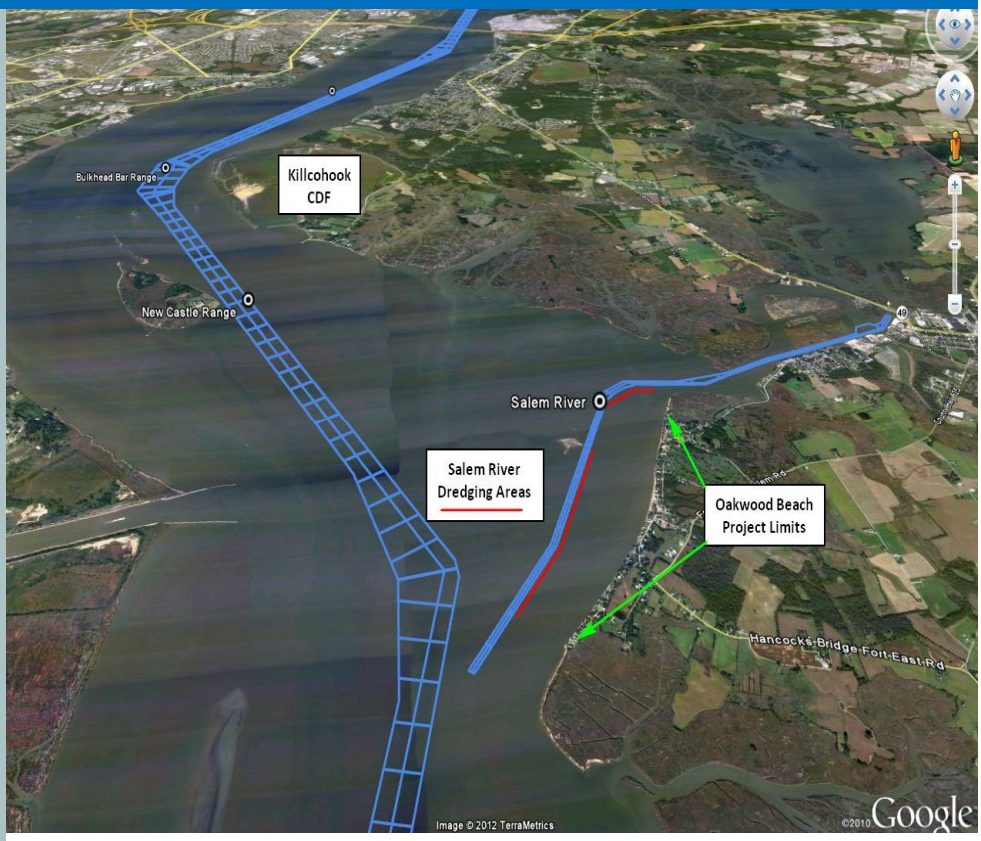
Summarized Federal Financial Data ($000)		
FY 18 Allocation	2,316	
FY 19 Allocation	2,630	
FY 20 Allocation	886	
FY 21 Allocation	1,245	
FY 22 Allocation	15,326	$14,350,000 is IIJA funds for maintenance dredging, shoreline stabilization and gabion repair.
FY 23 Budget	1,211	$151,000 is IIJA funds for dredging ferry entrance with Murden.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Salem River, Salem County, NJ

Authority: HD 68-110

Congressional District: NJ-2



Salem River Project Area

The existing project was adopted in 1925 (HD 68-110). The project provides for an entrance channel 16' deep and 150' wide in the Delaware River across Salem Cove to the mouth thence 16' deep and 100' wide to the fixed highway bridge in Salem. It also provides for a cutoff between the mouth and Salem. The project length is approximately 5 miles.

The Port of Salem is located in the vicinity of the Salem River Cut-Off on the Salem River in Salem, New Jersey. The Port is located approximately 2 miles east of the Delaware River, and 54 miles from the Atlantic Ocean. The Port became a foreign trade zone in 1987. Commodities include bulk cargo (construction aggregate), break bulk cargo, containers (clothing, agricultural produce). Port activity also has at times involved literage. Additionally, the Port noted in a 2020 economic update that it plans to support developing offshore wind farm activities in New Jersey.

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Salem River, Salem County, NJ

- **Project Goals:** The purpose of this project provides for an entrance channel in the Delaware River across Salem Cove to the fixed highway bridge in Salem.

Port of Salem

FY21 funds were used to collect channel condition surveys, sediment sampling and analysis, environmental permitting and a pilot project for maintenance dredging in the sandy "bend" portion of the Salem River channel using the Government Dredge Murden with placement in the nearshore of the Oakwood Beach federal shore protection project. O&M funds and post-storm supplemental funds were used in February 2022 to remove 14,185 cubic yards from the channel with successful placement to support Oakwood Beach.

Dredged material from the Salem River channel has historically been placed in an upland disposal facility, but cost-effective beneficial use alternatives are being developed to restore marsh and support shorelines using a Regional Sediment Management approach. These potential placement sites include Oakwood Beach, USFWS's Supawna Meadows at Goose Pond and Tilbury Island.

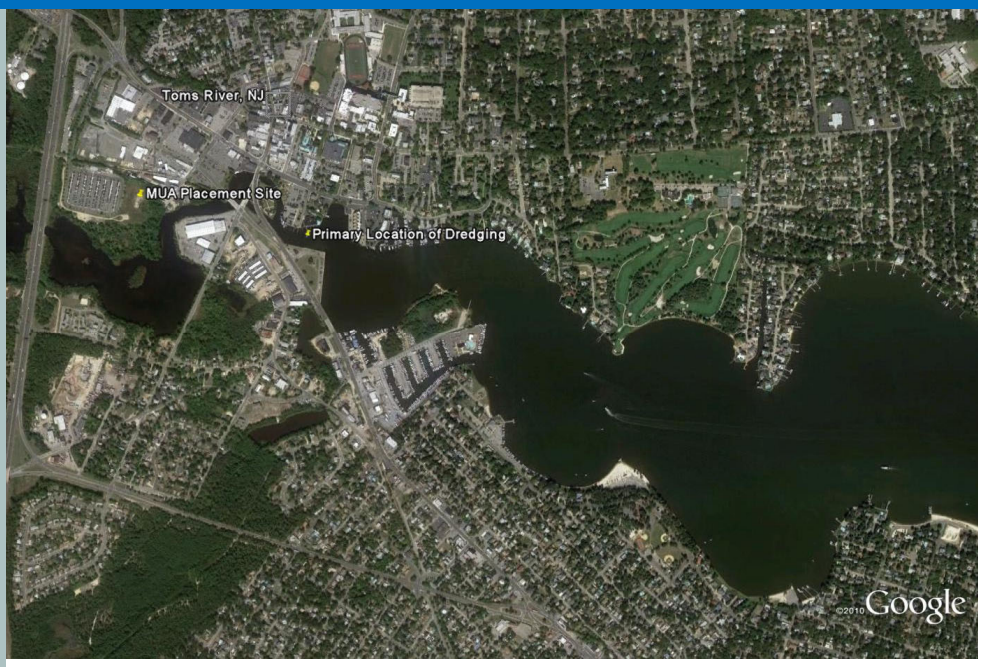
Current channel surveys indicate shoaling that limits navigation at high tide in the lower portion of the Salem River navigation channel. A contract award for maintenance dredging with placement on USFWS property is planned for September 2022 using FY22 Infrastructure funding.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	100	Impacted by Low Use Navigation budget cuts.
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts.
FY 20 Allocation	437	Received $338 of Work Plan funds.
FY 21 Allocation	99	Impacted by Low Use Navigation budget cuts.
FY 22 Allocation	7,249	$7,150,000 is IIJA funds.
FY 23 Budget	6,957	$6,858,000 is IIJA funds.

Toms River, Ocean County, NJ

Authority: This project was adopted in 1910 and modified in 1945

Congressional District: NJ-3 & NJ-4



Aerial view of project area—Toms River, NJ

This project provides for a channel 12 feet deep and 100 feet wide, from the New Jersey Intracoastal Waterway channel at Barnegat Bay to the highway bridge over South Fork at Toms River, including a turning basin. The project also provides for channel 5 feet deep for the full width of the North Fork to the highway bridge. The channel is approximately 4.5 miles long.

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Toms River, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a navigation channel from the New Jersey Intracoastal Waterway channel at Barnegat Bay to the highway bridge over South Fork.

Emergency Supplemental Funding in the amount of $650,000 was received to dredge the channel following shoaling that occurred from Hurricane Irene. That work was underway in Fall 2012 by the Government Plant Snell when dredge operations were impacted by Hurricane Sandy in late October 2012. The portion of the channel dredged is near the River Lady and has an authorized depth of 5 feet MLW.

PL 113-2 Supplemental Funds in the amount of $250,000 were received and used to remove additional shoaling that occurred as a result of Hurricane Sandy. This work was completed in 2014 to the extent possible. The uncertainty of the location/depth of buried utility cables impacted the dredging depths for this work and in future operations. Material dredged from the channel in 2012 and 2014 was sand and was placed in a confined disposal area on property owned by the Toms River Municipal Authority.

Project condition surveys of the channel were conducted in February 2020 and will be conducted again in FY22.

A safe navigation channel is critical to the operations of several commercial businesses in Toms River including the River Lady Riverboat Tours. A lack of funding in the regular budget prevents dredging and impacts commercial businesses that utilize the channel.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 19 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 20 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 21 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 22 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 23 Budget	0	Impacted by Low Use Navigation Budget Cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Beltzville Lake, Lehighton, PA

Authority: HD 87-522

Congressional District: PA-9

Aerial view of the earth and rock filled dam—Beltzville Lake, PA

The project was adopted as HD 87 522 in 1962. The dam is located on Pohopoco Creek 4 1/2 miles from its confluence with the Lehigh River and 4 miles east of Lehighton, Pennsylvania. The project was completed in 1971. Annual funding is used for routine operations and maintenance of the dam and related structures, including project buildings, grounds and equipment; also water control data collection, evaluation data gathering and analysis, water quality analysis, real estate and dam safety efforts.

The Beltzville Lake Project is an integral part of the Lehigh River Flood Control Program. This project, in addition to aiding in flood control along the Pohopoco Creek and the Lehigh River, operates for water supply,
water quality control, low flood augmentation in the Lehigh River and Lower Delaware River and salinity repulsion in the Delaware River Estuary.

Authorized purposes of this project are flood control, water supply, and low flow augmentation. Secondary purposes include recreation and water quality control. The project has prevented cumulative damages of over $63M between 1972 and 2021.

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Beltzville Lake, Lehighton, PA

- **Project Goals:** The purpose of this project provides for multiple purpose development for water supply, flood control and recreation. It consists of a dam, spillway around the north end of the dam, and a gate controlled outlet.

FY21 funds were used for routine operation and maintenance of the dam, real estate , water control, water quality, boundary monumentation, actuator replacement for the water quality system, herbicide contract, and test fitting of the emergency bulkhead. Design work for the right service gate rehabilitation, swapping of the water quality gate, remaining underwater dive repairs on the operating tower, and repair to portal #6 were also completed.

In addition to routine operation and maintenance of the dam including various dam safety inspections, real estate, water control and water quality operations, FY22 funds will be used to complete the right service gate rehabilitation, swapping of the water quality gate, remaining underwater dive repairs on the operating tower, repair to portal #6, boundary survey, and design work for a right emergency gate replacement. IIJA funds were awarded to complete a concrete apron repair in the emergency spillway and supplemental money to ensure the dive repairs in the operating tower will be fully completed.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	1,292	
FY 19 Allocation	1,943	
FY 20 Allocation	2,337	
FY 21 Allocation	1,271	
FY 22 Allocation	3,268	$1,400,000 is IIJA funds.
FY 23 Budget	4,394	$2,650,000 is IIJA funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Blue Marsh Lake, Leesport, PA

Authority: HD 87-522

Congressional District: PA-9

Aerial view showing Blue Marsh Lake

The Blue Marsh Lake project was adopted as HD 87 522 in the Flood Control Act of 1962. It consists of an earth and rock fill dam; a spillway south of the dam and gate controlled outlet works discharging through a conduit on rock along the right abutment. The dam site is located on Tulpehocken Creek about 1.5 miles upstream from its confluence with Plum Creek and about six miles northwest of Reading, PA. Project construction was completed in 1979.

This project is an integral part of the Schuylkill River Flood Control Program. In addition to aiding in flood control along the Tulpehocken Creek and the Schuylkill River, the project will operate for water supply, water quality control and low flow augmentation in the Schuylkill River and salinity repulsion in the Delaware River Estuary. Authorized purposes are flood control, water supply and low flow augmentation. Secondary purposes are recreation and water quality control. This project has prevented cumulative damages of over $109M between 1978 and 2021.

The recreation program attracts almost 900,000 visitors a year, with an economic benefit to the local community of $9.44 million in visitor spending. The stewardship program at the project provides an environmental benefit by protecting 6,162 acres of land and 1,150 acres of water.

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Blue Marsh Lake, Leesport, PA

- **Project Goals:** The purpose of this project provides for multiple purpose development for water supply, flood control, and recreation. It consists of an earth and rock fill dam; a spillway south of the dam and gate controlled outlet works discharging through a conduit on rock along the right abutment.

Annual funding is used for routine operations and maintenance (O&M) of the dam and related structures, including project buildings, grounds and equipment, management of public-use areas such as access roads, parking lots, picnic areas and an overlook area; evaluation data gathering and analysis and dam safety efforts, real estate actions, environmental stewardship, and accomplishing the project's large recreation program.

In addition to routine O&M of the dam, recreational and environmental stewardship efforts in FY21, funds were used to rehabilitate the right service gate, conduct road repairs to the day use area in conjunction with funding from the Federal Lands Trust program, rehabilitate pump #6 at the Bernville Pump Station, actuator replacement in the low flow gate, shoreline restoration projects, and design work for a sewage line replacement.

In addition to routine O&M of the dam, recreational and environmental stewardship efforts in FY22, funds will be used for plans and specs and an awarded contract for an emergency generator replacement at Bernville Pump Station, sewage line replacement contract, and shoreline restoration work. FY22 IIJA funds will be utilized for an emergency generator replacement in the operating tower, and rehabilitation of the five remaining pumps at the Bernville Pump Station.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	3,060	
FY 19 Allocation	3,646	
FY 20 Allocation	3,267	
FY 21 Allocation	3,586	
FY 22 Allocation	6,337	$1,650,000 is IIJA funds.
FY 23 Budget	10,357	$6,000,000 is IIJA funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Francis E. Walter Dam, White Haven, PA

Authority: HD 79-587, 87-522

Congressional District: PA-8 & PA-9

Aerial view showing Francis E. Walter Dam

Francis E. Walter Dam, completed under the 1946 Flood Control Act, was initially a single purpose flood control project but was later congressionally authorized for recreation in 1988 under Public Law 100-676, Section 6. Whitewater and fishing industries utilize dam releases and there is significant interest from the public, stakeholders and elected officials in these recreational programs. Project lake operations continue to have a positive impact on the regional economy while producing environmental benefits. The dam is located on the Lehigh River, five miles above White Haven, PA. This project has prevented over $295M in cumulative damages between 1961 and 2021.

In FY 15, the District's Planning Division completed a Federal Interest Determination concluding the need to conduct formal investigations to examine the feasibility of changing the congressionally authorized operation and/or making modifications to the existing dam or operations at the Walter Reservoir to better meet present and future flood control objectives, in-lake and downstream recreational use, water quality, water supply, and environmental sustainability demands. Initial funding was provided in FY19 to commence a study and develop a cost-share agreement with non-federal sponsors of New York City and the Delaware River Basin Commission. In FY20, alternatives were developed. Many concerns were raised by project customers and stakeholders at a 2020 public meeting, a 2021 PA legislative hearing, and public comment submissions. The study is currently on hold as USACE works with study sponsors to develop a path forward.

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Francis E. Walter Dam, White Haven, PA

In addition to routine operation and maintenance of the dam facilities and grounds, water control and water quality operations, routine dam safety efforts and data collection, environmental stewardship activities, and real estate coordination, FY21 funds were used to conduct a herbicide spraying contract, complete construction of road repairs for the project including improvements to the road over the top of the dam, and a complete rehabilitation of the right service gate.

FY22 funds will be used for the routine O&M activities mentioned above, but also include a formal Periodic Assessment that includes a periodic inspection, conduit inspection, bridge inspection, HSS inspection, underwater dive inspection, and a positional survey. FY22 IIJA funds were awarded as part of storm supplemental funds for damages resulting from Hurricane Ida. A debris removal contract for the dam embankment and tree trimming operations will be executed as part of this effort.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	2,004	
FY 19 Allocation	2,693	
FY 20 Allocation	1,903	$375 Work Plan funds for additional road repairs.
FY 21 Allocation	901	
FY 22 Allocation	1,313	$100,000 is IIJA funds.
FY 23 Budget	4,373	$2,100,000 is IIJA funds.

General Edgar Jadwin Dam, Honesdale, PA

Authority: River and Harbor Act of 1948 (P.L. 80-858)

Congressional District: PA-8

Aerial view showing General Jadwin Dam and Dyberry Creek

The existing project, adopted in 1948, consists of a single purpose flood control reservoir formed by a dam on Dyberry Creek, located approximately three miles above the confluence of Dyberry Creek with Lackawaxen River, in Honesdale, Pa. This project has prevented over $39M in cumulative damages between 1960 and 2021.

In FY21, the Corps performed routine operation and maintenance activities for the project and grounds, dam safety actions and oversight, water control and other data collection and analyses, herbicide contract, and real estate actions as required. In addition to this work in FY22, a tabletop exercise, dive inspection, and a positional survey will be performed. FY22 IIJA funds were awarded as part of storm supplemental funds for damages resulting from Hurricane Ida and a new debris curtain will be purchased and installed in front of the intakes.

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General Edgar Jadwin Dam, Honesdale, PA

- **Project Goals:** The purpose of this project provides for routine operation & maintenance of the dam and related structures, water control data collection & analysis, real estate, continuing evaluation data gathering & analysis, and dam safety efforts.

A Screening for Dam Safety Portfolio Risk Assessment was conducted in 2009 resulting in a Dam Safety Action Classification (DSAC) rating of II for this project. As a result of the DSAC II rating, a required Interim Risk Reduction Measures Plan was finalized and approved in FY12 and an Issue Evaluation Study in the form of a Semi-Quantitative Risk Assessment was done in 2015. The draft Jadwin Dam Safety Modification Study (DSMS) was completed in FY18 and recommend a risk management plan to address the problems identified. The DSMS was completed and approved in May 2019. The DSMS recommended a Tentatively Selected Plan that consists of the installation of 400-feet wide geosynthetic liner on the upstream face of dam to limit seepage through the dam. The Preconstruction Engineering and Design Phase for this work was complete in FY21. A construction contract was awarded to Mohawk Valley Contractors in March of 2022. Work is set to begin in June of 2022 with a POP of 410 days.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	392	
FY 19 Allocation	244	
FY 20 Allocation	332	
FY 21 Allocation	377	
FY 22 Allocation	490	$35,000 is IIJA funds.
FY 23 Budget	392	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Prompton Lake, Prompton, PA

Authority: HD 80-113, 87-522

Congressional District: PA-8

Aerial view showing Prompton Lake Dam

The existing project was adopted as HD 80-113 in 1948, and modified by HD 87- 522 in 1962. This multi-purpose project (flood control and recreation) is located on the Lackawaxen River four miles above Honesdale, Pa., and 30 miles above its confluence with the Delaware River. Original project construction was completed in 1960.

This project serves to protect various surrounding communities from flooding. It is part of an integrated reservoir flood control system in conjunction with General Edgar Jadwin Reservoir, it provides flood control protection in varying degrees to the Boroughs of Prompton, Honesdale and Hawley and to smaller communities along the Lackawaxen River. Flood control is the only authorized purpose for this project. A secondary purpose is recreation, as the project resources currently provide opportunities for fishing, boating, and limited picnicking. The project has prevented cumulative damages of over $31M between 1961 and 2022.

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Prompton Lake, Prompton, PA

- **Project Goals:** The purpose of this project provides for multiple-purpose development for flood control, water supply and recreation, located on the Lackawaxen River.

Annual funds are used for routine operations and maintenance (O&M) of the dam and related structures that include the buildings, grounds & equipment, and management of public-use areas such as access roads, parking lots. Other specific work includes water control, water quality monitoring, real estate, environmental stewardship, continuing evaluation gathering, and dam safety efforts.

In addition to routine O&M efforts, FY21 funds were used to complete a herbicide contract. FY22 funds will be used to complete a concrete monolith repair in the emergency spillway, a periodic inspection, positional survey, bridge inspection, underwater dive inspection and a tabletop exercise. Initial design work for the boat launch will be completed in FY22 and a paving contract will be awarded in FY23 using IIJA funds.

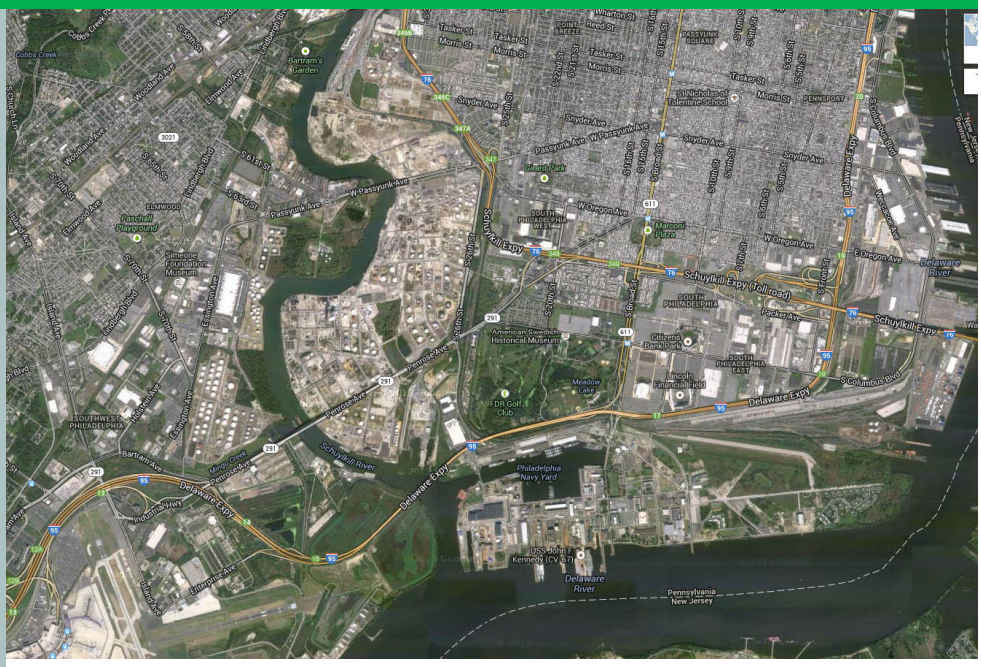
Summarized Federal Financial Data ($000)		
FY 18 Allocation	976	
FY 19 Allocation	600	
FY 20 Allocation	550	
FY 21 Allocation	553	
FY 22 Allocation	1,039	
FY 23 Budget	2,259	$1,675,000 is IIJA funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Schuylkill River, Philadelphia, PA

Authority: HD 1270, 699. R&H Comm. Doc. 40

Congressional District: PA-3 & PA-5



Aerial view showing the Lower Schuylkill River in vicinity of Delaware River

The project was authorized 8 August 1917 (HD 1270, 64th Congress, 1st Session) and modified 3 July 1930 (R&H Committee Document 40, 71st Congress, 2nd Session) and 24 July 1946 (HD 699, 79th Congress, 2nd Session). WRDA 1996 included the Fairmount Pool to the project.

The project provides for a channel 6.5 miles long with depths of 22', 26', and 33' and widths of 200', 300', and 400'. Funds enable maintenance dredging within the 33-foot segment of the channel. Material is pumped directly to an upland disposal are by a cutter-head pipeline dredge.

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Schuylkill River, Philadelphia, PA

- **Project Goals:** The purpose of this project provides for a channel 6.5 miles long in the Schuylkill River.

Refineries and chemical plants along Lower Schuylkill River between Routes 291 & 95

The Lower Schuylkill River provides navigation access to multiple refineries and chemical plants. The commodities include oil, gasoline and other chemical products.

FY 22 Infrastructure funds has added $5 Million to the project for dredging and debris removal in the Fairmount Pool, above Fairmount Dam.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	2,740	Funding received through Work Plan ($2,590) and reprogramming ($150).
FY 19 Allocation	99	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	4,042	Perform dredging in the Middle Segment.
FY 21 Allocation	99	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	5,099	$5,000,000 is IIJA funds.
FY 23 Budget	8,099	$8,000,000 is IIJA funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware River, Philadelphia to the Sea, DE, NJ & PA

Authority: HD 733, 304, 580, 340, 358, 185. R&H Comm. Doc. 5. SD 159.

Congressional District: DE-AL, NJ-1, NJ-2, PA-2, PA-3 & PA-5

Packer Ave Marine Terminal with Center City Philadelphia in background

The existing project was authorized in 1910 (HD 733, 61st Cong., 2nd Session) and modified in 1930 (HD 304, 71st Cong., 3rd Session); 1935 (R&H Comm. Doc 5, 73rd Cong., 1st Session); 1938 (SD 159, 75th Cong., 3rd Session); 1945 (HD 580, 76th Cong., 3rd Session and HD 340, 77th Cong., 1st Session); 1954 (HD 358, 83rd Cong., 2nd Session) and 1958 (HD 185, 85th Cong., 1st Session).

Project channel dimensions are 45’ and 40' deep, and 400' to 1000' wide. The Hopper Dredge McFarland will dredge 70 days in the river to address any spot, edge, or sand wave shoaling within the Federal channel. Additionally, annual contract maintenance dredging removes approximately 2.5M CY of material in high shoal areas. There will also be maintenance work done in the upland disposal areas to assure there is sufficient capacity to accept the dredged material from these events.

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Delaware River, Philadelphia to the Sea, DE, NJ & PA

- **Project Goals:** The purpose of this project provides for a 102 mile channel from Allegheny Avenue in Philadelphia, to deep water in Delaware Bay, six anchorages, construction of dikes and training works for the regulation and control of tidal flow.

Container Vessels being unloaded at Port of Philadelphia

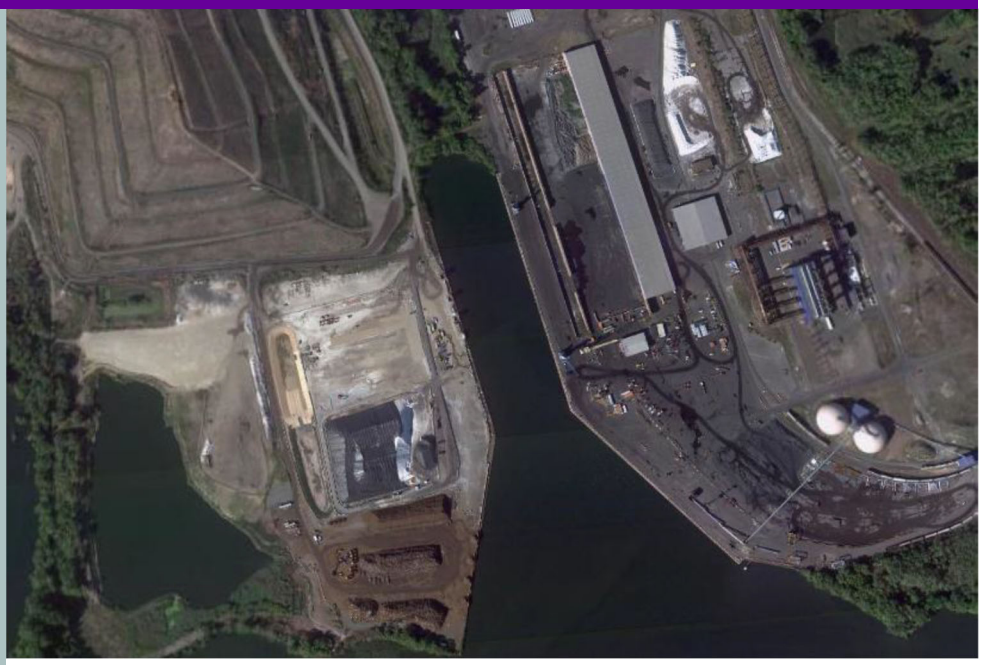
The Port of Philadelphia is located in the heart of the Northeast Corridor, with superior connections to New York City, Washington DC, the U.S. Midwest, and Canada. It is estimated that 100 million people live within a day's drive of Philadelphia. All of the terminal facilities have access to major trucking routes (e.g. I-95), and rail lines. The Port handles many different types of cargo (containers, bulk, break-bulk, fruit). It is ranked 2nd after New York based on total tonnage. It is considered to be the #1 port for perishable cargo in the U.S.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	33,147	Additional Work Plan funding ($6,050) was provided.
FY 19 Allocation	31,857	Additional Work Plan funding ($4,350) was provided.
FY 20 Allocation	40,760	Additional Work Plan funding ($8,725) was provided.
FY 21 Allocation	75,536	Additional Work Plan funding ($53,216) was provided.
FY 22 Allocation	66,405	$25,000,000 is IIJA funds.
FY 23 Budget	46,749	$500,000 is IIJA funds.

Delaware River, Philadelphia to Trenton, NJ & PA

Authority: HD 679, 358. R&H Comm. Doc. 3, 11, 66, 90

Congressional District: NJ-3, NJ-4, PA-1, PA-2



Port of Bucks County—Fairless Turning Basin

Adopted in 1930 (R&H Com Doc 3, 71st Cong., 1st Session) and modified in 1935 (R&H Com Doc 11, 73rd Cong., 1st Session and R&H Com Doc 66, 74th Cong., 1st Session), 1937 (R&H Com Doc 90, 74th Cong., 2nd Session), 1946 (HD 679, 79th Cong., 2nd Session), and 1954 (HD 358, 83rd Cong., 2nd Session).

The project provides for a channel 40-feet deep and 400-feet wide from Allegheny Avenue in Philadelphia, PA to the upper end of Newbold Island, thence to various depths from 25 feet to 12 feet upstream to the Penn Central Railroad Bridge at Trenton, NJ.

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Delaware River, Philadelphia to Trenton, NJ & PA

- **Project Goals:** The primary purpose of this project is to provide a 40-foot channel from Allegheny Avenue in Philadelphia, PA to the upper end of Newbold Island, New Jersey as well as the Fairless Turing Basin.

FY 2021 O&M funding accomplished periodic channel examinations, environmental support services, earthwork services at the Fort Mifflin and Money Island Disposal Areas and contract maintenance dredging of the lower reach of the 40-foot channel that included the Fairless Turning Basin in Falls Township, PA.

FY 2022 O&M funds will be utilized to accomplish periodic channel examinations, environmental support services and a contract for maintenance dredging in the upper reach of the 40-foot channel, which was advertised in March of 2022. Approximately 500,000 cubic yards of material will be dredged from the upper reach of the project and Fairless Turning Basin and be placed at the Biles Island Disposal Area in Falls Township, PA.

The past failure of the State of New Jersey to properly maintain the disposal areas previously utilized by the Army Corps along the lower reach of the 40-foot channel has been a longstanding operational issue. Recent developments however, have NJDOT and NJDEP working to re-establish capacity at the Palmyra Cove, Cinnaminson and Burlington Island CDFs. The Palmyra Cove CDF should be ready to accept the dredged material from the lower reach of the project in the Fall of 2022. This material would result from the Dredge McFarland training days allotted to the Philly to Trenton Project.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	4,781	
FY 19 Allocation	3,812	
FY 20 Allocation	9,964	$5,875 in Work Plan funds was provided.
FY 21 Allocation	7,954	$3,350 in Work Plan funds was provided.
FY 22 Allocation	13,573	
FY 23 Budget	17,725	

Lower Delaware River
Dredged Material Management Plan Study

Authority: HD 733, 304, 580, 340, 358, 185. R&H Comm. Doc 5. SD 159

Congressional District: DE-AL, NJ-1, NJ-2, PA-2, PA-3 & PA-5

Target Completion Date: 2025

Total Estimated Cost: TBD

Federal Funds Appropriated: $150,000

As authorized in ER 1105-2-100, the Dredged Material Management Plan (DMMP) study for the Lower Delaware River to support successful maintenance of reaches of the Delaware River, Philadelphia to the Sea project and associated navigation projects that share dredge material placement sites in such a manner that sufficient disposal capacity is available for a minimum of 20 years. The DMMP will ensure that the NAP soundly manages material dredged from the channel in a manner that minimizes risk and detrimental impacts to the environment while staying within the authority of the project.

The study launched Phase I in January 2022. This phase focuses on documenting the degree of engineering, environmental, and economic risks and unknowns associated with the project and identify what tasks and resources are necessary to manage them.

While operating within existing management operations and constraints, this phase will also define opportunities to anticipate and request needs that that fully represent Operation needs to enable dredged material volume/capacity. These opportunities include the potential for regional sediment management, beneficial use, and other potential uses of sediment. The phase is also refining future scenarios and confirming decision criteria and metrics for developing and evaluating alternatives. Through the execution of these tasks, Phase I will delineate the tasks, resources, and schedule required to implement Phase II of the study.

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Lower Delaware River Dredged Material Management Plan Study

- **Project Goals:** The purpose of this project is to ensure that NAP soundly manages material maintained from its channel and associated tributaries and projects in such a manner that minimizes risks and impacts to the environment while maintaining disposal capacity for at least 20 years, while staying within the authority of the project.

Upon delineating these tasks, Phase II will evaluate the base plan and array of alternative plans to address disposal problems and opportunities and provide a trade-off analysis that will inform a final DMMP and approach that upon review can be implemented by the navigation project O&M managers.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Phase I	150	0	150		Allocations thru FY22	150	
Phase II	TBD	0	TBD		Balance to Complete	0	

Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C & D Canal)

Authority: HD 201. R7H Comm. Doc. 11, 18, 24. PL 310. SD 123

Congressional District: DE-AL, MD-1

Senator Roth Bridge (SR-1) carries ~34 million vehicles over the C&D canal per year

The project was authorized in 1935 (HD 201, 72nd cong., 1st Session) and modified in 1935 (R&H Com Doc 11, R&H Docs 18 and 24, 73rd Cong., 2nd Session), in 1939 (PL 310, 76th Cong., 1st Session and in 1954 (SD 123, 83rd Cong., 2nd Session).

This project includes the canal waterway, five high-level fixed highway bridges, a vertical lift railroad bridge, entrance jetties at Reedy Point, and maintenance of Delaware City Branch channel and basin. The waterway channel is 35 feet deep and 450 feet wide, extending from Reedy Point on the Delaware River, about 46 miles below Philadelphia, PA, through a land-cut westward to Elk River and onto deep water near Pooles Island in the upper Chesapeake Bay. The average annual traffic over the Chesapeake and Delaware Canal bridges equates to roughly 55 million vehicles per year (2018).

The Chesapeake and Delaware (C&D) Canal connects the Delaware River to the Chesapeake Bay. The C&D Canal system provides a continuous sea level channel connecting the Port of Baltimore to the ports of Wilmington (DE), Philadelphia, and the northern trade routes.

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Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C & D Canal)

- **Project Goals:** The purpose of this project provides for a waterway extending from Reedy Point on the Delaware River through a land-cut westward to Elk River, five high-level fixed highway bridges, a vertical lift railroad bridge, extensions of the entrance jetties at Reedy Point, enlargement of the anchorage and mooring basin in Back Creek, and maintenance of Delaware City Branch channel and basin.

Large vessel passing through the C&D Canal

FY21 funds were used for routine operation and maintenance of the project, including five high level highway bridges, dispatching, channel exams, canal banks and dredge material containment facilities. Major bridge maintenance projects included redecking of the Senator Roth Bridge, steel and concrete repairs on the Chesapeake City Bridge and concrete pier repairs on the St. Georges Bridge. Major channel maintenance dredging projects included dredging the Pooles Island, Turkey Point and Town Point Approach Channels to the C&D Canal.

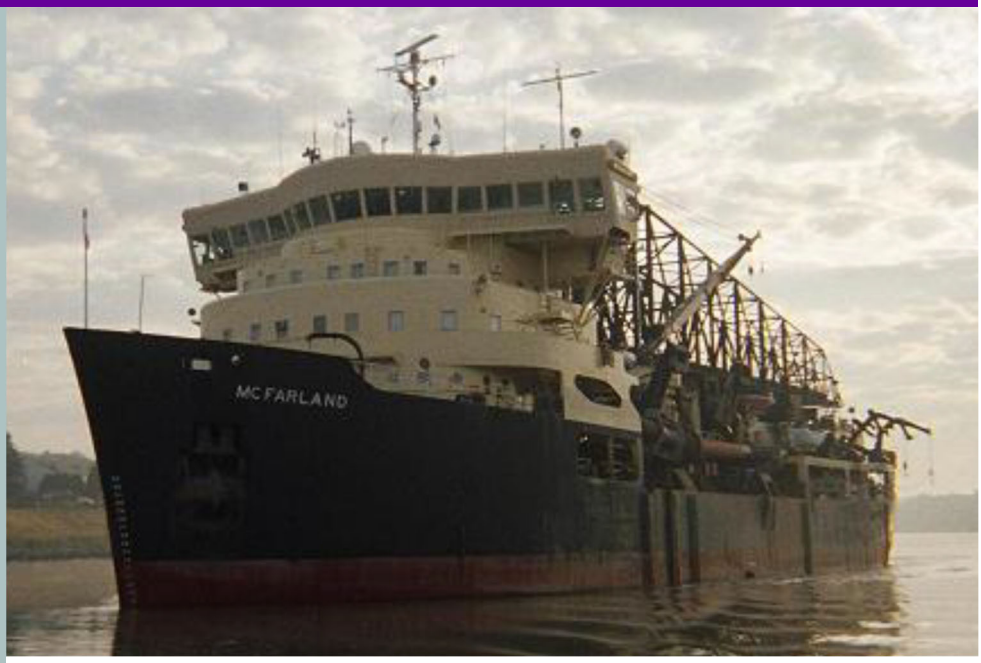
FY22 funds will be used for routine operation and maintenance of the project . Major channel maintenance dredging projects will include the dredging of the southern Approach Channels to the C&D Canal. IIJA funding will be used for demolition and replacement of Canal Operations Building.

Summarized Federal Financial Data ($000)		
FY 18 Allocation	15,955	Additional Work Plan funding ($525) was provided.
FY 19 Allocation	18,011	Additional Work Plan funding ($5,685) was provided.
FY 20 Allocation	22,283	Additional Work Plan funding ($250) was provided.
FY 21 Allocation	38,335	Additional Work Plan funding ($20,000) was provided.
FY 22 Allocation	22,139	$3,200,000 is IIJA funds.
FY 23 Budget	22,327	

U.S. Army Corps of Engineers
Hopper Dredge McFarland

Authority: Section 2047 (a) of the Water Resources and Development Act

Congressional District: DE-AL, NJ-1, NJ-2, NJ-3, PA-1, PA-2, PA-3 & PA-5



Hopper Dredge McFarland

One of four oceangoing hopper dredges owned and operated by the U.S. Army Corps of Engineers as part the Corps' "minimum fleet" for national security and safe navigation, the McFarland is the only dredge in the world with triple capability for direct pump out, bottom discharge and side casting or boom discharge. Designed by the Corps' Marine Design Center, it was built in April 1967. Its name honors the late Arthur McFarland, a Corps of Engineers authority on dredging. The McFarland has a twofold mission: 1) Emergency and national defense dredging — as required and on short notice — anywhere in the world. 2) Planned dredging tests in the Delaware River and Bay.

Dredging is accomplished by a drag arm on each side of the ship with a drag head at each end. As the ship navigates the channel with its dredging pumps engaged, the drag heads are lowered to the channel bottom. Like vacuum cleaners, they pull the dredged material into the ship's hoppers.

The McFarland can then discharge the material any of three ways:

1. As a conventional hopper dredge with bottom discharge into deep water.
2. As a side caster discharging dredged material aside the channel.
3. As a pipeline dredge pumping material into disposal areas or through a direct ship-to-shore pipeline to confined upland areas.

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U.S. Army Corps of Engineers Hopper Dredge McFarland

The Dredge McFarland was fully funded annually through FY 2009 using O&M funding for which the vessel worked. FY 2010 was the first year in Ready Reserve. February 2019, the Dredge was called out for 32 days to Southwest Pass for New Orleans District and completed 70 days in the Delaware River for FY19. McFarland went into the shipyard in April 2019 for repairs and USCG Inspections and completed shipyard repairs in April 2020 and performed the 70 days of readiness exercises for FY20 in the Delaware River. In FY21, the vessel completed her 70 scheduled training days in the Delaware River, and entered the shipyard for overhaul in the final quarter of FY21. The McFarland entered the shipyard for overhaul first quarter of FY22 and upon completion she will continue her 70 scheduled training days in the Delaware River.

The McFarland offers a degree of performance and flexibility unmatched by any other dredge: It can handle a variety of materials including silt, sand, clay, shell and mixtures, thanks to these features:

1. High-powered pumps, large single open-hopper design amidships, and hopper distribution system with retention capability for efficient handling of fine materials
2. It can dredge year-round in any environment, working around the clock while on assignment.
3. Its average removal rate in a typical year (140 days) is 1.5 to 2 million cubic yards — enough dredged material to fill the area of a football field 900 to 1,200 feet high.

The McFarland is operated by a civilian crew of about 44. Many of the members, including all the deck and engine room officers, hold U.S. Coast Guard licenses. Certified as an oceangoing vessel, it undergoes regular annual safety inspections by the U.S. Coast Guard and the American Bureau of Shipping.

Dredging is accomplished by a drag arm on each side of the ship with a drag head a each end. As the ship navigates the channel with its dredging pumps engaged, the drag heads are lowered to the channel bottom. Like vacuum cleaners, they pull the dredged material into the ship's hoppers.

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Major Appropriation Accounts

General Investigations (GI)
Investigations are studies to determine the need, engineering feasibility, economic justification, and the environmental and social suitability of a project. Investigations also include preconstruction, engineering, design work, data collection, and interagency coordination and research activities.

- Coastal and Deep-Draft Navigation
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Inland Navigation
- Navigation ($2 million)
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance and Remote, Coastal, or Small Watershed)
- Remote, Coastal, or Small Watershed
- Shore Protection
- Small, Remote, or Subsistence Navigation

Construction, General (CG)
Construction projects are construction and major rehabilitation projects that relate to navigation, flood control, water supply, hydroelectric power, and environmental restoration. This also includes projects authorized under the Continuing Authorities Program (CAP).

- Environmental Infrastructure
- Environmental Restoration Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Hydropower
- Navigation
- Other Authorized Project Purposes (including but not limited to Environmental Restoration or Compliance, Environmental Infrastructure, and Hydropower)
- Shore Protection

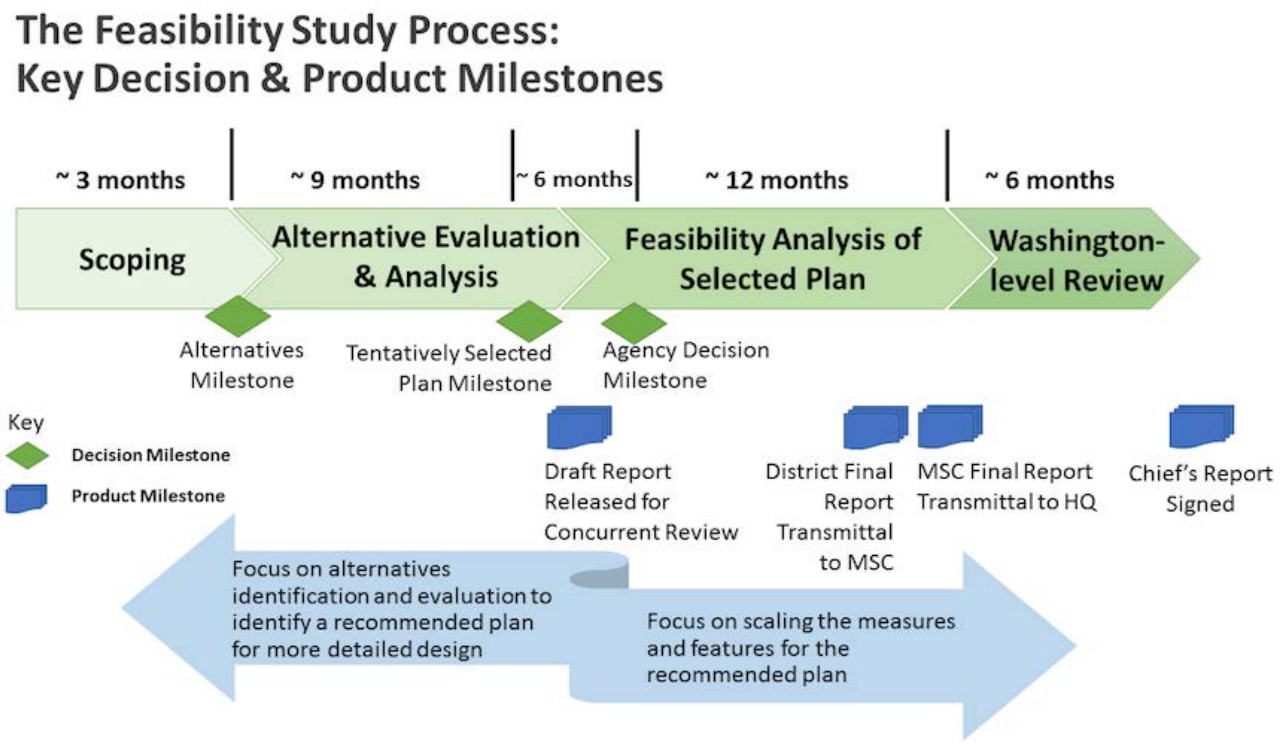
Operations & Maintenance, General (O&M, G)
Operation and maintenance projects include the preservation, operation, maintenance, and care of existing river and harbor, flood control, and related activities at the projects that the Corps operates and maintains.

- Deep-Draft Harbor and Channel Maintenance
- Inland Waterway Maintenance
- Navigation Maintenance
- Other Authorized Project Purposes
- Small, Remote, or Subsistence Navigation Maintenance

Flood Control & Coastal Emergencies (FCCE)

USACE also has authority under PL 84-99, Flood Control and Coastal Emergencies (FCCE) (33 U.S.C. 701n) (69 Stat. 186) for emergency management activities. Under PL 84-99, the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities including disaster preparedness, Advance Measures, emergency operations (Flood Response and Post Flood Response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source.

General Investigations



Continuing Authorities Program

Program Authority	Description	Federal Funding Limits (incl. WRDA 2018 changes)	
		Project	Annual Program
Section 14	Flood Control Act of 1946 (PL 79-526), as amended for emergency streambank & shoreline erosion protection for public facilities & services.	5,000,000	$25,000,000
Section 103	River & Harbor Act of 1962 (PL 87-874), as amended, amends PL 727, an act approved August 13, 1946 which authorized Federal participation in the cost of protecting the shores of publicly owned property from hurricane & storm damage.	10,000,000	37,500,000
Section 107	River & Harbor Act of 1960 (PL 90-483), as amended for navigation.	10,000,000	62,500,000
Section 111	River & Harbor Act of 1968 (PL 90-483), as amended, for mitigation of shoreline erosion damage caused by Federal navigation projects.	12,500,000	N/A
Section 145	Placement of Dredged Material on beaches, Water Resources Development Act of 1976 (PL 94-587), as amended.	N/A	N/A
Section 204	Beneficial Uses of Dredged Material, Water Resources Development Act of 1992 (PL 102-580), as amended.	10,000,000	62,500,000
Section 205	Flood Control Act of 1948 (PL 80-858), as amended, for flood control.	10,000,000	68,750,000
Section 206	Aquatic Ecosystem Restoration, Water Resources Development Act of 1996 (PL 104-303), as amended.	10,000,000	62,500,000
Section 208	Flood Control Act of 1954 (PL 83-780), as amended, originally Section 2, Flood Control Act of August 28, 1937 (PL 75-406) for snagging and clearing for flood control.	500,000	7,500,000
Section 1135	Project Modifications for Improvement of the Environment, Water Resource Development Act of 1986 (PL 99-662), as amended.	10,000,000	50,000,000

Planning Assistance to States Program
General Investigation Appropriation

Planning Assistance to States/Tribes Program (PAS)
Section 22 of the 1974 Water Resources Development Act, as amended

50/50 Cost Share with:

- Limited to $2,000,000 per State per year, based on availability of annual appropriations
- Sponsor's share can be all in-kind services
- Hurricane evacuation studies (HES)
- Flood warning/preparedness studies
- Regulatory floodway studies
- Comprehensive floodplain management studies
- Flood damage reduction studies
- Urbanization impact studies
- Stormwater management studies
- Floodproofing studies
- Inventory of flood prone stuctures

Planning assistance to help States and Indian Tribes deal with their water resource problems. Eligible sponsors can be States, local governments, other non-Federal entities or federally recognized Native American Indian Tribes.

Examples:

- Flood damage reduction'
- Water resource development
- Water conservation and water quality
- Hydropower
- Erosion
- Scopes vary from environmental investigations on individula reservoirs to comprehensive studies to establish state or tribal water budgets.

Floodplain Management Services
General Investigation Appropriation

Floodplain Management Services (FPMS)
Authority Stems from Section 206 of the 1960 Flood Control Act (P.L. 86-645)

The objective is to foster public understanding of the options for dealing with flood hazards and to promote prudent use and management of the Nation's floodplains.

Types of Assistance

- General Technical Services: Development or interpretation of site specific flood hazard data
- General Planning Assistance: "Special Studies" on all aspects of floodplain management planning.

Most Common Types of Special Studies

- Floodplain delineation/flood hazard evaluation studies
- Dam break analysis studies
- Hurricane evacuation studies (HES)
- Flood warning/preparedness studies
- Regulatory floodway studies
- Comprehensive floodplain management studies
- Flood damage reduction studies
- Urbanization impact studies
- Stormwater management studies
- Floodproofing studies
- Inventory of flood prone stuctures

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SPONSORS' GUIDE TO PROJECT DOCUMENTS
Corps Models, Outlines and Forms Used In Project Development

INTRODUCTION

A variety of different types of documents are prepared during the development of a Corps project, and you, the sponsor, will be involved in many of them. Some documents are reports about work that was done, some are agreements concerning responsibilities, and some serve other important purposes. Since most of these documents are required for every project, standardized models and outlines are used to make preparing them easier and ensure that all Corps offices are using similar documents. Where a certain document may have a somewhat different format and content for each project, examples of previous documents are available.

TYPES OF DOCUMENTS

The types of standardized documents that you will encounter are generally characterized as follows:

- *Models* - These are standardized fill-in-the -blanks formats for documents where much of the information Is the same for all projects. Some models are short forms, while others are more lengthy text. Model documents are available for the certificate of lobbying, disclosure of lobbying activities, escrow agreement, feasibility cost sharing agreement (FCSA), Project Partnership Agreement (PPA), project executive summary, and statement of financial capability.

- *Outlines* - These are standardized checklists of the information to be included in various project reports. Outlines are available for the chart of accounts cost estimate, design memorandum (DM), environmental impact statement (EIS), Feasibility report, financing plan, and reconnaissance report.

- *Examples* - Some documents are needed for every project, but their content and possibly their format differs from project to project. These documents include the study authority, project construction authority, budget authority, environmental assessment (EA), initial project management plan (IPMP), justification sheet, letter of credit, letter of intent, and project management plan (PMP).

Your Project Manager can provide you with examples of these documents, as well as examples of blank and complete models (such as a Project Partnership)
and report outlines (such as a feasibility report).

DESCRIPTION OF DOCUMENTS

The following is a list of some of the generally standardized reports, agreements and other documents that you are likely to be involved with over the life of a project. This list presents the documents in the general chronological order in which they would be used. Not all of these documents are used in all cases, and the order of when they are needed may vary for any given study or project.

- Authority (Study)
- Justification Sheet
- Authority (Budget)

- Reconnaissance Report Certificate of Lobbying
- Disclosure of Lobbying Activities
- Escrow Agreement
- Letter of Credit
- Letter of Intent
- Chart of Accounts
- Initial Project Management Plan
- Feasibility Cost Sharing Agreement
- Project Executive Summary
- Feasibility Report
- Environmental Impact Statement (or Environmental Assessment)
- Project Master Plan
- Authority (Project Construction)
- Design Memorandum
- Financing Plan
- Statement of Financial Capability
- Project Partnership Agreement

The following is an alphabetical listing and explanation of the generalized standardized reports, agreements and other documents listed above.

Authority - This is either a resolution of a committee of the U.S. Congress, or a Federal public law, which gives us approval to: conduct a study (study authority), construct a project (project construction authority), or spend Federal funds on an authorized study or project (budget authority). and is usually only a line, a sentence, or a paragraph in length. Your Project Manager can provide an example of each type of authority.

Certificate of Lobbying - This is your statement concerning lobbying of Congressional and other Federal officials. The certificate must accompany a feasibility cost sharing agreement and a Project Cooperation Agreement. A one-page model certificate is in Appendix Q of the "Planning Guidance Notebook' (Corps regulation number ER 1105-2-100).

Chart of Accounts - This is a list of detailed accounting categories for preparing study and project cost estimates. The accounts outline and cost estimate checklist are in Corps circular number EC 1110-2-538, including revisions provided by letter of 29 September 1989 to all Corps finance and accounting officers (subject: Life Cycle Project Management (LCPM) Chart of Accounts).

Design Memorandum (DM) - This report presents the results of detailed engineering studies needed to prepare a project's plans and specifications for construction. The format for a design memorandum is in Appendix C to Corps circular number EC 1110-2-265.

Disclosure of Lobbying Activities - This is a form (Standard Form LLL), completed by you, concerning lobbying of Congressional and other Federal officials. In certain circumstances it must accompany a certificate of lobbying (see above). A copy of the form is In Appendix Q of the "Planning Guidance Notebook".

Environmental Assessment (EA) - This report presents the results of the evaluation of environmental effects of the project and its alternatives. In certain circumstances, an environmental assessment may be adequate and an environmental impact statement (see below) may not be required. A finding of no significant impact (FONSI) must also be prepared for each environmental assessment. Your Project Manager can provide an example environmental assessment and finding of no significant impact.

Environmental Impact Statement (EIS) - This report presents the results of the evaluation of environmental effects of the project and its alternatives. Outlines for statements that are combined or integrated

with feasibility reports are in Appendix F of the "Planning Guidance Notebook". An outline for statements prepared for other reports or in other circumstances is in the Council on Environmental Quality's regulation titled "Regulations for Implementing the Procedural- Provisions of the National Environmental Policy Act" (40 CFR 1502.10). A record of decision (ROD) must also be prepared for each environmental impact statement Your Project Manager can provide an example record of decision.

Escrow Agreement - This is a written agreement among you, your financial Institution, and the Department of the Army in which the parties agree that your funds are to be deposited in an interest bearing account at the financial institution' and the Corps can withdraw those funds as needed for the study or project A four-page model escrow agreement is in Appendix H to Corps regulation number ER 1165-2-131.

Feasibility Cost Sharing Agreement (FCSA) - This is a written agreement between you and the Department of the Army, represented by the local District Engineer, to share the cost of a feasibility phase study. A seven page model agreement is in Appendix E of the 'Planning Guidance Notebook. The model is for both specifically authorized studies and studies under the Continuing Authorities Program.

Feasibility Report - This report presents the results of the formulation, evaluation and selection of project plans conducted during the feasibility phase of project planning. A report outline is in Table 23 of the "Planning Guidance Notebook". The outline is for both feasibility reports for specifically authorized studies and detailed project reports (DPR) under the Continuing Authorities Program.

Financial Plan - This report describes the sources and uses of your project funds as support for the statement of financial capability (see below). A plan outline is in paragraph 6-197 of the 'Planning Guidance Notebook.'

Initial Project Management Plan (IPMP) - Ills is a management document that describes the tasks, costs, and responsibilities, both yours and ours, required to conduct the feasibility phase of a study. It is appended to the FCSA (see above). Your Project Manager can provide an example plan.

Justification Sheet - This is a brief description of how funds are to be used for a study or project in an upcoming fiscal year. It is submitted to the Congress in support of a President's budget request for the upcoming fiscal year. Your Project Manager can provide an example justification sheet.

Letter of Credit - This is a letter from your financial Institution that guarantees to the Federal government that the funds are available to meet required cash outlays. Your Project Manager can provide an example letter.

Letter of Intent - This is a letter from you to the local District Engineer stating that you are ready, willing and able to execute the feasibility cost sharing agreement. Your Project Manager can provide an example letter.

Project Partnership Agreement (PPA) - This is a written agreement between you and the Department of the Army that describes our financial and other responsibilities for construction, operation and maintenance of a project Model agreements are available for:

- Specifically authorized structural flood control projects - Nineteen-page model in

Appendix A to Corps regulation number ER 1165-2-131.

- Specifically authorized harbor projects - Twenty-page model in Appendix D to Corps regulation number ER 1165-2-131.

- Flood control projects under the Continuing Authorities Program ('Section 205 projects') - Twenty-four-page model, distributed by Corps Headquarters letter of 23 April 1990.

- Snagging and clearing for flood control projects under the Continuing Authorities Program ("Section 208 projects") - Twenty-four-page model, distributed by Corps Headquarters letter of 23 April 1990.

- Emergency streambank or shoreline erosion projects under the Continuing Authorities Program ("Section 14 projects) - Twenty-page model, distributed by Corps Headquarters letter of 21 May 1990.

Project Executive Summary - This is a form, completed monthly by your Corps Project Manager, which summarizes the status of a project's cost estimate, schedule and other important issues. A copy of the form is in Appendix E of Corps regulation number ER 5-2.1, which also describes other life cycle project management (LCPM) periodic reporting forms.

Project Management Plan (PMP) - This Is a continually- evolving collection of management documents that describe how a project will be designed and constructed, including a description of the project scope, cost estimate budget, and schedule. Your Project Manager can provide an example plan.

Reconnaissance Report - This report presents the results of the preliminary project analyses conducted during the reconnaissance (first) phase of planning. A report outline is in Table 2-2 of the "Planning Guidance Notebook".

Statement of Financial Capability - This is your description of your capability to meet your project financial obligations In accordance with the project funding schedule. Your Project Manager can provide an example statement. A model bond consultant's letter in support of a statement is in paragraph 6-187 of the "Planning Guidance Notebook".

NEED MORE INFORMATION?

Your Project Manager can provide copies of the models, outlines and examples described above, and answer any questions about their preparation and use. In addition, the following publications explain much of the Corps guidance about these documents:

- "Annual Program and Budget Request for Civil Works Activities, Corps of Engineers, Fiscal Year 19XX" (Corps circular number EC 11-2-XXX issued annually) - Provides guidance on the justification sheet.

- "Civil Works Project Cost Estimating - Chart of Accounts' (Corps circular number EC 1110-2538, dated 28 February 1989) - Provides guidance on the chart of accounts format for cost estimates.

- "Engineering and Design for Civil Works Projects' (Corps circular number EC 1110-2-265, dated I September 1989) - Provides guidance on the design memorandum.

- "Life Cycle Project Management System" (Corps regulation number ER 5-2-1, advance draft dated 31 July 1989) - Provides guidance on the project management plan, and the

project executive summary and other periodic reports for project management.

- "Project Partnership Agreements for New Start Construction Project (Corps regulation number ER 1165-2-131, dated 15 April 1989) - Provides guidance on the escrow agreement an Project Partnership Agreement

- “Planning Guidance" (Corps regulation number ER 1105-02-100, dated IS September 1990-, also called the "Planning Guidance Notebook', or PGN) - Provides guidance on the certificate of lobbying, disclosure of lobbying activities, environmental impact statement, feasibility cost sharing agreement, feasibility report, financing plan, initial project management plan, letter of intent, reconnaissance report, and statement of financial capability.

- “Procedures for Implementing NEPA' (Corps regulation number ER 200-2-2, dated 4 March 1988) - Provides guidance on the environmental assessment, finding of no significant impact, environmental Impact statement, and record of decision.

- “Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" (Federal regulations numbered 40 CFR 100-1508, dated November 29, 1978, issued by the Council on Environmental Quality) - Provides guidance on the environmental assessment, finding of no significant impact, environmental impact statement, and record of decision.

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U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

404(b)(1) – Water quality permit per CWA 77
902 limit – Maximum project cost per WRDA 86
905(b) – Reconnaissance Report per WRDA 86
AAA – Army Audit Agency
AAE – Average Annual Equivalent
AAR – After Action Review
ABC – Army Benefits Center
ACTEDS – Army Civilian Training, Evaluation and Development System
ADR – Alternative Dispute Resolution
AE – Architect-Engineer
AF – Acre Feet
AFB – Alternatives Formulation Briefing
AICP – American Institute of Certified Planners
AIS – Automated Information System
AKO – Army Knowledge Online
AM – Asset Management
AOR – Area of Responsibility
APIC – Army Performance Improvements Criteria
ARC – Annual Report to Congress
ASA(CW) – Assistance Secretary of the Army for Civil Works
ASAP – As Soon As Possible
ASCE – American Society of Civil Engineers
ATR – Agency Technical Review
AWOL – Absent Without Leave
BC – Benefit Cost
BCR – Benefit Cost Relationship
BFE – Base Flood Elevation
BG – Brigadier General
BLUF – Bottom Line Up Front
BMP – Best Management Practice
BOD – Biological Oxygen Demand
BOY – Beginning of Year
BRAC – Base Realignment and Closure
BUB – Battle Update Briefing
BY – Budget Year
C – Construction
CADD – Computer Aided Design Drafting
CAP – Continuing Authorities Program
CCG – Consolidated Command Guidance
CDR – Commander
CE – Corps of Engineers
CEA – Cost Effectiveness Analysis
CEFMS – Corps of Engineers Financial Management System
CE/ICA – Cost Effectiveness/Incremental Cost
CERC – Coastal Engineering Research Center
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act, 1980 (Superfund)
CERL – Construction Engineering Research Laboratory
CEQ – Council on Environmental Quality
CF – Copy Furnished
CFR – Code of Federal Regulations
CFS – Cubic Feet per Second
CG – Construction General/Commanding General
CI – Command Inspection
CMR – Command Management Review
COB – Close of Business/Command Operating Budget
COL – Colonel
COLA – Cost of Living Adjustment
CONUS – Continental United States
COP – Community of Practice
COR – Contracting Officer's Representative
CP – Career Program
CPAC – Civilian Personnel Advisory Center
CRA – Continuing Resolution Authority
CRREL – Cold Regions Research and Engineering Laboratory
CSRA – Cost & Schedule Risk Analysis
CSRM – Coastal Storm Risk Management
CSRS – Civilian Service Retirement System
CW – Civil Works
CWA – Clean Water Act, 1977
CWCCIS – Civil Work Construction Cost Index System
CWIS – Civil Works Information System
CX – Center of Expertise
CY – Cubic Yard/Current Year
CZM – Coastal Zone Management
CZMA – Coastal Zone Management Act
DA – Department of Army
DC – District Commander/Division Commander
DCG – Deputy Commanding General
DCW – Director of Civil Works
DDC – Deputy District Commander
DDE – Deputy District Engineer
DDR – Design Documentation Report
DE – District Engineer/Division Engineer
DEIS – Draft Environmental Impact Statement
DEMOB – Demobilization
DDN – Deep Draft Navigation
DIST – District
DIV – Division
DMP – Decision Management Plan
DOD – Department of Defense
DOE – Department of Energy
DOI – Department of Interior
DOJ – Department of Justice
DOT – Department of Transportation
DQC – District Quality Control
DP – Decision Point
DPM – Deputy for Project Management
DPR – Detailed Project Report
DSAP – Dam Safety Assurance Program

DX – Directory of Expertise
E&D – Engineering & Design
E&PW – Energy & Public Works (Senate)
EA – Environmental Assessment
EAB – Expected Annual Benefits
EAD – Expected Annual Damages
EC – Engineering Circular
EDR – Engineering Decision Report
EEO – Equal Employment Opportunity
EFH – Essential Fish Habitat
EFT – Electronic Funds Transfer
EIS – Environmental Impact Statement
EM – Engineering Memorandum
EO – Executive Order
EOC – Emergency Operations Center
EOY – End of Year
ENR – Engineering News Record
EP – Engineering Pamphlet
ER – Engineering Regulation
ERDC – Engineering Research & Design Center
EROC – Electronic Reporting Organization Code
EPA – Environmental Protection Agency
ESA – Endangered Species Act
ESG – Executive Steering Group
EQ – Environmental Quality
ETL – Engineer Technical Letter
F&A – Finance & Accounting
FID – Federal Interest Determination
FCA – Flood Control Act
FCCE – Flood Control and Coastal Emergencies
FCSA – Feasibility Cost Sharing Agreement
FEHB – Federal Employee Health Benefits
FEIS – Final Environmental Impact Statement
FEMA – Federal Emergency Management Agency
FERC – Federal Energy Regulatory Commission
FERS – Federal Employees Retirement System
FFE – First Floor Elevation/Finished Floor Elevation
FOA – Field Operating Agency/Activity
FOI – Freedom of Information
FOIA – Freedom of Information Act
FONSI – Finding of No Significant Impact
FORCON – Force Configuration
FPMS – Floodplain Management Services
FR – Federal Register
FRC – Feasibility Review Conference
FRM – Flood Risk Management
FS – Feasibility Study
FSM – Feasibility Scoping Meeting
FTE – Full-time Employee
FUDS – Formerly Used Defense Site
FUSRAP – Formerly Utilized Sites Remedial Action Program
FWCA – Fish and Wildlife Coordination Act
FY – Fiscal Year
FYI – For Your Information
FYSA – For Your Situational Awareness
G&A – General & Administrative
GAO – Government Accountability Office
GE – General Expense
GI – General Investigations
GIS – Geographic Information Systems
GIWW – Gulf Inter-Coastal Waterway
GNF – General Navigation Features
GOV – Government/Government-owned Vehicle
GPO – Government Printing Office
GRR – General Reevaluation Report
GS – General Schedule
GSA – General Services Administration
H&H – Hydrology & Hydraulics
HAC – Hydropower Analysis Center
HAZMAT – Hazardous Materials
HD – House Document
HEC – Hydrologic Engineering Center
HEP – Habitat Evaluation Procedures
HES – Habitat Evaluation System
HIS – Habitat Suitability Index
HQ – Headquarters
HQUSACE – Headquarters, U.S. Army Corps of Engineers
HR – Human Resources/House of Representatives/House Resolution
HSDR – Hurricane and Storm Damage Reduction
HTIC – House Transportation & Infrastructure Committee
HTRW – Hazardous, Toxic and Radioactive Waste
HU – Habitat Unit
HUD – Housing and Urban Development
IA – Initial Appraisal
IAG – Inter-agency Agreement
ICA – Intergovernmental Cooperation Act/Incremental Cost Analysis
IDC – Interest During Construction/Indefinite Delivery Contract
IDIQ – Indefinite Delivery/Indefinite Quantity
IEPR – Independent External Peer Review
IG – Inspector General
IN – Inland Navigation
IPA – Intergovernmental Personnel Act
IPR – In-Progress Review
IRC – Issue Resolution Conference
ITR – Independent Technical Review
IWR – Institute for Water Resources
IWW – Inland Waterways
IWTF – Inland Waterway Trust Fund
IWUB – Inland Waterway User Board
JTR – Joint Travel Regulation
L&D – Lock & Dam
LCC – Life Cycle Cost
LERRD – Lands, Easements, Rights-of-Way, Relocations, and Disposal
LOI – Letter of Intent
LPP – Locally Preferred Plan

LRB – Buffalo District
LRC – Chicago District
LRD – Great Lakes & Ohio River Division
LRE – Detroit District
LRH – Huntington District
LRL – Louisville District
LRN – Nashville District
LRP – Pittsburgh District
LRR – Limited Reevaluation Report
LSF – Local Service Facilities
LTC – Lieutenant Colonel
LWOP – Leave Without Pay
M&I – Municipal & Industrial
M&IE – Meals & Incidental Expenses
MACOM – Major Army Command
MARAD – Maritime – Administration
MCASES – Micro-computer Aided Cost Engineering System
MCX – Mandatory Center of Expertise
MFR – Memorandum for Record
MG – Major General
MHHW – Mean Higher High Water
MHW – Mean High Water
MILCON – Military Construction
MIPR – Military Interdepartmental Purchase Request
MLW – Mean Low Water
MLLW – Mean Lower Low Water
MOA – Memorandum of Agreement
MOB – Mobilization
MOU – Memorandum of Understanding
MOY – Middle of Year
MR&T - Mississippi River & Tributaries
MRC – Mississippi River Commission
MSC – Major Subordinate Command
MVD – Mississippi Valley Division
MVK – Vicksburg District
MVM – Memphis District
MVN – New Orleans District
MVP – St. Paul District
MVR – Rock Island District
MVS – St. Louis District
NAB – Baltimore District
NAD – North Atlantic Division
NAE – New England District
NAN – New York District
NAO – Norfolk District
NAP – Philadelphia District
NAS – National Academy of Sciences
NAV – Navigation
NDC – Navigation Data Center
NED – Net Economic Development
NER – National Ecosystem Restoration
NEPA – Nation Environmental Protection Act
NFIP – National Flood Insurance Program
NGO – Nongovernmental Organization
NGVD – National Geodetic Vertical Datum
NHPA – National Historic Preservation Act
NLT – No Later Than
NMFS – National Marine Fisheries Service
NOAA – National Oceanic and Atmospheric Administration
NPS – National Park Service
NRHP – National Register of Historic Places
NTE – Not to Exceed
NTP – Notice to Proceed
NWD – Northwestern Division
NWK – Kansas City District
NWO – Omaha District
NWP – Portland District
NWS – Seattle District/National Weather Service
NWW – Walla Walla District
O&M – Operations & Maintenance
OBE – Overcome by Events
OMB – Office of Management and Budget
OMRR&R – Operations, Maintenance, Repair, Replacement, & Rehabilitation
OSA – Office of the Secretary of Army
OSD – Office of the Secretary of Defense
OSE – Other Social Effects
OSHA – Occupational Safety and Health Administration
OWPR – Office of Water Project Review
P&D – Planning & Design
P&G – Principles & Guidelines
P&S – Plans & Specifications/Principles & Standards
PA – Per Annum
PAB – Planning Advisory Board
PAC – Post-authorization Change Report
PAS – Planning Assistance to States
PCoP – Planning Community of Practice
PCA – Project Cooperation Agreement
PCX – Planning Center of Expertise
PDT – Project Delivery Team
PE – Professional Engineer
PED – Pre-construction Engineering and Design
PGM – Project Guidance Memorandum
PGN – Planning Guidance Notebook
PIR – Project Implementation Report
PL – Public Law
PM – Project Manager/Management
PMBP – Project Management Business Process
PMP – Project Management Plan
PMF – Probable Maximum Flood
POA – Alaska District
POC – Point of Contact
POD – Pacific Ocean Division
POH – Honolulu District
POTUS – President of the United States
POV – Privately Owned Vehicle
PPA – Project Partnership Agreement
PR&C – Purchase Request & Commitment
PRB – Project Review Board

PROSPECT – Proponent Sponsored Engineer Corps Training
PTL – Planning Technical Lead
Q&A – Question & Answers
QA/QC – Quality Assurance/Quality Control
QM – Quality Manual
QMP – Quality Management Plan
QMR – Quality Management Representative
QMS – Quality Management System
RA – Risk Analysis/Risk Assessment/Remedial Action
R&D – Research & Development
R&H – River & Harbor
R&U – Risk and Uncertainty
RBRCR – Remaining Benefits Remaining Costs Ratio
RCRA – Resource Conservation and Recovery Act
REC – Recreation
RED – Regional Economic Development
REP – Real Estate Plan
RIT – Regional Integration Team
RFP – Request for Proposal
RP – Review Plan/Resource Provider
RMB – Regional Management Board
RMC – Risk Management Center
RMO – Resource Management Office
RMP – Risk Management Plan
ROD – Record of Decision
ROW – Right of Way
RR – Risk Register
RTS – Regional Technical Specialist
S&A – State & Agency
S&I – Supervision & Inspection
S&S – Savings & Slippage
SAC – Charleston District
SAD – South Atlantic Division
SADBU – Small and Disadvantaged Business Utilization
SAJ – Jacksonville District
SAM – Mobile District
SAR – Safety Assurance Review
SAS – Savannah District
SAV – Submerged Aquatic Vegetation
SAW – Wilmington District
SBH – Small Boar Harbor
SCORP – State Comprehensive Recreation Plan
SCOTUS – Supreme Court of the United States
SCS – Soil Conservation Service
SD – Senate Document
SEPWC – Senate Environment and Public Works Committee
SES – Senior Executive Schedule
SFO – Support for Others
SHPO – State Historic Preservation Office
SITREP – Situational Report
SMART – Specific, Measurable, Attainable, Risk-Informed, Timely
SME – Subject Matter Expert
SOF – Statement of Findings
SOP – Standard Operating Procedure
SOS – Scope of Services/Scope of Studies
SOW – Scope of Work
SPA – Albuquerque District
SPD – South Pacific Division
SPF – Standard Project Flood
SPK – Sacramento District
SPL – Los Angeles District
SPN – San Francisco District
SR – Senate Resolution
SWD – Southwester Division
SWF – Fort Worth District
SWG – Galveston District
SWL – Little Rock District
SWT – Tulsa District
T&A – Time & Attendance
T&ES – Threatened & Endangered Species
T&I – Transportation & Infrastructure
TAD – Transatlantic Division
TAPES – Total Army Performance Evaluation System
TBA – To Be Announced
TBD – To Be Determined
TDY – Temporary Duty
TMDL – Total Maximum Daily Load
TRC – Technical Review Conference
TQSE – Temporary Quarters Subsistence Expenses
UDV – Unit Day Value
USACE – U.S. Army Corps of Engineers
USC – United States Code
USCG – United States Coast Guard
USEPA – United Stated Environmental Protection Agency
USFWS – United States Fish and Wildlife Service
USGS – United States Geological Survey
VE – Value Engineering
VT – Vertical Team
WMP – Watershed Management Plan
WBS – Work Breakdown Structure
WCSC – Waterborne Commerce Statistics Center
WFO – Work for Others
WMA – Wildlife Management Area
WQC – Water Quality Certification
WRC – Water Resources Council
WRDA – Water Resources Development Act
WS – Water Supply
WTA – Willingness to Accept
WTP – Willingness to Pay

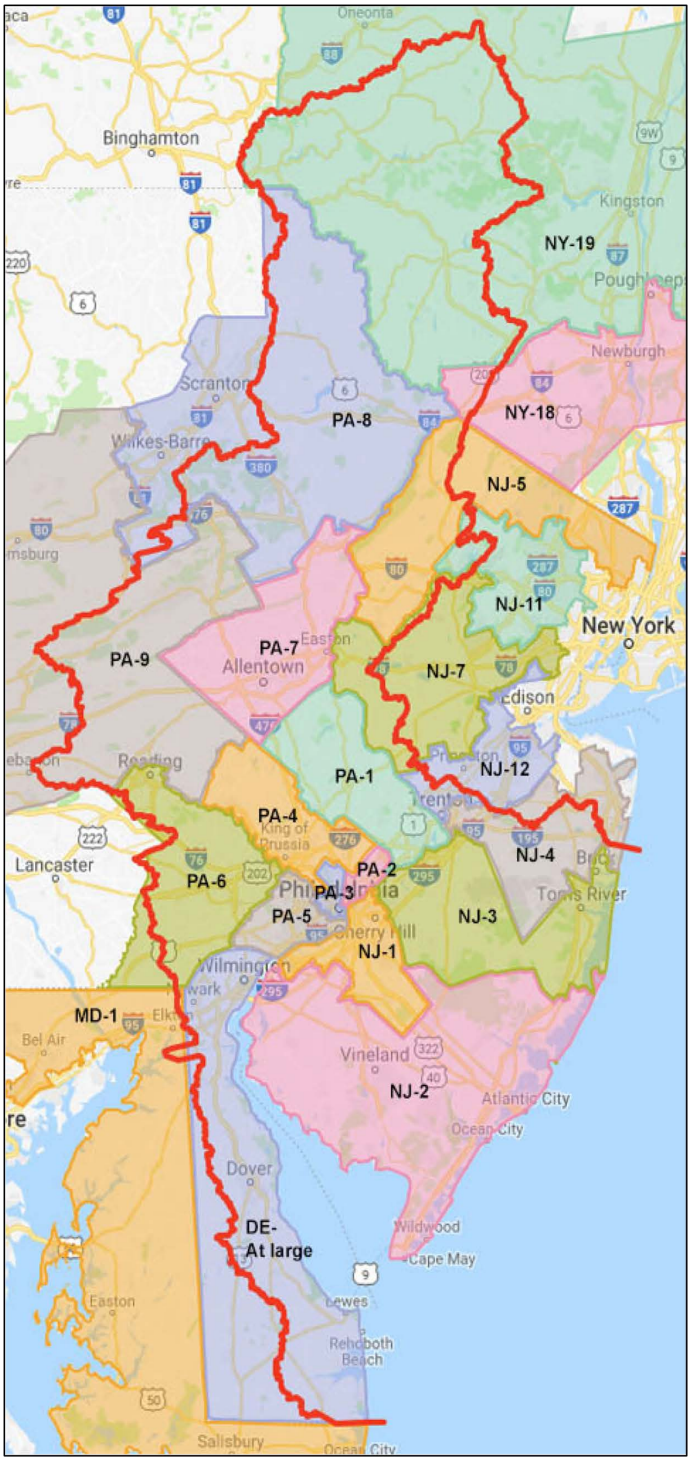
The 117th Congress and the USACE Philadelphia District

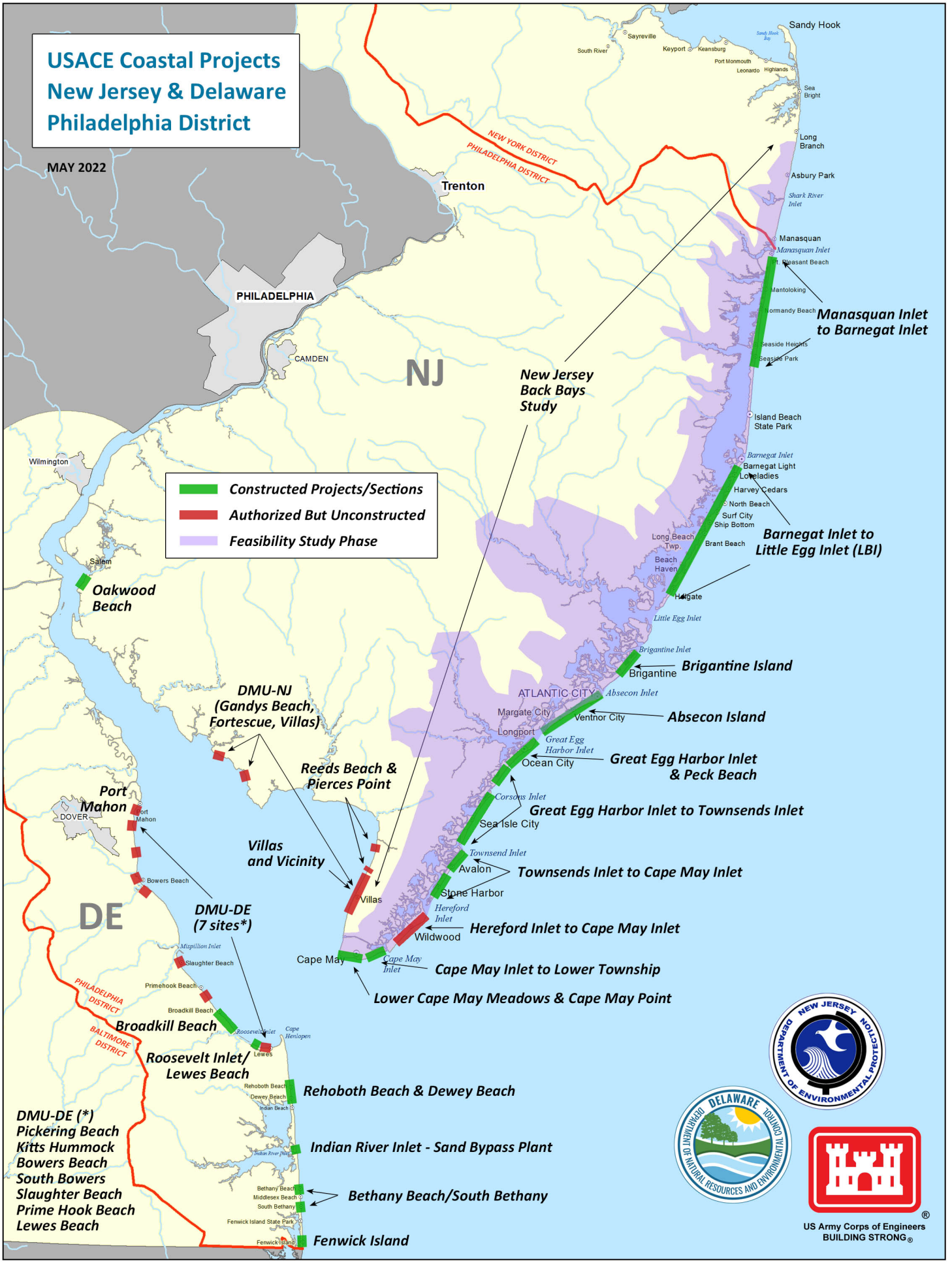
U.S. Senate

Delaware	Tom Carper	D
	Chris Coons	D
Maryland	Chris Van Hollen	D
	Benjamin Cardin	D
New Jersey	Cory Booker	D
	Robert Menendez	D
New York	Charles Schumer	D
	Kirsten Gillibrand	D
Pennsylvania	Robert Casey	D
	Pat Toomey	R

House of Representatives

DE-At large	Lisa Blunt Rochester	D
MD-1	Andy Harris	R
NJ-1	Don Norcross	D
NJ-2	Jeff Van Drew	R
NJ-3	Andy Kim	D
NJ-4	Chris Smith	R
NJ-5	Joshua Gottheimer	D
NJ-7	Tom Malinowski	D
NJ-11	Rebecca "Mikie" Sherrill	D
NJ-12	Bonnie Watson Coleman	D
NY-18	Sean Maloney	D
NY-19	Antonio Delgado	D
PA-1	Brian Fitzpatrick	R
PA-2	Brendan Boyle	D
PA-3	Dwight Evans	D
PA-4	Madeleine Dean	D
PA-5	Mary Gay Scanlon	D
PA-6	Chrissy Houlahan	D
PA-7	Susan Wild	D
PA-8	Matthew Cartwright	D
PA-9	Dan Meuser	R




USACE Coastal Projects
New Jersey & Delaware
Philadelphia District
MAY 2022
NEW YORK DISTRICT
PHILADELPHIA DISTRICT
Trenton
PHILADELPHIA
CAMDEN
NJ
DE
Wilmington
Salem
Oakwood Beach
Constructed Projects/Sections
Authorized But Unconstructed
Feasibility Study Phase
New Jersey Back Bays Study
Manasquan Inlet to Barnegat Inlet
Barnegat Inlet to Little Egg Inlet (LBI)
Brigantine Island
Absecon Island
Great Egg Harbor Inlet & Peck Beach
Great Egg Harbor Inlet to Townsends Inlet
Townsends Inlet to Cape May Inlet
Hereford Inlet to Cape May Inlet
Cape May Inlet to Lower Township
Lower Cape May Meadows & Cape May Point
DMU-NJ (Gandys Beach, Fortescue, Villas)
Reeds Beach & Pierces Point
Villas and Vicinity
Port Mahon
DMU-DE (7 sites*)
Broadkill Beach
Roosevelt Inlet/ Lewes Beach
Rehoboth Beach & Dewey Beach
Indian River Inlet - Sand Bypass Plant
Bethany Beach/South Bethany
Fenwick Island
DMU-DE (*)
Pickering Beach
Kitts Hummock
Bowers Beach
South Bowers
Slaughter Beach
Prime Hook Beach
Lewes Beach
Sandy Hook
Sayreville
South River
Keyport
Keansburg
Port Monmouth
Leonardo
Highlands
Sea Bright
Long Branch
Asbury Park
Shark River Inlet
Manasquan
Manasquan Inlet
Mantoloking
Normandy Beach
Seaside Heights
Seaside Park
Island Beach State Park
Barnegat Inlet
Barnegat Light
Loveladies
Harvey Cedars
North Beach
Surf City
Ship Bottom
Long Beach Twp.
Brant Beach
Beach Haven
Holgate
Little Egg Inlet
Brigantine Inlet
Brigantine
ATLANTIC CITY
Absecon Inlet
Margate City
Ventnor City
Longport
Great Egg Harbor Inlet
Ocean City
Corsons Inlet
Sea Isle City
Townsend Inlet
Avalon
Stone Harbor
Hereford Inlet
Wildwood
Cape May
Cape May Inlet
DOVER
Port Mahon
Bowers Beach
Mispillion Inlet
Slaughter Beach
Primehook Beach
Broadkill Beach
Roosevelt Inlet
Cape Henlopen
Lewes
Rehoboth Beach
Dewey Beach
Indian Beach
Indian River Inlet
Bethany Beach
Middlesex Beach
South Bethany
Fenwick Island State Park
Fenwick Island
PHILADELPHIA DISTRICT
BALTIMORE DISTRICT
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
US Army Corps of Engineers
BUILDING STRONG®

DELAWARE PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS

Delaware Inland Bays & Delaware Coast Storm Risk Management	GI 1
Delaware River Dredged Material Utilization, DE	GI 2
Lakes Management Plan for Silver Lake and Lake Comegys, DE (Sec 22 - PAS)	GI 3

CONSTRUCTION GENERAL

Delaware River Main Channel Deepening, PA, NJ & DE	CG 1
Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach - South Bethany	CG 2
Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet	CG 3
Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island	CG 4
Delaware Bay Coastline, Port Mahon	CG 5
Dealaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach - Dewey Beach	CG 6
Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach	CG 7
Delaware Bay Coastline, Broadkill Beach	CG 8

OPERATION AND MAINTENANCE

Intracoastal Waterway, Delaware River to Cheasapeake Bay (C&D Canal)	OM 1
Cedar Creek, Sussex County	OM 2
Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County	OM 3
Delaware River, Philadelphia to the Sea	OM 4
Lower Delaware River DMMP (MULTIPLE STATES)	OM 5
Indian River Inlet & Bay, Sussex County	OM 6
Mispillion River, Sussex County	OM 7
Murderkill River, Sussex County	OM 8
Wilmington Harbor, New Castle County	OM 9
Harbor of Refuge, Lewes	OM 10

Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- OPERATIONS & MAINTENANCE
- Philadelphia District
- Rivers / Streams
- County Lines

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Last Updated 4/29/2022

Delaware Projects Within Philadelphia District

N W E S

Miles
0 1 2 4 6 8

US Army Corps of Engineers
Philadelphia District

NEW JERSEY PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS - FEASIBILITY STUDIES

Delaware River Dredged Material Utilization - NJ	GI 1
New Jersey Backbay Coastal Resilience Study	GI 2
New Jersey Coastal Coalition (13 locations within NJ)	GI 3
Nassau County Back Bays, NY CSRM	GI 4

CONTINUING AUTHORITIES PROGRAM (CAP)

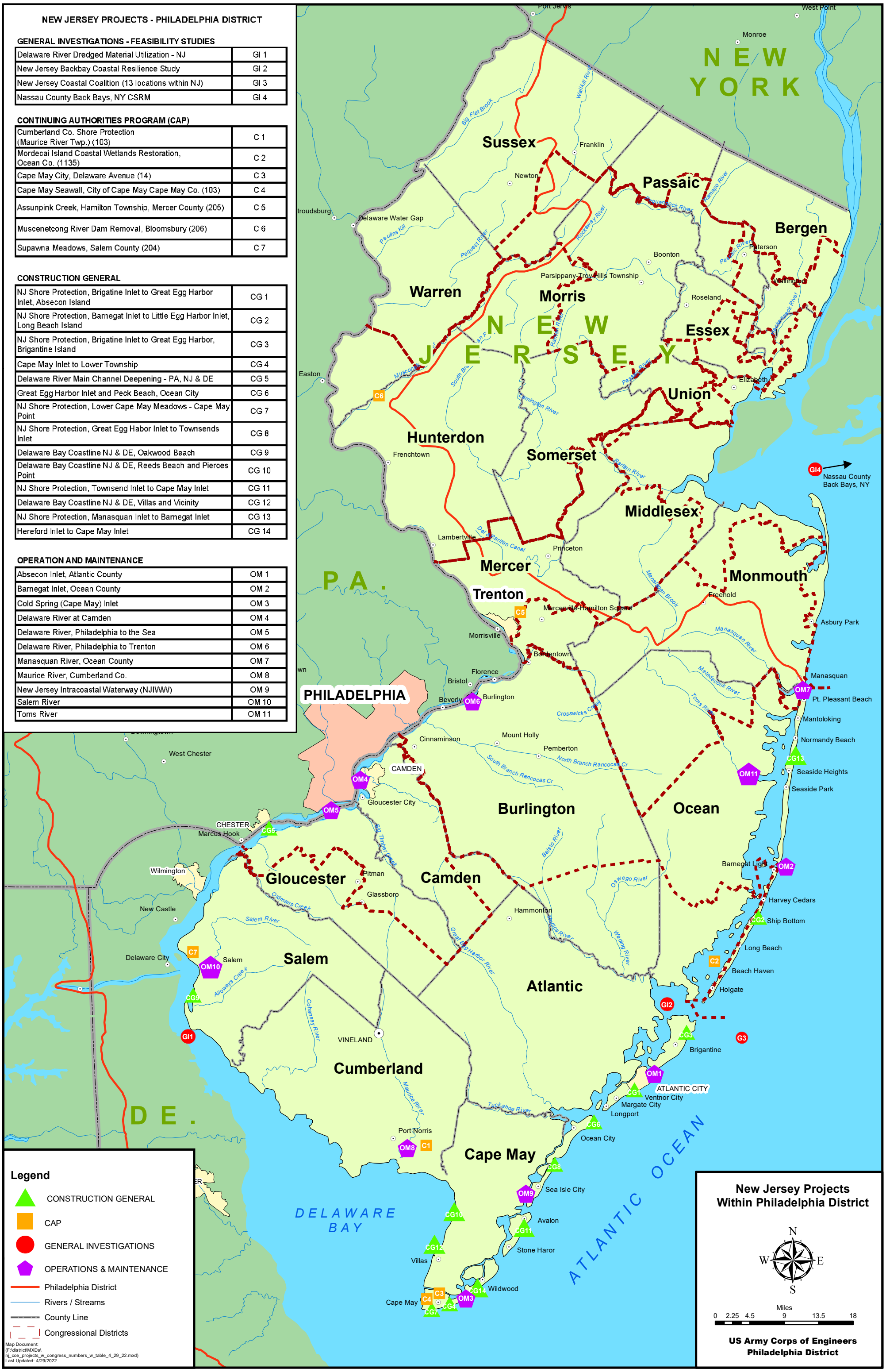
Cumberland Co. Shore Protection (Maurice River Twp.) (103)	C 1
Mordecai Island Coastal Wetlands Restoration, Ocean Co. (1135)	C 2
Cape May City, Delaware Avenue (14)	C 3
Cape May Seawall, City of Cape May Cape May Co. (103)	C 4
Assunpink Creek, Hamilton Township, Mercer County (205)	C 5
Muscenetcong River Dam Removal, Bloomsbury (206)	C 6
Supawna Meadows, Salem County (204)	C 7

CONSTRUCTION GENERAL

NJ Shore Protection, Brigatine Inlet to Great Egg Harbor Inlet, Absecon Island	CG 1
NJ Shore Protection, Barnegat Inlet to Little Egg Harbor Inlet, Long Beach Island	CG 2
NJ Shore Protection, Brigatine Inlet to Great Egg Harbor, Brigantine Island	CG 3
Cape May Inlet to Lower Township	CG 4
Delaware River Main Channel Deepening - PA, NJ & DE	CG 5
Great Egg Harbor Inlet and Peck Beach, Ocean City	CG 6
NJ Shore Protection, Lower Cape May Meadows - Cape May Point	CG 7
NJ Shore Protection, Great Egg Habor Inlet to Townsends Inlet	CG 8
Delaware Bay Coastline NJ & DE, Oakwood Beach	CG 9
Delaware Bay Coastline NJ & DE, Reeds Beach and Pierces Point	CG 10
NJ Shore Protection, Townsend Inlet to Cape May Inlet	CG 11
Delaware Bay Coastline NJ & DE, Villas and Vicinity	CG 12
NJ Shore Protection, Manasquan Inlet to Barnegat Inlet	CG 13
Hereford Inlet to Cape May Inlet	CG 14

OPERATION AND MAINTENANCE

Absecon Inlet, Atlantic County	OM 1
Barnegat Inlet, Ocean County	OM 2
Cold Spring (Cape May) Inlet	OM 3
Delaware River at Camden	OM 4
Delaware River, Philadelphia to the Sea	OM 5
Delaware River, Philadelphia to Trenton	OM 6
Manasquan River, Ocean County	OM 7
Maurice River, Cumberland Co.	OM 8
New Jersey Intracoastal Waterway (NJIWW)	OM 9
Salem River	OM 10
Toms River	OM 11



Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- OPERATIONS & MAINTENANCE
- Philadelphia District
- Rivers / Streams
- County Line
- Congressional Districts

Map Document:
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Last Updated: 4/29/2022

New Jersey Projects Within Philadelphia District

N W E S

Miles
0 2.25 4.5 9 13.5 18

US Army Corps of Engineers
Philadelphia District

NEW YORK

PENNSYLVANIA

NEW JERSEY

Chenango County

Broome County

Schoharie County

Greene County

Delaware County

Sullivan County

Ulster County

Orange County

Stamford

Hobart

Delhi

Andes

Walton

Margaretville

Fleischmanns

Pine Hill

Deposit

Cannonsville Reservoir

Pepacton Reservoir

NY - 19

Hancock

West Branch Delaware River

East Branch Delaware River

Main Stem Delaware River

Roscoe

Livingston Manor

C1

Neversink Reservoir

Jeffersonville

Liberty

Callicoon

South Fallsburg

Woodridge

Smallwood

Monticello

Rock Hill

Narrowsburg

Swinging Bridge Reservoir

Wurtsboro

Otisville

NY - 18

Port Jervis

Unionville

NEW YORK PROJECTS - PHILADELPHIA DISTRICT

CONTINUING AUTHORITIES PROGRAM (CAP)

Upper Delaware River Watershed, Livingston Manor, NY (205)	C 1

Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- Philadelphia District
- Congressional Districts
- County Boundary
- State Boundary

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Last Updated: 4/29/2022

New York Projects Within Philadelphia District

N
W E
S

Miles
0 1.75 3.5 7 10.5 14

US Army Corps of Engineers
Philadelphia District

PENNSYLVANIA PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS

Francis E. Walter Dam Re-evaluation, PA (Feasibility Study)	GI 1
Bristol Borough Comprehensive Watershed Study (Sec 22 - PAS)	GI 2

CONTINUING AUTHORITIES PROGRAM (CAP)

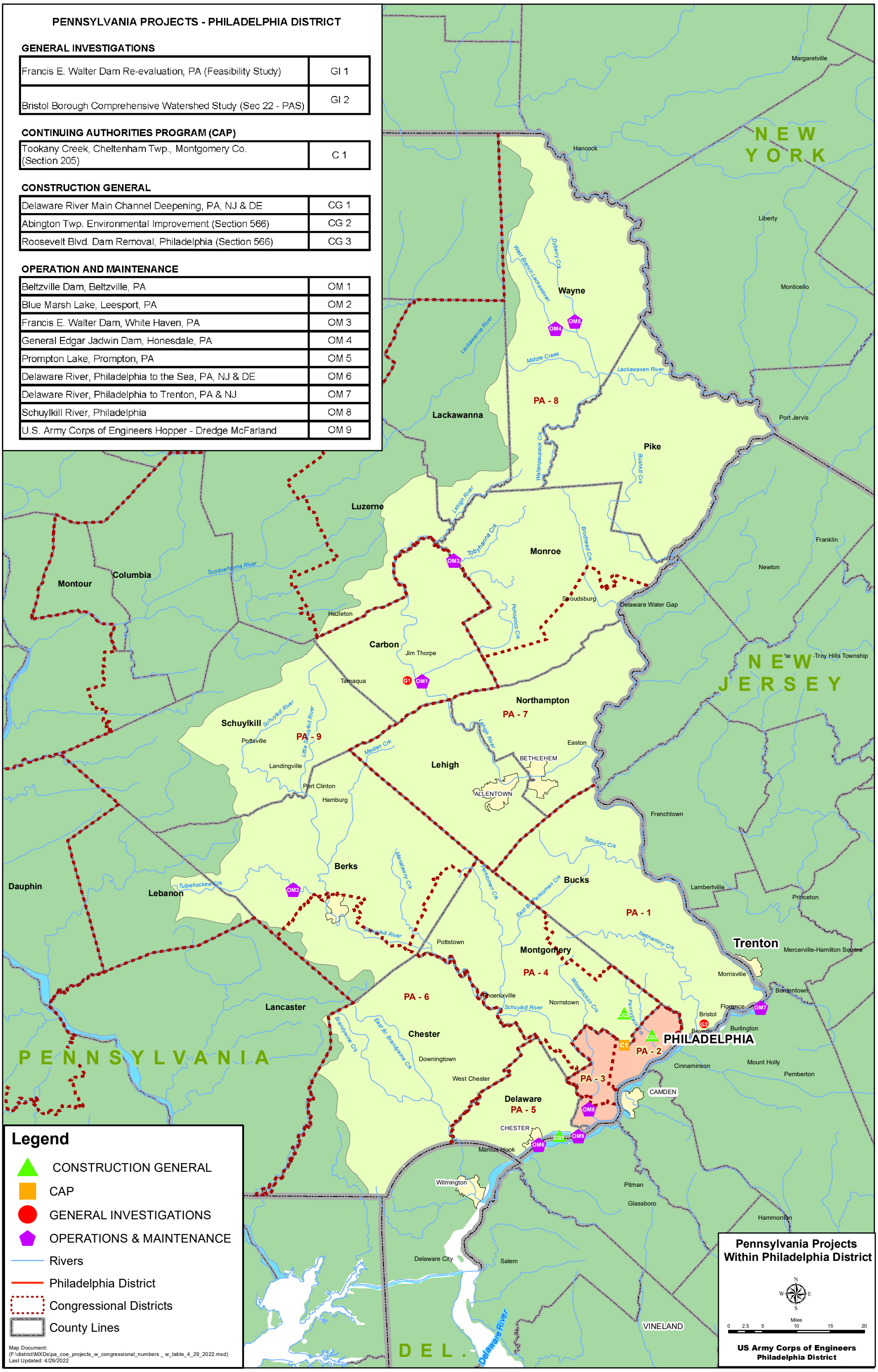
Tookany Creek, Cheltenham Twp., Montgomery Co. (Section 205)	C 1

CONSTRUCTION GENERAL

Delaware River Main Channel Deepening, PA, NJ & DE	CG 1
Abington Twp. Environmental Improvement (Section 566)	CG 2
Roosevelt Blvd. Dam Removal, Philadelphia (Section 566)	CG 3

OPERATION AND MAINTENANCE

Beltzville Dam, Beltzville, PA	OM 1
Blue Marsh Lake, Leesport, PA	OM 2
Francis E. Walter Dam, White Haven, PA	OM 3
General Edgar Jadwin Dam, Honesdale, PA	OM 4
Prompton Lake, Prompton, PA	OM 5
Delaware River, Philadelphia to the Sea, PA, NJ & DE	OM 6
Delaware River, Philadelphia to Trenton, PA & NJ	OM 7
Schuylkill River, Philadelphia	OM 8
U.S. Army Corps of Engineers Hopper - Dredge McFarland	OM 9



Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- OPERATIONS & MAINTENANCE
- Rivers
- Philadelphia District
- Congressional Districts
- County Lines

Map Document:
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Last Updated: 4/29/2022

Pennsylvania Projects Within Philadelphia District

N W E S

0 2.5 5 10 15 20
Miles

US Army Corps of Engineers
Philadelphia District