US Army Corps of Engineers®
Philadelphia District



CONGRESSIONAL BRIEFING BOOK

MARCH 2023

Established in 1866, the U.S. Army Corps of Engineers 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 millions across portions of Delaware, Maryland, New Jersey, New York and Pennsylvania.

Our reach extends around the world with our support to Overseas Contingency Operations.

US Army Corps of Engineers
Philadelphia District

Engineering solutions for our Nation's toughest challenges

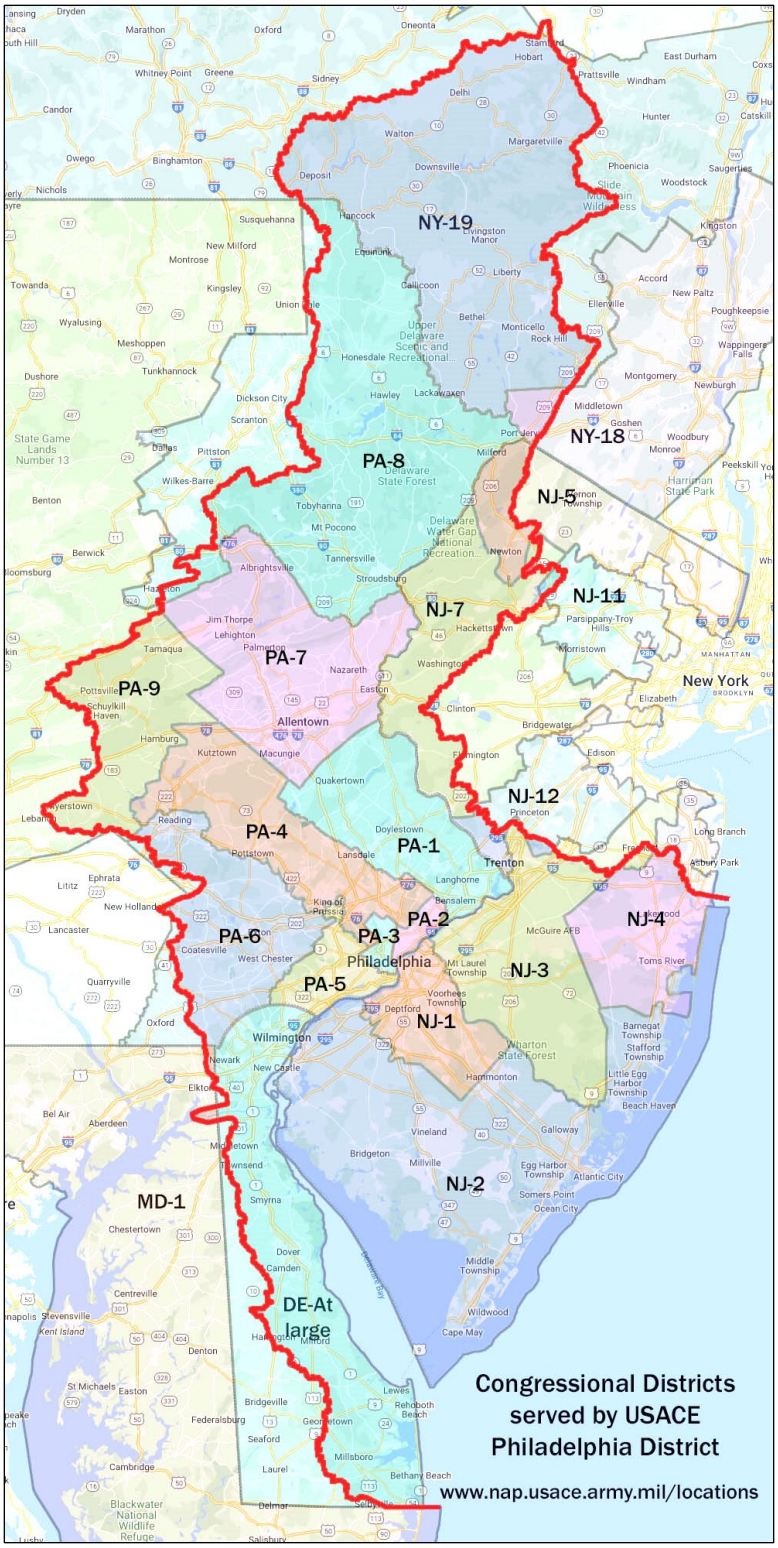
The USACE Mission: Deliver vital public and military engineering services, partnering in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters

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

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.

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Delaware Inland Bays & Delaware Bay Coast Study, DE	GI	DE-a/l	1,000	`					-	600		
Musconetcong River Habitat Connectivity Study, NJ	GI	NJ-7	-	50					-	500		
New Jersey Back Bays Study, NJ	GI	NJ-2,4	6,251						-	2,774		
Francis E. Walter Dam Re-evaluation Study, PA	GI	PA-7,8	999						-			
Delaware River Dredged Material Utilization - Delaware (PED)	GI	DE-a/l	910						-			
Delaware River Dredged Material Utilization - New Jersey (PED)	GI	NJ-2	-						-			
Delaware Bay Coastline, Roosevelt Inlet & Lewes Beach, DE	Const	DE-a/l	4,500						-			
Delaware Coast Protection (Sand Bypass Plant), DE	Const	DE-a/l	1,200	850			150	700	850	150		
Delaware Coast, Bethany Beach/ South Bethany, DE	Const	DE-a/l	8,650						-			
Delaware Coast, Fenwick Island, DE	Const	DE-a/l	4,000						-			
Delaware Coast, Rehoboth Beach & Dewey Beach, DE	Const	DE-a/l	15,331						-			
Absecon Island, NJ	Const	NJ-2	-	20,000					-	25,000		25,000
Barnegat Inlet to Little Egg Inlet (LBI), NJ	Const	NJ-2	-	32,000			32,000		32,000	500		
Brigantine Island, NJ	Const	NJ-2	-	12,580		7,580		5,000	12,580	200		
Cape May Inlet to Lower Township (Cape May), NJ	Const	NJ-2	12,800						-			
Delaware Bay Coast, Oakwood Beach, NJ	Const	NJ-2	5,000						-			
Great Egg Harbor & Peck Beach (Ocean City), NJ	Const	NJ-2	17,000						-			
Great Egg Harbor Inlet to Townsends Inlet, NJ	Const	NJ-2	15,033						-			

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Lower Cape May Meadows & Cape May Point, NJ	Const	NJ-2	-						-	8,000	4,000	
Hereford Inlet to Cape May Inlet (Wildwoods), NJ	Const	NJ-2	-						-			
Manasquan Inlet to Barnegat Inlet, NJ	Const	NJ-4	30,200						-	600		
Townsends Inlet to Cape May Inlet, NJ	Const	NJ-2	27,620	1,000			1,000		1,000	400		
Brandywine Creek, DE (Sec 206)	CAP	DE-a/l	-	100						550		
Christina River Watershed, DE (Sec. 204)	CAP	DE-a/l	-	100					-			
Delaware Estuary Oyster Restoration (Sec. 206)	CAP	DE-a/l, NJ-2	-	50					-	50		
Mispillion Inlet, DE (Sec. 111)	CAP	DE-a/l	147	200					-	550		
Wilmington Harbor, DE (Sec. 107)	CAP	DE-a/l	50						-	100		
Absecon Inlet, Atlantic City, NJ (Sec. 111)	CAP	NJ-2	50	50					-	100		
Cape May City, Delaware Ave, NJ (Sec. 14)	CAP	NJ-2	900						-			
Cape May Seawall, NJ (Sec. 103)	CAP	NJ-2	-	250					-	2,000		
Mordecai Island Restoration, NJ (Sec. 1135)	CAP	NJ-2	498	50					-	500		
Supawna Meadows, NJ (Sec. 204)	CAP	NJ-2	50	50					-			
Delran Township, NJ (Sec. 14)	CAP	NJ-3	100	100					-	285		
Lumberton Township, NJ (Sec. 205)	CAP	NJ-3	50	50					-			
Bloomsbury Dam Removal, NJ (Sec. 206)	CAP	NJ-7	3,810	300					-			
Pequest River, NJ (Sec. 206)	CAP	NJ-7	-	100					-	550		
Tookany Creek, Cheltenham Twp, PA (Sec. 205)	CAP	PA-4		100					-	600		
Eastwick, Philadelphia County, PA (Sec. 205)	CAP	PA-5	455	75					-	100		

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Dyberry Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
Shehawken Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
Van Auken Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
West Branch Lackawaxen River, PA (Sec. 14)	CAP	PA-8	-	50					-			
Texas Township, PA (Sec. 14)	CAP	PA-8		50								
Abington Township Environmental Improvements, PA	566	PA-4	2,800						-			
Boulevard Dam Removal, PA	566	PA-2							-			
Cedar Creek, DE	O&M	DE-a/l	-	1,060			1,110		1,110	1,110	1,110	
Harbor of Refuge, Delaware Bay, DE	O&M	DE-a/l	250	17,910					-	18,670		
Indian River Inlet & Bay, DE	O&M	DE-a/l	43,901	29,071	281		281		281	50		
Inland Waterway, Del R to Ches Bay, DE & MD (C&D Canal)	O&M	DE-a/l	81,414	84,312	22,327		22,327	8,790	31,117	59,042	20,427	
ICW, Rehoboth Bay to Del Bay, DE (Lewes & Rehoboth Canal)	O&M	DE-a/l	3,934	550	550		7,550		7,550	7,190		
Little River, DE	O&M	DE-a/l	250						-			
Mispillion River, DE	O&M	DE-a/l	400	885					-	715		
Murderkill River, DE	O&M	DE-a/l	-	1,050					-	1,455		
Wilmington Harbor (Christina River), DE	O&M	DE-a/l	9,111	14,212	10,537		10,537		10,537	15,345	15,095	
Delaware River, Philadelphia to Sea, NJ, PA & DE	O&M	DE, NJ-1, 2, PA-2,5	95,005	65,635	46,249	500	46,249	3,680	50,429	57,460	47,860	25,000
Delaware River, Philadelphia to Trenton, PA & NJ	O&M	NJ-1,3, PA-1,2	13,573	30,805	17,725		17,725		17,725	30,900	18,070	
Absecon Inlet, NJ	O&M	NJ-2	-	1,400					-	3,645		
Barnegat Inlet, NJ	O&M	NJ-2	1,675	1,366		329			329	39,370		336
Cold Spring Inlet, NJ	O&M	NJ-2	2,109	2,038	20	409	20		429	6,495		418
Manasquan River, NJ	O&M	NJ-4	372	1,698	435		435		435	1,058		
Maurice River, NJ	O&M	NJ-2	3,970	-					-	1,640		

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
New Jersey Intracoastal Waterway, NJ	O&M	NJ-2,4	15,325	12,800	1,060	151	1,060		1,211	4,940	2,852	7,429
Salem River, NJ	O&M	NJ-2	7,249	6,850	100	6,858	100		6,958	100		6,966
Toms River, NJ	O&M	NJ-4	-	870					-	980		
Tuckerton Creek, NJ	O&M	NJ-2	-	1,235					-	1,235		
Beltzville Lake, PA	O&M	PA-7	3,267	3,995	1,744	2,650	1,744		4,394	1,908	1,857	
Blue Marsh Lake, PA	O&M	PA-4	6,337	8,756	4,357	6,000	4,357		10,357	4,884	3,950	
Francis E. Walter Dam & Reservoir, PA	O&M	PA-8	1,313	3,383	2,273	2,100	2,273		4,373	2,601	1,622	
Gen. Edgar Jadwin Dam & Reservoir, PA	O&M	PA-8	490	702	392		392		392	716	716	
Prompton Lake, PA	O&M	PA-8	1,039	1,105	584	1,675	584		2,259	618	608	
Schuylkill River, PA	O&M	PA-3,5	5,099	16,997	100	8,000	100		8,100	16,997		

USACE Philadelphia District Civil Works Projects

PROJECTS AUTHORIZED IN WRDA 2022

Project	CW Acct.	Congr. Dists.
Maurice River, NJ (NAV, BUDM, CSRM & ER)	GI	NJ-2
Brodhead Creek Watershed, PA (ER & FRM)	GI	PA-8
Coplay Creek, PA (FRM)	GI	PA-7
Salem River Deepening, NJ (NAV)	GI	NJ-2
Southeastern Pennsylvania & Lower Delaware River Basin, NJ, PA & DE ($70M)	566	DE, NJ-1,2, 3,12, PA-1, 2,3,4,5,6,9
Kent County, DE ($35M)	219	DE-a/l
New Castle County, DE ($35M)	219	DE-a/l
Sussex County, DE ($35M)	219	DE-a/l
Camden, NJ ($119M)	219	NJ-1
Jefferson Twp, NJ ($90M)	219	NJ-11
Phillipsburg, NJ ($2.6M)	219	NJ-7
Palmyra Twp, PA ($36.3M)	219	PA-8
Pike County, PA ($10M)	219	PA-8
Pocono Twp, PA ($22M)	219	PA-8
Westfall Twp, PA (S16.9M)	219	PA-8
Whitehall & S Whitehall Twps, PA ($6M)	219	PA-7

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Delaware Inland Bays & Delaware Bay Coast Study, DE	GI	DE-a/l	1,000	`					-	600		
Delaware River Dredged Material Utilization - Delaware (PED)	GI	DE-a/l	910						-			
Delaware Bay Coastline, Roosevelt Inlet & Lewes Beach, DE	Const	DE-a/l	4,500						-			
Delaware Coast Protection (Sand Bypass Plant), DE	Const	DE-a/l	1,200	850			150	700	850	150		
Delaware Coast, Bethany Beach/ South Bethany, DE	Const	DE-a/l	8,650						-			
Delaware Coast, Fenwick Island, DE	Const	DE-a/l	4,000						-			
Delaware Coast, Rehoboth Beach & Dewey Beach, DE	Const	DE-a/l	15,331						-			
Brandywine Creek, DE (Sec 206)	CAP	DE-a/l	-	100						550		
Christina River Watershed, DE (Sec. 204)	CAP	DE-a/l	-	100					-			
Delaware Estuary Oyster Restoration (Sec. 206)	CAP	DE-a/l, NJ-2	-	50					-	50		
Mispillion Inlet, DE (Sec. 111)	CAP	DE-a/l	147	200					-	550		
Wilmington Harbor, DE (Sec. 107)	CAP	DE-a/l	50						-	100		
Cedar Creek, DE	O&M	DE-a/l	-	1,060			1,110		1,110	1,110	1,110	
Harbor of Refuge, Delaware Bay, DE	O&M	DE-a/l	250	17,910					-	18,670		
Indian River Inlet & Bay, DE	O&M	DE-a/l	43,901	29,071	281		281		281	50		
Inland Waterway, Del R to Ches Bay, DE & MD (C&D Canal)	O&M	DE-a/l	81,414	84,312	22,327		22,327	8,790	31,117	59,042	20,427	
ICW, Rehoboth Bay to Del Bay, DE (Lewes & Rehoboth Canal)	O&M	DE-a/l	3,934	550	550		7,550		7,550	7,190		
Little River, DE	O&M	DE-a/l	250						-			
Mispillion River, DE	O&M	DE-a/l	400	885					-	715		

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Murderkill River, DE	O&M	DE-a/l	-	1,050					-	1,455		
Wilmington Harbor (Christina River), DE	O&M	DE-a/l	9,111	14,212	10,537		10,537		10,537	15,345	15,095	
Delaware River, Philadelphia to Sea, NJ, PA & DE	O&M	DE, NJ-1, 2, PA-2,5	95,005	65,635	46,249	500	46,249	3,680	50,429	57,460	47,860	25,000

USACE Philadelphia District Civil Works Projects - DE

PROJECTS AUTHORIZED IN WRDA 2022

Project	CW Acct.	Congr. Dists.
Southeastern Pennsylvania & Lower Delaware River Basin, NJ, PA & DE ($70M)	566	DE, NJ-1,2, 3,12, PA-1, 2,3,4,5,6,9
Kent County, DE ($35M)	219	DE-a/l
New Castle County, DE ($35M)	219	DE-a/l
Sussex County, DE ($35M)	219	DE-a/l

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Musconetcong River Habitat Connectivity Study, NJ	GI	NJ-7	-	50					-	500		
New Jersey Back Bays Study, NJ	GI	NJ-2,4	6,251						-	2,774		
Delaware River Dredged Material Utilization - New Jersey (PED)	GI	NJ-2	-						-			
Absecon Island, NJ	Const	NJ-2	-	20,000					-	25,000		25,000
Barnegat Inlet to Little Egg Inlet (LBI), NJ	Const	NJ-2	-	32,000			32,000		32,000	500		
Brigantine Island, NJ	Const	NJ-2	-	12,580		7,580		5,000	12,580	200		
Cape May Inlet to Lower Township (Cape May), NJ	Const	NJ-2	12,800						-			
Delaware Bay Coast, Oakwood Beach, NJ	Const	NJ-2	5,000						-			
Great Egg Harbor & Peck Beach (Ocean City), NJ	Const	NJ-2	17,000						-			
Great Egg Harbor Inlet to Townsends Inlet, NJ	Const	NJ-2	15,033						-			
Lower Cape May Meadows & Cape May Point, NJ	Const	NJ-2	-						-	8,000	4,000	
Hereford Inlet to Cape May Inlet (Wildwoods), NJ	Const	NJ-2	-						-			
Manasquan Inlet to Barnegat Inlet, NJ	Const	NJ-4	30,200						-	600		
Townsends Inlet to Cape May Inlet, NJ	Const	NJ-2	27,620	1,000			1,000		1,000	400		
Absecon Inlet, Atlantic City, NJ (Sec. 111)	CAP	NJ-2	50	50					-	100		
Cape May City, Delaware Ave, NJ (Sec. 14)	CAP	NJ-2	900						-			
Cape May Seawall, NJ (Sec. 103)	CAP	NJ-2	-	250					-	2,000		

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Mordecai Island Restoration, NJ (Sec. 1135)	CAP	NJ-2	498	50					-	500		
Supawna Meadows, NJ (Sec. 204)	CAP	NJ-2	50	50					-			
Delran Township, NJ (Sec. 14)	CAP	NJ-3	100	100					-	285		
Lumberton Township, NJ (Sec. 205)	CAP	NJ-3	50	50					-			
Bloomsbury Dam Removal, NJ (Sec. 206)	CAP	NJ-7	3,810	300					-			
Pequest River, NJ (Sec. 206)	CAP	NJ-7	-	100					-	550		
Delaware River, Philadelphia to Sea, NJ, PA & DE	O&M	DE, NJ-1, 2, PA-2,5	95,005	65,635	46,249	500	46,249	3,680	50,429	57,460	47,860	25,000
Delaware River, Philadelphia to Trenton, PA & NJ	O&M	NJ-1,3, PA-1,2	13,573	30,805	17,725		17,725		17,725	30,900	18,070	
Absecon Inlet, NJ	O&M	NJ-2	-	1,400					-	3,645		
Barnegat Inlet, NJ	O&M	NJ-2	1,675	1,366		329			329	39,370		336
Cold Spring Inlet, NJ	O&M	NJ-2	2,109	2,038	20	409	20		429	6,495		418
Manasquan River, NJ	O&M	NJ-4	372	1,698	435		435		435	1,058		
Maurice River, NJ	O&M	NJ-2	3,970	-					-	1,640		
New Jersey Intracoastal Waterway, NJ	O&M	NJ-2,4	15,325	12,800	1,060	151	1,060		1,211	4,940	2,852	7,429
Salem River, NJ	O&M	NJ-2	7,249	6,850	100	6,858	100		6,958	100		6,966
Toms River, NJ	O&M	NJ-4	-	870					-	980		
Tuckerton Creek, NJ	O&M	NJ-2	-	1,235					-	1,235		

USACE Philadelphia District Civil Works Projects - NJ

PROJECTS AUTHORIZED IN WRDA 2022

Project	CW Acct.	Congr. Dists.
Maurice River, NJ (NAV, BUDM, CSRM & ER)	GI	NJ-2
Salem River Deepening, NJ (NAV)	GI	NJ-2
Southeastern Pennsylvania & Lower Delaware River Basin, NJ, PA & DE ($70M)	566	DE, NJ-1,2, 3,12, PA-1, 2,3,4,5,6,9
Camden, NJ ($119M)	219	NJ-1
Jefferson Twp, NJ ($90M)	219	NJ-11
Phillipsburg, NJ ($2.6M)	219	NJ-7

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

Project	CW Acct.	Congr. Dists.	FY22 Funds	FY23 Capab.	FY23 PBUD	FY23 BIL	FY23 Omni	FY23 WP (addl.)	FY23 Funds (total)	FY24 Capab.	FY24 PBUD	FY24 BIL
Francis E. Walter Dam Re-evaluation Study, PA	GI	PA-7,8	999						-			
Tookany Creek, Cheltenham Twp, PA (Sec. 205)	CAP	PA-4		100					-	600		
Eastwick, Philadelphia County, PA (Sec. 205)	CAP	PA-5	455	75					-	100		
Dyberry Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
Shehawken Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
Van Auken Creek, PA (Sec. 14)	CAP	PA-8	-	50					-			
West Branch Lackawaxen River, PA (Sec. 14)	CAP	PA-8	-	50					-			
Texas Township, PA (Sec. 14)	CAP	PA-8		50								
Abington Township Environmental Improvements, PA	566	PA-4	2,800						-			
Boulevard Dam Removal, PA	566	PA-2							-			
Delaware River, Philadelphia to Sea, NJ, PA & DE	O&M	DE, NJ-1, 2, PA-2,5	95,005	65,635	46,249	500	46,249	3,680	50,429	57,460	47,860	25,000
Delaware River, Philadelphia to Trenton, PA & NJ	O&M	NJ-1,3, PA-1,2	13,573	30,805	17,725		17,725		17,725	30,900	18,070	
Beltzville Lake, PA	O&M	PA-7	3,267	3,995	1,744	2,650	1,744		4,394	1,908	1,857	
Blue Marsh Lake, PA	O&M	PA-4	6,337	8,756	4,357	6,000	4,357		10,357	4,884	3,950	
Francis E. Walter Dam & Reservoir, PA	O&M	PA-8	1,313	3,383	2,273	2,100	2,273		4,373	2,601	1,622	
Gen. Edgar Jadwin Dam & Reservoir, PA	O&M	PA-8	490	702	392		392		392	716	716	
Prompton Lake, PA	O&M	PA-8	1,039	1,105	584	1,675	584		2,259	618	608	
Schuylkill River, PA	O&M	PA-3,5	5,099	16,997	100	8,000	100		8,100	16,997		

USACE Philadelphia District Civil Works Projects - PA

PROJECTS AUTHORIZED IN WRDA 2022

Project	CW Acct.	Congr. Dists.
Brodhead Creek Watershed, PA (ER & FRM)	GI	PA-8
Coplay Creek, PA (FRM)	GI	PA-7
Southeastern Pennsylvania & Lower Delaware River Basin, NJ, PA & DE ($70M)	566	DE, NJ-1,2, 3,12, PA-1, 2,3,4,5,6,9
Kent County, DE ($35M)	219	DE-a/l
New Castle County, DE ($35M)	219	DE-a/l
Sussex County, DE ($35M)	219	DE-a/l
Palmyra Twp, PA ($36.3M)	219	PA-8
Pike County, PA ($10M)	219	PA-8
Pocono Twp, PA ($22M)	219	PA-8
Westfall Twp, PA (S16.9M)	219	PA-8
Whitehall & S Whitehall Twps, PA ($6M)	219	PA-7

US ARMY CORPS OF ENGINEERS

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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 Risk Management
- 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
- Coastal Storm Risk Management
- 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

Project Manager
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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: 28-NOV-2022

Target Completion Date: 28-NOV-2025

Total Estimated Cost: $2M

Federal Funds Appropriated: $1M

Project Manager
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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.

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

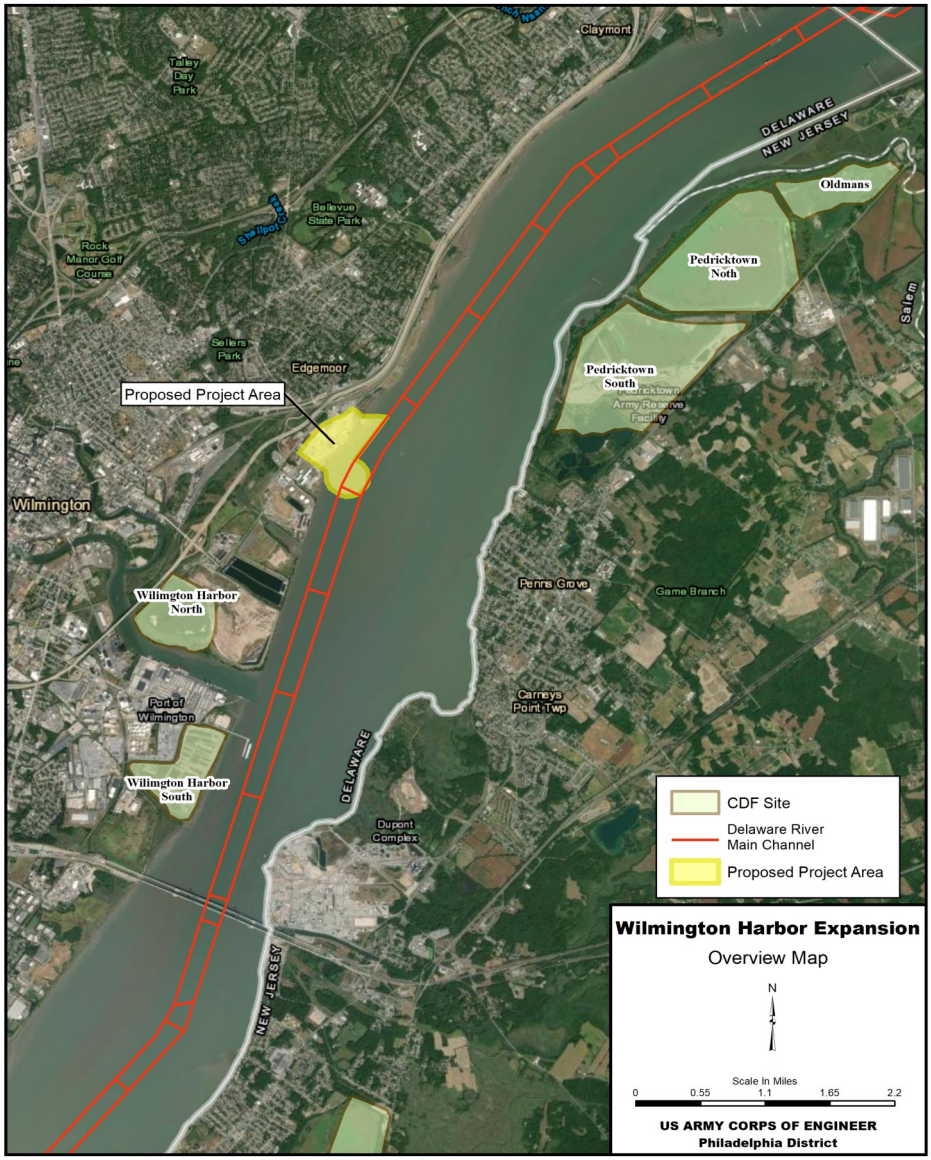
Date of Project Agreement: Jun 2017

Target Completion Date: May 2023

Total Estimated Cost: $1.6M

Federal Funds Appropriated: $0

Non-Federal Share: $1.6M



Diamond State Port Corporation (DSPC) has contracted the Philadelphia District to provide 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).

Project Manager
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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 prepared a Section 408 (Federal project modification request) and Section 10 (navigable waters) 404 (shallow water fill) permit application for decision by the Philadelphia District. The Section 408 approval and Section 10/404 permit were issued on August 4, 2022.

DSPC also requested the use of the existing Wilmington Harbor South Dredged Material Placement Facility (DMPF) for initial construction of the proposed port expansion access channel, which required approval under Section 217(b). A letter report approving the 217(b) request was issued on August 20, 2022.

DSPC submitted the final 204(f) report to the Philadelphia District in January 2023. The District endorsed the report and forwarded it to the North Atlantic Division (NAD) on January 13, 2023. NAD transmitted the report to HQUSACE, Office of Water Project Review, on January 27, 2023, and HQUSACE forwarded the report to the ASA(CW) on February 9, 2023, for review and decision. The ASA(CW) decision for the 204(f) request is expected in April 2023.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Request	TBD	1,633	TBD		Allocations thru FY 23	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

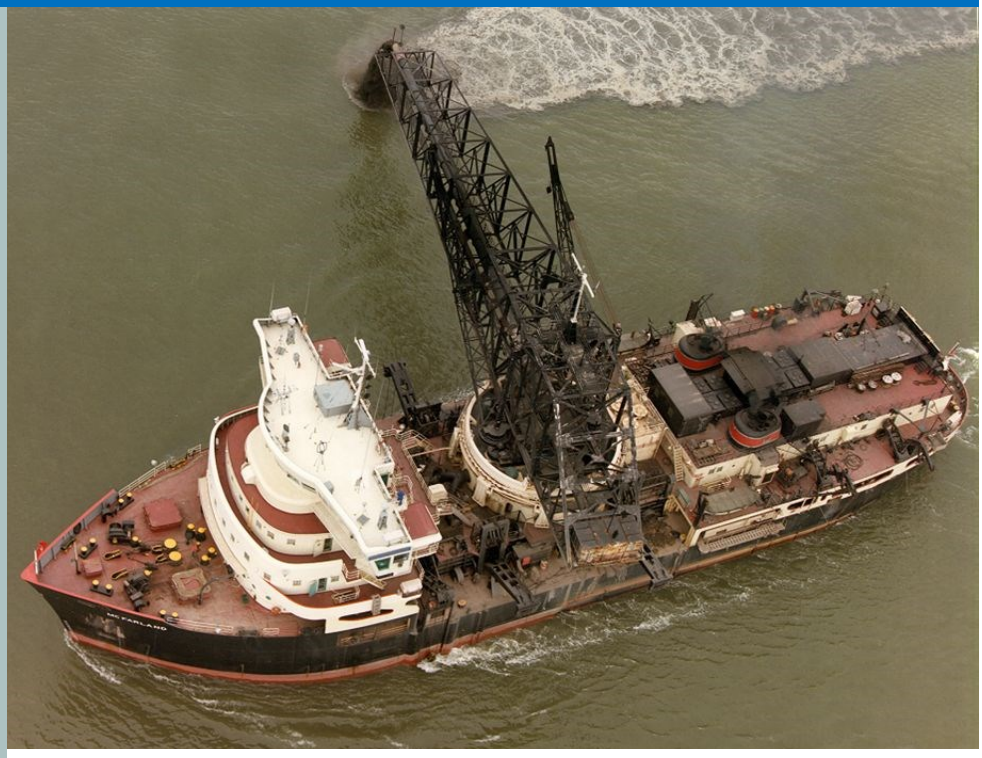
Non-Federal Sponsor: NJDEP

Date of Project Agreement: Feb 2014

Completion Date: Apr 2020

Total Estimated PED Cost: $1.6M

Federal Funds Appropriated: $0



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.

Project Manager
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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: TBD

Target Completion Date: TBD

Total Estimated Cost: $3M

Federal Funds Appropriated: TBD

Non-Federal Cost Share: $1.5M

Project Manager
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Study will evaluate the removal of the Warren Glen Dam for aquatic ecosystem restoration purposes along the Musconetcong River in Warren County, NJ.

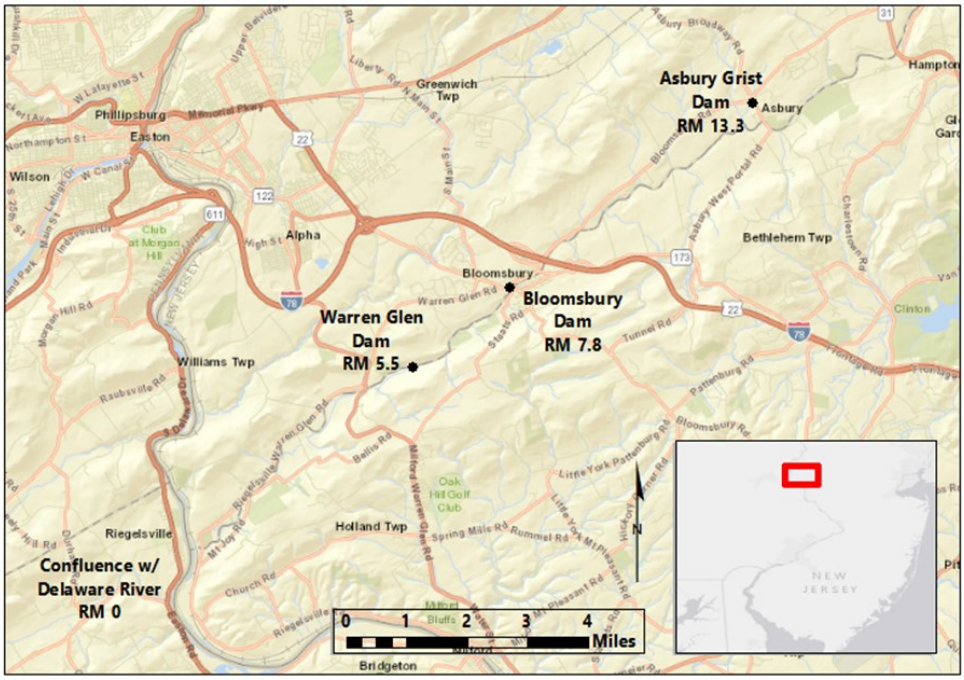
The Musconetcong River is a 45.7-mile-long tributary of the Delaware River in northwestern New Jersey in the United States. The Warren Glen structure is located approximately 5.5 miles upstream of the confluence between the Musconetcong River and the Delaware River, and stands more than 35-feet high. 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.

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	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

New Jersey Back Bays
Coastal Storm Risk Management Feasibility

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

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

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Apr 2016

Target Completion Date: Apr 2025

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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U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

New Jersey Back Bays
Coastal Storm Risk Management Feasibility

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 (Oct 2023; Final Feas Rpt (Dec 2024); and Chiefs Report (Apr 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 report/EIS in August 2021 with strategic engagement of partners and will be releasing a supplemental feasibility report/EIS in Summer 2023. 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
Feasibility	10,262	7,788	18,050

Summarized Federal Financial Data ($000)		
Allocations thru FY20	3,538	
FY 21 Allocation	3,500	
FY 22 Allocation	750	
DRSAA	2,474	
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

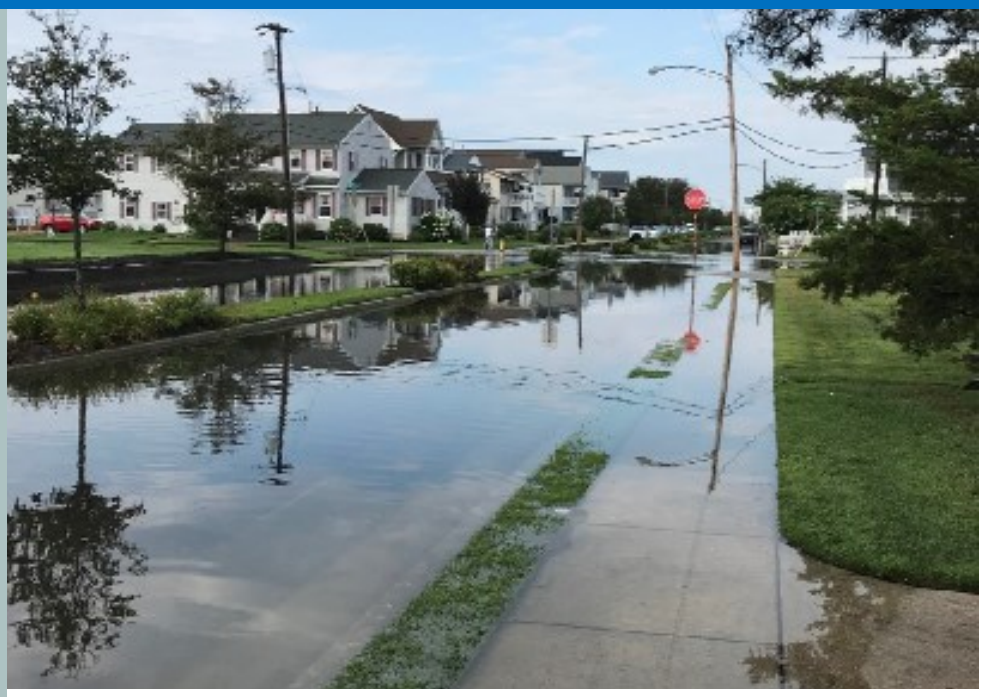
Date of Project Agreement: Jan 2021

Completion Date: February 2023

Total Estimated Cost: $75,000

Federal Funds Appropriated: $37,500

Non-Federal Share: $37,500



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.

USACE

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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	

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

Non-Federal Sponsor: Diamond State Port Corporation

Date of Project Agreement: Sep 2019

Target Completion Date: April 2027

Total Estimated Cost: $8.1M

Federal Funds Appropriated: $1.3M

Non-Federal Share: $1.3M

Project Manager
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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 $37 million tourism industry and provides jobs to 37,500 people in the state.

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, nearly $500M in todays dollars) 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 $5,500,000* and 53 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 23	1,000	Expanded Study Scope
IEPR	200	0	2,800*		Original Scope Remain	500	2,875 (pending approval)

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 2021

Target Completion Date: Spring 2023

Total Estimated Cost: $200,000

Federal Funds Appropriated: $100,000

Non-Federal Share: $100,000

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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 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.

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

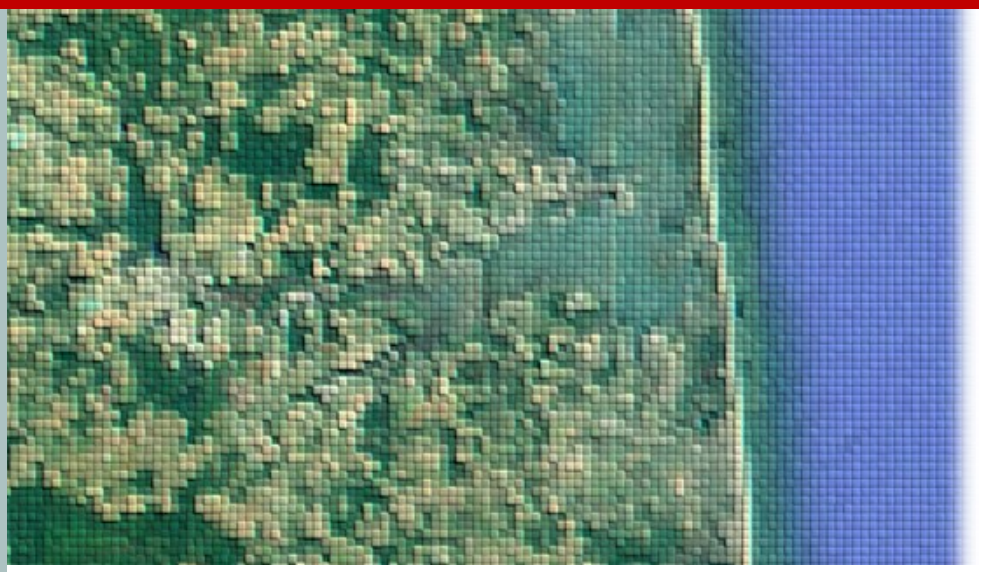
Completion Date: June 2022

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	

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: September 2023

Total Estimated Cost: $224,000

Federal Funds Appropriated: $112,000

Non-Federal Share: $112,000

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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 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.

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

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 FY23, Philadelphia District will be executing 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 FY23 the Philadelphia District began 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 FY23 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 beginning a flood hazard evaluation in Berks County for Maiden 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: 2023

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 completed.

DRBC flow management/reservoir operations model reviewed by ERDC.

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	

US ARMY CORPS OF ENGINEERS
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Philadelphia District

Continuing Authorities Program

CONTINUING AUTHORITIES PROGRAM

SECTION	AUTHORITY	AUTHORITY PURPOSE	FEASIBILITY COST SHARE DIVISION (Fed/non-Fed)	GENERALIZED DESIGN AND IMPLEMENTATION COST SHARE DIVISION (Fed/non-Fed)[1]	MAXIMUM FEDERAL EXPENDITURE PER PROJECT[3]	NATIONAL PROGRAM LIMIT (Per FY)[3]
14	**Emergency Stream Bank and Shoreline Protection** *(Flood Control Act of 1946, as amended, or 33 USC 701r)*	Emergency stream bank stabilization and shoreline protection for public works and non-profit public services in imminent danger of failing (e.g., roads, bridges, hospitals, schools, treatment plants). Private properties/facilities not eligible.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35[2]	$10,000,000	$25,000,000
103	**Beach Erosion and Hurricane and Storm Damage Reduction** *(Rivers and Harbors Act of 1962, as amended, or 33 USC 426g)*	Protection of utilities, roadways and other public infrastructure, private properties, and facilities against damages caused by storm-driven waves and currents (e.g., construction of revetments, groins, and jetties; may also include periodic sand replenishment).	1st $100k Fed; 50/50 cost share for any remaining costs	65/35	$10,000,000	$37,500,000
107	**Navigation Improvements** *(Rivers and Harbors Act of 1960, as amended, or 33 USC 577(a))*	Plan, design, and construct small projects for commercial navigation improvements to ensure safe and efficient use of navigable waterways (e.g., channel dredging, widening of turning basins, breakwaters, jetties).	1st $100k Fed; 50/50 cost share for any remaining costs	Varies, based on depth	$10,000,000	$62,500,000
111	**Shore Damage Prevention or Mitigation of Damages Caused by Federal Navigation Projects** *(Rivers and Harbors Act of 1968, as amended, or 33 USC 426i)*	Investigate and construct projects for the prevention or mitigation of shoreline erosion damages to public and privately owned shores along the coastlines when the damages are a result of a Federal navigation project.	Shared in same proportion as the original project causing damage	Shared in same proportion as the original project causing damage	$12,500,000	N/A
204	**Beneficial Uses of Dredged Material** *(Water Resources Development Act of 1992, as amended, or 33 USC 2326(g))*	Use Regional Sediment Management concepts, restore, protect or create aquatic and wetland habitats in connection with construction maintenance dredging of an authorized Federal navigation project. Base disposal plan is least costly for typical disposal of dredged material.	100/0	100/0 for base disposal plan 65/35 for costs beyond base disposal	$10,000,000	$62,500,000
205	**Flood Risk Management** *(Flood Control Act of 1948, as amended, or 33 USC 701s)*	Local protection from flooding by non-structural measures (e.g., flood warning systems or flood proofing) or by structural flood risk management features (e.g., levees, diversion channels, or impoundments).	1st $100k Fed; 50/50 cost share for any remaining costs	65/35[2]	$10,000,000	$68,500,000
206	**Aquatic Ecosystem Restoration** *(Water Resources Development Act of 1996, as amended, or 33 USC 2330)*	Restore degraded aquatic ecosystems and wetland habitats to improve the quality of the environment.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35	$10,000,000	$62,500,000
208	**Snagging and Clearing for Flood Damage Reduction** *(Flood Control Act of 1954, as amended, or 33 USC 701g)*	Channel clearing and excavation, with limited embankment construction by use of materials from the clearing operation only.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35[2]	$500,000	$7,500,000
1135	**Project Modifications for Improvement of the Environment** *(Water Resources Development Act of 1986, as amended, or 33 USC 2309a)*	Modifications of USACE-constructed water resources projects to improve the quality of the environment. Also, restoration projects at locations where an existing USACE project contributed to the degradation.	1st $100k Fed; 50/50 cost share for any remaining costs	75/25	$10,000,000	$50,000,000

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

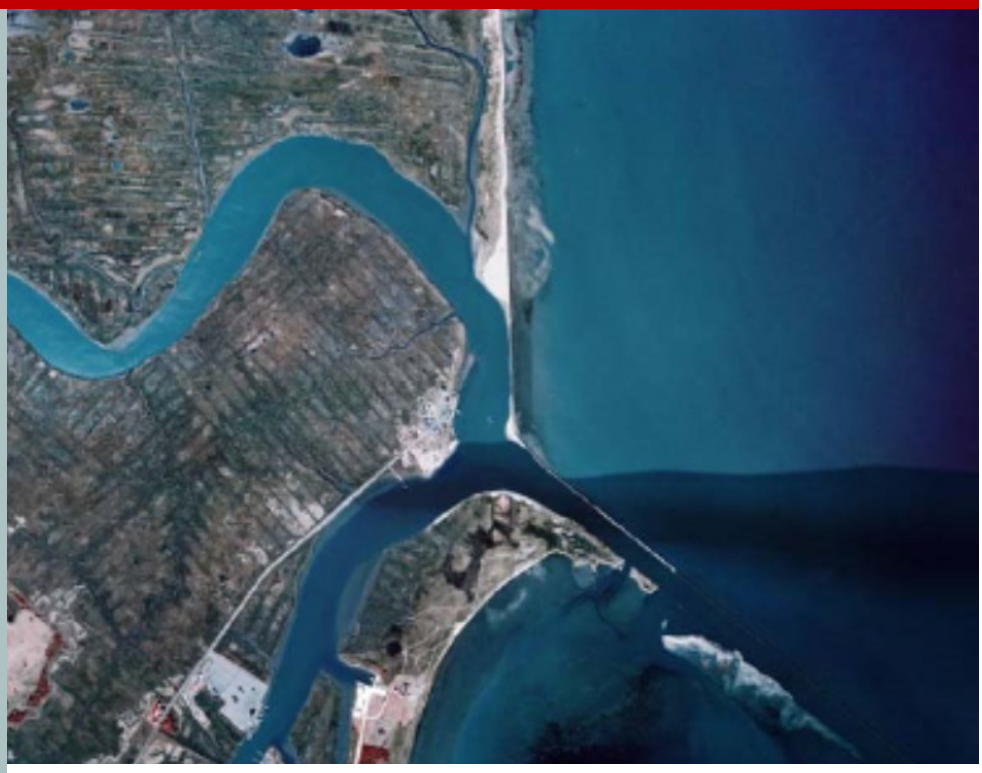
Date of Feasibility Agreement: Not Required

Target Completion Date: TBD

Federal Funds Appropriated: $300,000

Non-Federal Share: $0

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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.

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 and will be submitted for approval at the end of April 2023.

Summarized Federal Financial Data ($000)		
Allocations through FY 17	100	
Allocations through FY 17	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

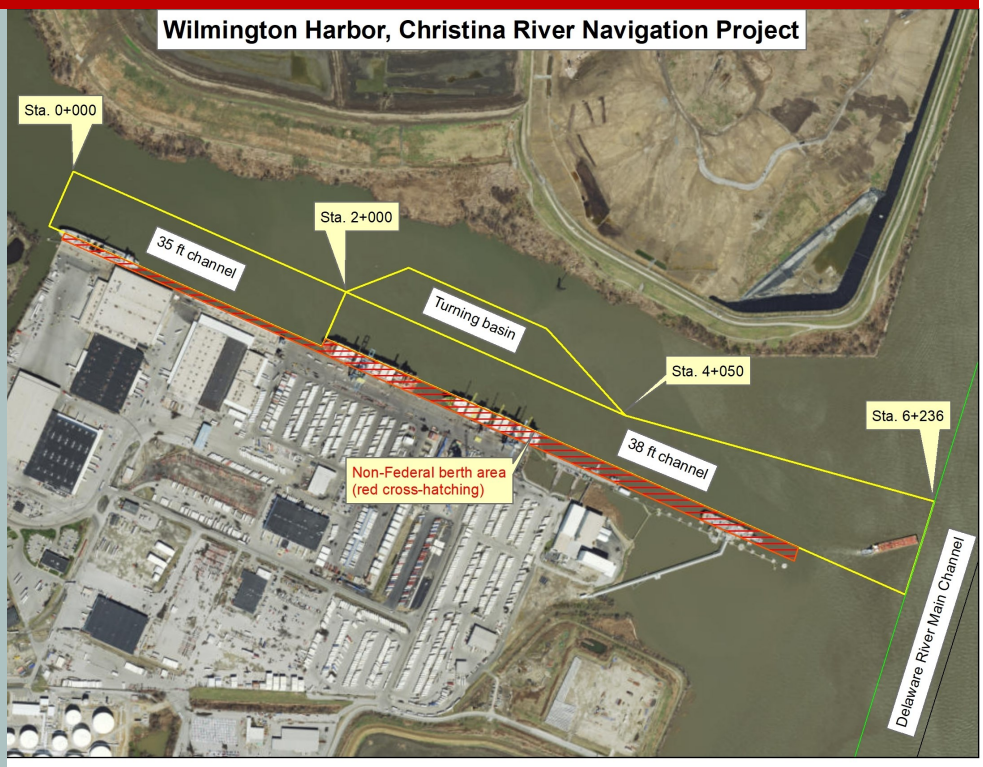
Non-Federal Sponsor: DSPC

Date of Project Agreement: PPA scheduled for September 2023 pending FID approval

Target Completion Date: June 2023

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 June 2023.

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

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Assunpink Creek, Hamilton Township, Mercer County, NJ

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: NJ-3

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.

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.

A tentatively selected plan (TSP) has been identified; however, the NFS has indicated that they may not support the plan due to the high residual risk with the proposed project in place. CAP study termination is pending based on additional coordination with the Non-Federal Sponsor.

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

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



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 March 2023.

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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: $1,470,125

Project Manager
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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 .

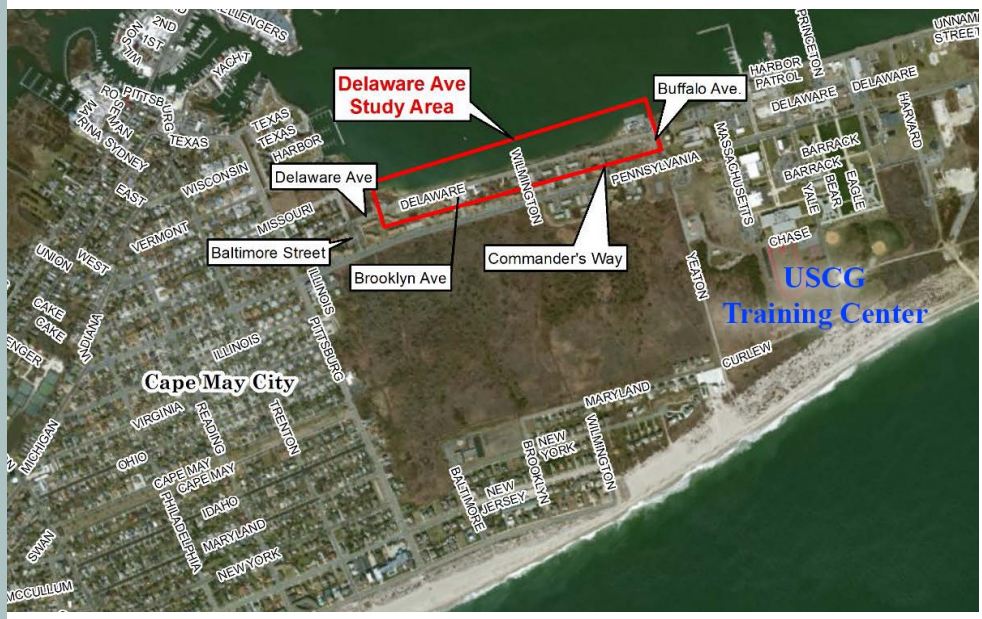
Cape May City (Delaware Avenue), NJ

- **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

Feasibility Completion Date: September 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 examined the existing conditions and explored 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 Feasibility Phase was completed in September 2022 and included the following:

- Feasibility Report Decision Document
- Environmental Assessment and NEPA documentation for the project
- Supporting plans (e.g. Real Estate Plan) as needed for the Feasibility Report

Study completion was in September 2022. A Project Management Plan is under development for the pending execution of a Project Partnering Agreement (scheduled for May 2023) in order to commence the Design and Implementation Phase. Construction is scheduled to commence in June of 2024 and is estimated to cost $3.379M (65% / 35% Fed / non-Fed cost share).

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

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

Project Manager
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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.

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

Non-Federal Sponsor: NJDEP

Date of Feasibility Agreement: April 2017

Target Completion Date: July 2023

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 September 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

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: July 2023

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 2023), 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 CY23 (December 2023).

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

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Eastwick, Philadelphia County, PA

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: PA-4

Non-Federal Sponsor: City of Philadelphia Water Department

Date of Feasibility Agreement: May 2019

Target Completion Date: November 2023

Federal Funds Appropriated: $355,000

Non-Federal Share: $355,000

Project Manager
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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. The Draft Feasibility Report is scheduled for release in Summer of 2023.

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	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Tookany Creek, Cheltenham Township, Montgomery County, PA

Authority: Section 205 of the Flood Control Act of 1948

Congressional District: PA-4

Non-Federal Sponsor: Cheltenham Township

Date of Feasibility Agreement: June 2012

Feasibility Completion Date: September 2022

Federal Funds Appropriated: $512,900

Non-Federal Share: $330,000

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Tookany Creek is partially channelized in concrete flumes.

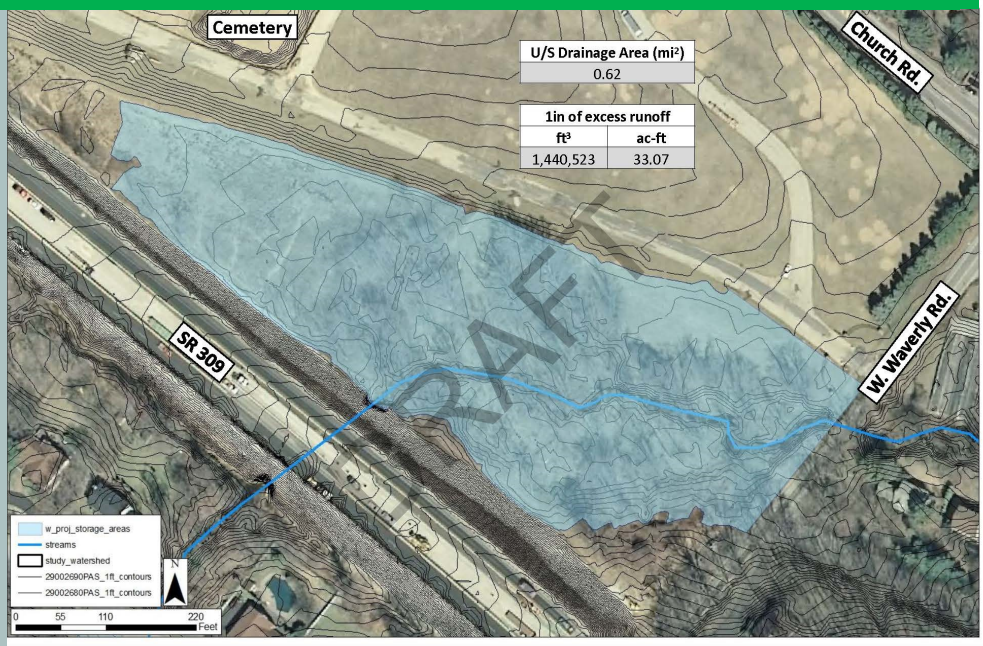
This project is authorized under Section 205 of the Flood Control Act of 1948, as amended.

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.

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 finalized the feasibility study in September 2022. The District is currently coordinating with the Cheltenham Township to develop a Project Management Plan and a Project Partnership Agreement (PPA) for the design and implementation phase.

Summarized Federal Financial Data ($000)		
Allocations thru FY 18	521.9	
FY 19 Allocation	5	
FY 20 Allocation	0	
FY 21 Allocation	0	
Balance to Complete	TBD	

US Army Corps of Engineers®
Philadelphia District

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Construction

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
- Coastal Storm Risk Management
- Flood Risk Management
- Hydropower
- Navigation
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance, Environmental Infrastructure and Hydropower)

State Color Codes
Delaware
New Jersey
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 to continue construction including periodic nourishment is to initiate a General Reevaluation Report (GRR). The GRR would be to update the economics, environmental studies, design and formulation of the project. This would require a letter of intent (LOI) from the sponsor requesting a GRR, their willingness to enter into a cost sharing agreement for the GRR with 50/50% cost share and adequate Federal funding. After a completed GRR reauthorization of the project may be necessary. If reauthorization is not necessary the project could proceed with the development of the Project Partnership Agreement (PPA) with the sponsor. Once executed steps toward initial construction could begin. These steps include adequate funding and acquisition of necessary real estate easements by the non-Federal sponsor.

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Mar 2016	
2nd Periodic Nourishment	FY 26 (S)		Was scheduled for FY 21, but without LRR & PPA nourishment will be delayed until at least FY 26

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Total Construction	100,684	54,135	154,820

Summarized Federal Financial Data ($000)		
Allocations thru FY21	683	
FY 22 Allocation	0	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	100,001	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: $1,098,000

Non-Federal Share: $125,000

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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.

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. The LRR was a post authorization study 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. The LRR documented the results of the analysis undertaken.

Initiation of construction is dependent on several steps starting with a General Reevaluation Report (GRR). To initiate a GRR a letter of intent (LOI) is required from the sponsor requesting a GRR, their willingness to enter into a cost sharing agreement for the GRR with 50/50% cost share and adequate Federal funding. The GRR would be to update the economics, environmental studies, design and formulation of the project. After a completed GRR reauthorization of the project may be necessary. If reauthorization is not necessary the project could proceed with the development of the Project Partnership Agreement (PPA) with the sponsor. Once executed steps toward initial construction could begin. These steps include adequate funding and acquisition of necessary real estate easements by the non-Federal sponsor.

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 FY21	1,098	
FY 22 Allocation	0	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	9,070	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: $31.5M

Federal Funds Appropriated: $10.04M

Non-Federal Share: $3.1M

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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.

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 FY22 Bipartisan Infrastructure Law (BIL) funded $4.5M to complete this cycle of nourishment. This contract is scheduled to be awarded 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 22 BIL

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	24,200	7,279	31,479

Summarized Federal Financial Data ($000)		
Allocations thru FY21	10,034	
FY 22 Allocation	4,500	BIL
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	9,666	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware Coast, Cape Henlopen to Fenwick Island
Bethany Beach & South Bethany Beach

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

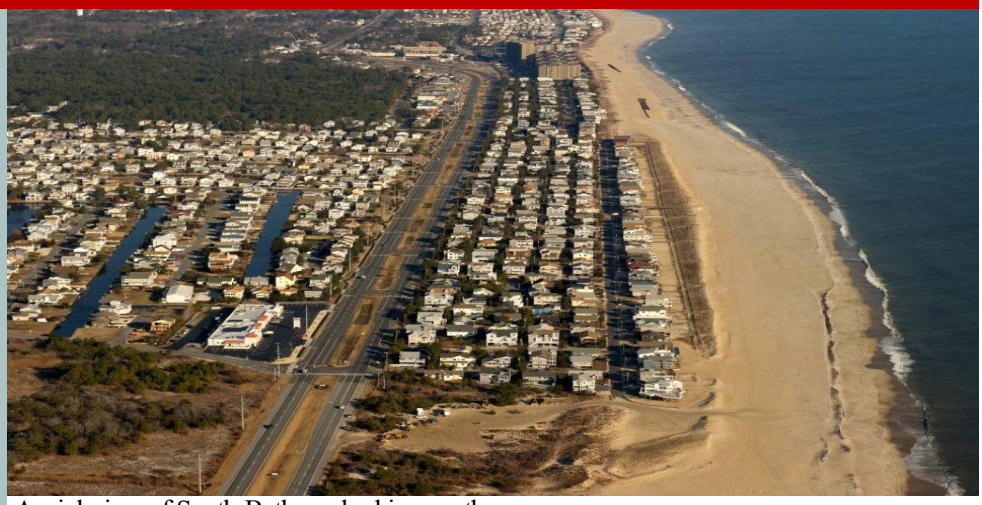
Target Completion Date: 2057

Total Estimated Cost: $272.9M

Federal Funds Appropriated: $47.7M

Non-Federal Share: $25.8M

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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.

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.

Delaware Coast, Cape Henlopen to Fenwick Island, Bethany Beach and South Bethany Beach, 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.

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.

FY22 Bilateral Infrastructure Law (BIL) provided $8.65M to initiate and complete periodic nourishment. Contract was awarded in NOV 2022 with construction scheduled to start in APR 2023. Project has been combined in a singular contract with Rehoboth Beach/Dewey Beach and Fenwick Island projects.

Next scheduled nourishment is scheduled for FY25 but is dependent on receipt of adequate funds.

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	APR 2023 (S)		Contract awarded in NOV 2022

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	177,400	95,518	272,918

Summarized Federal Financial Data ($000)		
Allocations thru FY21	39,028	
FY 22 Allocation	8,650	BIL
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	129,722	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: $160.3M

Federal Funds Appropriated: $12.3M

Non-Federal Share: $11.2M

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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.

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 provided $7.65M to initiate and complete periodic nourishment. Contract was awarded in NOV 2022 with construction scheduled to start in APR 2023. Project has been combined in a singular contract with Rehoboth Beach/Dewey Beach and Bethany Beach/South projects.

Next scheduled nourishment is scheduled for FY26 but is dependent on receipt of 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	APR 2023 (S)		Contract awarded in NOV 2022

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	81,031	79,222	160,254

Summarized Federal Financial Data ($000)		
Allocations thru FY21	8,327	
FY 22 Allocation	4,000	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	68,704	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: $130.1M

Federal Funds Appropriated: $54.7M

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.

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.

FY22 Work Plan provided $7.65M to initiate and complete periodic nourishment. Contract was awarded in NOV 2022 with construction scheduled to start in APR 2023. Project has been combined in a singular contract with Bethany Beach/South Bethany Beach and Fenwick Island projects.

Next scheduled nourishment is scheduled for FY25. FY22 Bilateral Infrastructure Law (BIL) Addendum funded $7,680,500 for this project. These funds are not required for the current nourishment cycle and will be utilized in FY25 for the next cycle.

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	APR 2023 (S)		Contract awarded in NOV 2022

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	82,552	47,527	130,079

Summarized Federal Financial Data ($000)		
Allocations thru FY21	39,358	
FY 22 Allocation	7,650	
FY 23 Work Plan	7,681	FY22 BIL Addendum for $7,680,500
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	27,863	

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: $27.9M

Federal Funds Appropriated: $11.6M

Non-Federal Share: $677K

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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.

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 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 have been used to reimbursement the State of Delaware for shortages from 2016 and 2022. These funds were for the federal share of operation and maintenance of the plant.

The sand bypass plant has recently had the crane and engine overhauled. Currently the plant is being converted to electric. Expected to resume in operations in early 2023.

Utilizing Section 8129(a)(2)(B) of WRDA 2022 Corps is working with DNREC to further extend the project from 2028 to 2034. This section of WRDA 2022 authorizes an additional 6 years. A draft LCA Amendment (#2) similar to the LCA Amendment (#1) executed in June 2021 is being developed for review which when executed would extended the project to 2034.

FY23 Work Plan funds will be used to reimburse the state for operations and maintenance of the sand bypass plant including the electric conversion and project monitoring.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	12,487	15,435	27,922

Summarized Federal Financial Data ($000)		
Allocations thru FY21	9,552	
FY 22 Allocation	1,200	
FY 23 Work Plan	850	
FY 24 Budget	TBD	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	885	

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: $917.8M

Federal Funds Appropriated: $274.3M (includes Sandy CG funds)

Non-Federal Share: $48.6M





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.

FY23 funds will be used to initiate and complete periodic nourishment. Contract award is scheduled for the end of FY 23. With a successful award construction would take place in fall/winter 2023/2024.

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 23 (S)		FY23 Funds

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	653,845	263,915	917,758

Sandy P.L. 113.2 CG funds of $168.0M were rec'd to complete initial construction.

Summarized Federal Financial Data ($000)		
Allocations thru FY21	242,756	
FY 22 Allocation	-459	Reprogrammed excess Sandy Funds
FY 23 Work Plan	32,000	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	379,548	

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)

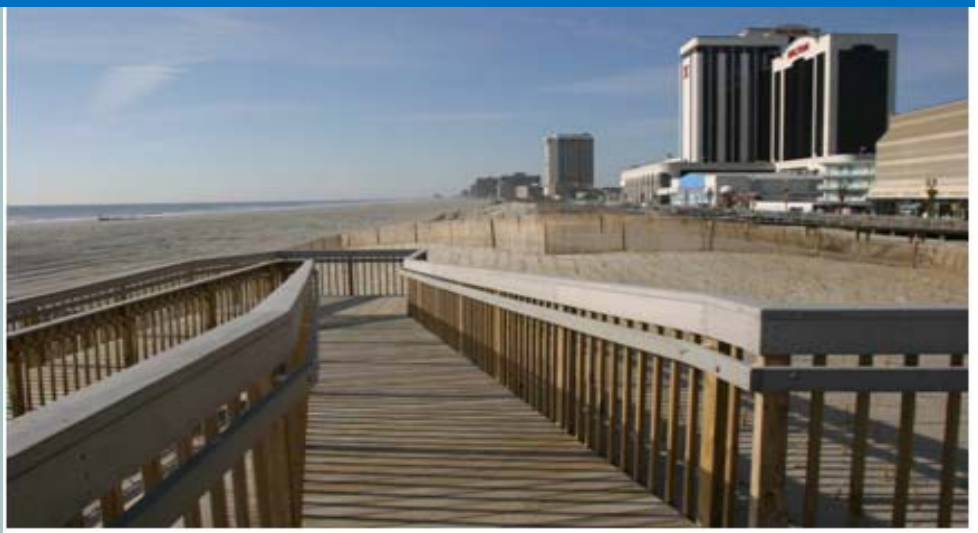
Target Completion Date: 2053

Total Estimated Cost: $905.7M

Federal Funds Appropriated: $199.0M (includes Sandy CG funds)

Non-Federal Share: $39.1M

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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.

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 were 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 was scheduled for FY23. However adequate funds were not received. The FY24 Bilateral Infrastructure Law (BIL) was released on 9 MAR 23 and included $25.0M to initiate and complete the next nourishment cycle.

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 24 (S)		Funding provided in FY24 BIL

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	624,463	281,283	905,746

Sandy P.L. 113.2 funds of $101.4M 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 FY21	174,300	
FY 22 Allocation	-300	Reprogrammed excess Sandy funds
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	25,000	FY24 BIL
Balance to Complete	425,463	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: $85.5M

Federal Funds Appropriated: $22.6M

Non-Federal Share: $9.4M

Project Manager
Erik Rourke
Phone : (215) 656-32116616
E-mail:
Erik.J.Rourke@usace.army.mil





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.

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.

FY23 Bipartisan Infrastructure Law (BIL) ($7.58M) and FY23 Work Plan ($5.0M) have provided $7.58M to initiate and complete periodic nourishment. Contract award is scheduled for MAY 2023. With a successful contract award construction could begin in summer 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 23 (S)		FY 23 BIL & FY23 WP funds have been provided

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	55,554	29,914	85,468

Summarized Federal Financial Data ($000)		
Allocations thru FY21	10,022	
FY 22 Allocation	0	
FY 23 Work Plan	12,580	BIL ($7.58M) & WP ($5.0M)
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	32,952	

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: $212.1M

Federal Funds (including USCG) Appropriated: $95.1M

Non-Federal Share: $8.6M



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.

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 Bipartisan Infrastructure Law (BIL) 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 BIL

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	196,757*	15,380	212,137

*USCG—58,306 & USACE—138,451
** FY 22 WP in O&M ($300k) & FY 22 BIL ($12.5M)

Summarized Federal Financial Data ($000)		
Allocations thru FY21	64,533	
FY 22 Allocation	12,800**	BIL ($12.5) & O&M ($300K)
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	61,118	

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: $57.3M

Federal Funds Appropriated: $16.8M (includes Sandy CG funds)

Non-Federal Share: $2.83M



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.

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 provided $5.0M to initiate and complete periodic nourishment. A contract was advertised in Aug 2022 but the solicitation was unable to result in an awardable contract. Nourishment is being rescoped with a scheduled award by Sep 2023. A successful award would result in construction in the winter of 2023/2024.

Timeline	Start	Complete	Comments
Initial Construction	Nov 2014	May 2015	
2nd Periodic Nourishment	FY 23 (S)		Funds Provided in the FY 22 Work Plan

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	41,260	16,018	57,278
Sandy P.L. 113.2 funds of $11.4M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000)		
Allocations thru FY21	382	
FY 22 Allocation	5,000	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	35,878	Accounts for Sandy CG Funds

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: $19.1M

Federal Funds Appropriated: $1,277,000

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.

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 horse-shoe crab and shorebird habitat.

This project has not received funding since FY 06.

Initiation of construction is dependent on several steps starting with a General Reevaluation Report (GRR). To initiate a GRR a letter of intent (LOI) is required from the sponsor requesting a GRR, their willingness to enter into a cost sharing agreement for the GRR with 50/50% cost share and adequate Federal funding. The GRR would be to update the economics, environmental studies, design and formulation of the project. After a completed GRR reauthorization of the project may be necessary. If reauthorization is not necessary the project could proceed with the development of the Project Partnership Agreement (PPA) with the sponsor. Once executed steps toward initial construction could begin. These steps include adequate funding and acquisition of necessary real estate easements by the non-Federal sponsor.

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

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	12,252	6,946	19,198

Summarized Federal Financial Data ($000)		
Allocations thru FY21	1,277	
FY 22 Allocation	0	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	10,975	

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: $12.7M

Federal Funds Appropriated: $1,039,000

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.

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.

Initiation of construction is dependent on several steps starting with a General Reevaluation Report (GRR). To initiate a GRR a letter of intent (LOI) is required from the sponsor requesting a GRR, their willingness to enter into a cost sharing agreement for the GRR with 50/50% cost share and adequate Federal funding. The GRR would be to update the economics, environmental studies, design and formulation of the project. After a completed GRR reauthorization of the project may be necessary. If reauthorization is not necessary the project could proceed with the development of the Project Partnership Agreement (PPA) with the sponsor. Once executed steps toward initial construction could begin. These steps include adequate funding and acquisition of necessary real estate easements by the non-Federal sponsor.

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

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	7,383	5,367	12,750		Allocations thru FY21	1,039	
					FY 22 Allocation	0	
					FY 23 Work Plan	0	
					FY 24 Budget	0	President's Budget
					FY 24 Work Plan	TBD	
					Balance to Complete	6,344	

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

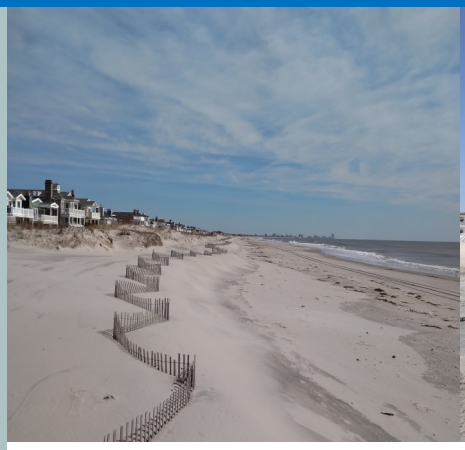
Date of Project Agreement: June 2014

Target Completion Date: 2064

Total Estimated Cost: $708.5M

Federal Funds Appropriated: $123.5M (includes Sandy CG funds)

Non-Federal Share: $27.4M





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.

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.

FY22 funds will be used to initiate and complete next cycle of periodic nourishment. Contract is scheduled to be awarded by the end of FY23. With a successful award it is expected construction will occur in the fall/winter of 2023/2024.

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Aug 2016	
Periodic Nourishment	Nov 2019	Aug 2020	
Periodic Nourishment	FY 23 (S)		Contract award scheduled by end of FY23

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Total Project	402,326	306,214	708,539
Sandy P.L. 113.2 CG funds of $95.12M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000)		
Allocations thru FY21	108,510	
FY 22 Allocation	15,033	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	278,783	

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

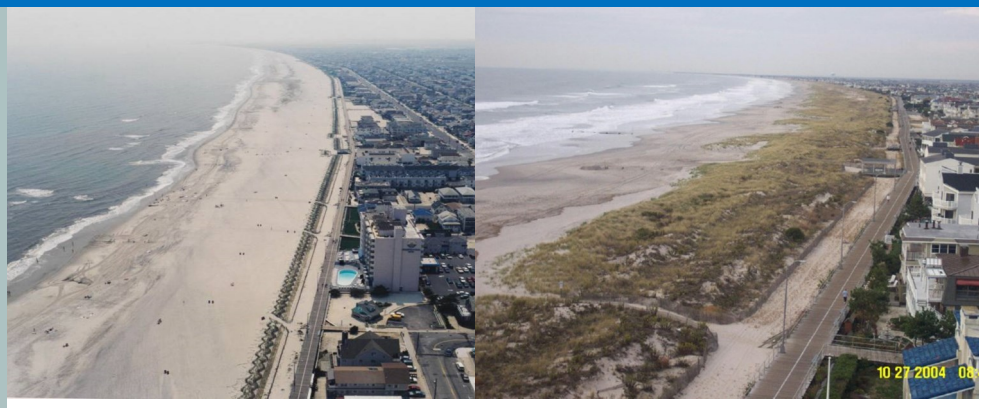
Date of Project Agreement: Sep 1991

Target Completion Date: 2041

Total Estimated Cost: $497.7M

Federal Funds Appropriated: $106.9M

Non-Federal Share: $48.4M



Shortly after the completion of initial construction and years later with continued periodic nourishment & management by City & State has 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.

This project was damaged by Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 was completed which recommended repair & restoration of 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. Construction began in Nov 2017 & completed in Dec 2017.

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.

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 was awarded in SEP 2022. Construction began in Nov 2022 & completed in Feb 2023.

Next nourishment cycle is scheduled for FY25 but is dependent on receipt of adequate funds.

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	Nov 2022	Feb 2023	
Periodic Nourishment	FY 2025		Dependent on receipt of adequate funds.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	323,490	174,180	497,670

Summarized Federal Financial Data ($000)		
Allocations thru FY21	89,917	
FY 22 Allocation	17,000	
FY 23 Work Plan	0	
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	216,573	

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: $186.0M

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 worked to execute State Aid Agreements (SAA) with the 4 communities. As of Feb 2023 all 4 SAAs have been executed. NJDEP will now begin to acquire the necessary real estate to construct the project. It is expected that real estate acquisition could take a year to acquire. Therefore, it is anticipated that construction would not start until at least late 2024.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	17,194	9,259	26,453
Renourishment	79,787	79,787	159,575
Construction	96,981	89,046	186,028
$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 FY21	0	1,306
FY 22 Allocation	0	0
FY 23 Work Plan	0	0
FY 24 Budget	0	0
FY 24 Work Plan	0	0
Balance to Complete	79,787	15,888

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.

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.

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.

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 re-nourishment cycle. Contract was awarded on 28 Sep 2016. Construction began in Dec 2016 and was completed in Jan 2017.

FY 20 funds were 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.

FY 24 budgeted funds will be used along with existing funds to initiate the next nourishment cycle.

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)		Budget funds will be used to initiate

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	79,624	23,923	103,547		Allocations thru FY21	53,161	
					FY 22 Allocation	0	
					FY 23 Work Plan	0	
					FY 24 Budget	4,000	President's Budget
					FY 24 Work Plan	TBD	
					Balance to Complete	22,463	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Manasquan Inlet to Barnegat Inlet, NJ

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

Congressional District: NJ-4

Non-Federal Sponsor: NJDEP

Date of Project Agreement: Jul 2014

Target Completion Date: 2066

Total Estimated Cost: $996.7M

Federal Funds Appropriated: $168.4M (Includes Sandy CG funds)

Non-Federal Share: $30.5M

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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.

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 Bipartisan Infrastructure Law (BIL) has provided $30.2M to initiate and complete periodic nourishment. Contract award is currently scheduled for APR 2023 with a successful contract award construction expected to begin in summer 2023 through winter 2023/2024.

Timeline	Start	Complete	Comments
Initial Construction	Oct 20174	Jul 2019	
Periodic Nourishment	Summer 2023 (S)		Contract award scheduled for APR 2023

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	519,148	477,523	996,671
Federal funds include $137,580,000 in Sandy Construction funds to complete initial construction.			

Summarized Federal Financial Data ($000) Regular CG Funds		
Allocations thru FY21	138,344	
FY 22 Allocation	30,200	BIL
FY 23 Work Plan	0	
FY 24 Budget	0	President's
FY 24 Work Plan	TBD	
Balance to Complete	350,604	

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

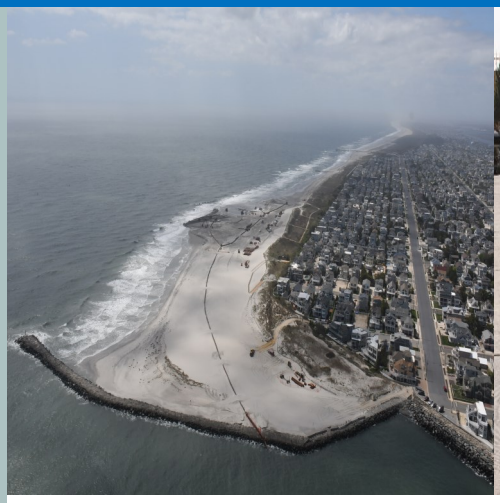
Target Completion Date: 2052

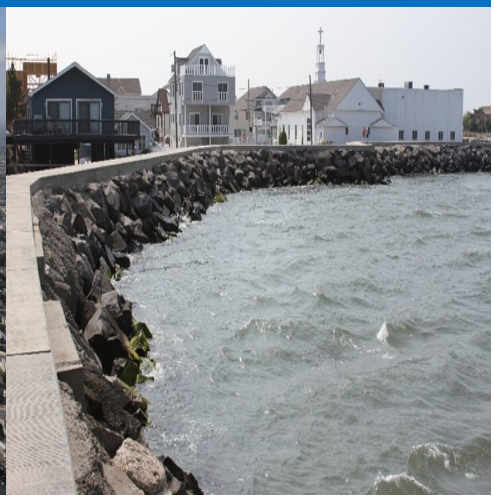
Total Estimated Cost: $427.9M

Federal Funds Appropriated: $115.3M

Non-Federal Share: $43.5M

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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.

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 & FY22 BIL funds (received in FY23) are being used for periodic nourishment. Contract was awarded in Dec 2022 with construction scheduled to start in Mar 2023.

FY23 Work Plan funds are being used for project monitoring including borrow area investigations.

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	Mar 2023 (S)		Contract awarded in Dec 2022

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	277,200	150,655	427,855

*Hereford Seawall completed in Apr 2014

Summarized Federal Financial Data ($000)		
Allocations thru FY21	86,724	
FY 22 Allocation	19,120	
FY 23 Work Plan	9,500	FY22 BIL Addendum ($8.5M) & WP $1M
FY 24 Budget	0	President's Budget
FY 24 Work Plan	TBD	
Balance to Complete	161,856	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Southeastern Pennsylvania and Lower Delaware River Basin Environmental Improvement Program

Authority: Section 566 of the Water Resources Development Act of 1996, as amended by Section 552 of WRDA 1999 and Section 8376 of WRDA 2022

Congressional District: DE-At large, NJ-1, NJ-2, NJ 3, NJ4, NJ12, PA-1, PA-2., PA-3, PA-4, PA-5, PA-6, PA-7, PA-9

SEPA Federal Funds Appropriated: $16.6M (Authorized to $50M)

Lower DE River Basin Federal Funds Appropriated: $0 (Authorized to $20M)

Non-Federal Share: 25%

SEPA Jurisdictions:

Bucks County
Chester County
Delaware County
Montgomery County
Philadelphia County

Lower Delaware River Basin Watersheds

Schuylkill Valley
Upper Estuary
Lower Estuary
Delaware Bay

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

The Southeastern Pennsylvania and Lower Delaware River Basin 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 and Section 8376 of WRDA 2022.

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 (including sewer overflow infrastructure improvements and other stormwater management), 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. Section 8376 of WRDA 2022 amended the authority to expand the geographical area from Southeastern Pennsylvania to include the Lower Delaware River Basin in New Jersey and Delaware.

All phases are cost-shared with a non-Federal sponsor with the sponsor providing 25% of the total project costs. Implementation Guidance from USACE HQ is pending

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	FY23	FY24
Abington Township Environmental Improvement	Abington Township	Design Phase	200	500	0	2,100	1,000	TBD
Roosevelt Boulevard Dam Removal	PWD	Design Phase	1,400*	0	1,000	0	-1,000	TBD
New Castle County, DE	TBD	Project Approval	0	0	0	0	0	TBD
Note: $1M transferred from Roosevelt Boulevard Dam Removal to Abington Township Environmental Improvement to support construction								

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

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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: August 2023

Target Completion Date: 2024

Total Estimated Cost: $4.85M

Federal Funds Appropriated: $3.8M

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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	3,226	1,075	4,301		FY 23 Reallocation	1,000	
					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 2024

Target Completion Date: 2025

Total Estimated Cost: $3.1M

Federal Funds Appropriated: $1.4M

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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 FY24.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Initial Appraisal	9	3	12		FY 19 Allocation	2,400	$1.4M transferred from Cobbs Fish Passage
Design Agreement	18	6	24		FY 23 Allocation	-1,000	$1M transferred to Abington
Review P&S	75	25	100		FY 24 Budget	1,000	
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-a/l, NJ-1, NJ-2, PA-2, PA-5

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 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 FY21	339,793	
FY 22 Allocation	0	
FY 23 Work Plan	0	
Balance to Complete	0	

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
- Flood Risk Management /Flood Control
- Navigation Maintenance
- Other Authorized Project Purposes
- Small, Remote, or Subsistence Navigation Maintenance

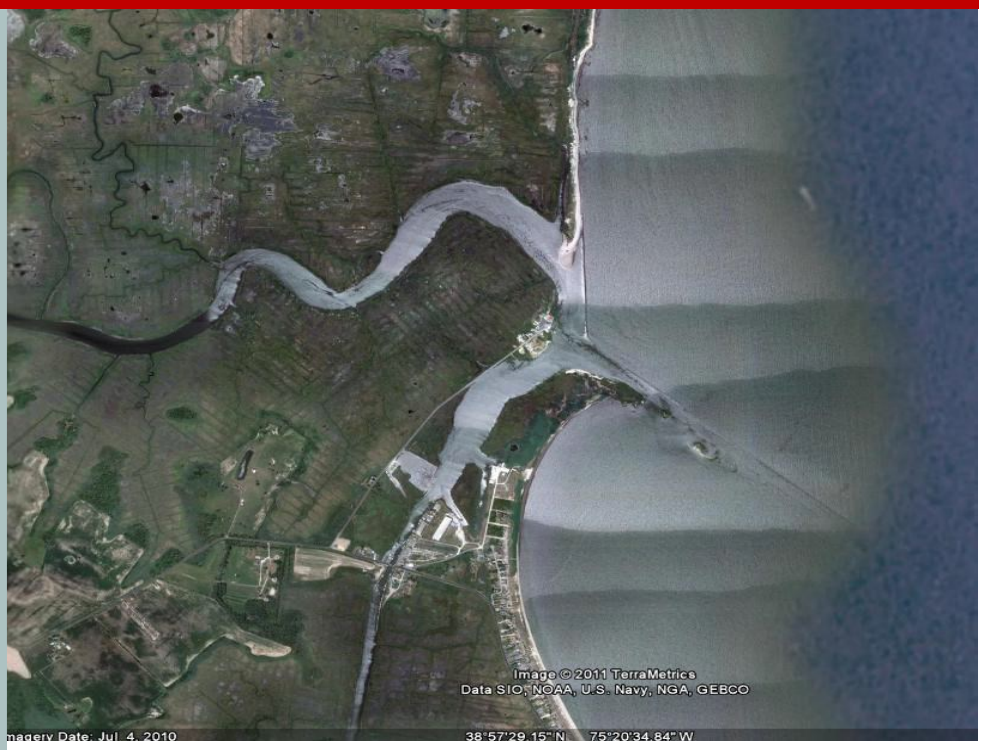
State Color Codes
Delaware
New Jersey
Pennsylvania
Multiple

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 material was removed from the Cedar Creek channel between the Delaware Bay Launch Service and the juncture with Mispillion River.

Sediment sampling was conducted in the channel in 2022 and an updated channel condition survey was completed in January 2023 to prepare for development of a maintenance dredging project in 2024.

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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.

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.

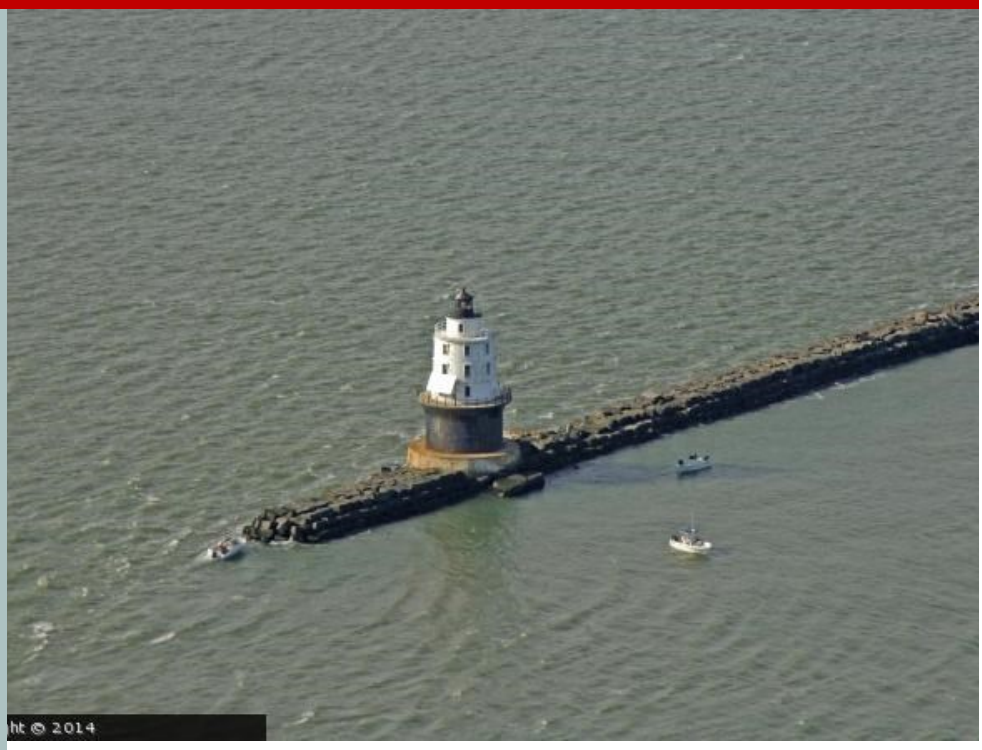
The local commercial fishing fleet stationed within this project totals approximately 35 vessels. A large number of tourists are attracted to the charter fishing opportunities at Cedar Creek. Recreational use of this waterway is also significant. The State of Delaware operates a public launching facility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

Summarized Federal Financial Data ($000)		
FY 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 Allocation	1,099	Maintenance Dredging
FY 24 Budget	1,110	Maintenance Dredging

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 have been 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 valua-ble 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 vi-cinity 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.

Summarized Federal Financial Data ($000)		
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 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 24 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.

Condition Surveys of the channel and jetties were conducted in FY22. Additional data collection is ongoing in FY23 as part of the Bipartisan Infrastructure Law (BIL) funds to repair the jetties and failed north 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.

These repairs 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.

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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 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 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 will be finalized 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: BIL funds in the amount of $43.9M were received in 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. Final design Plans & Specifications for repair of the failed bulkhead, repair of the north jetty and sand tightening of the south jetty are anticipated by May 2023. Contract award is anticipated in July 2023. Construction is planned to start in Fall 2023. Coordination with Delaware Seashore State Park, DelDOT, and DNREC has been ongoing throughout design and will continue until construction is complete in FY2025. Work on the sediment budget is ongoing in FY23.

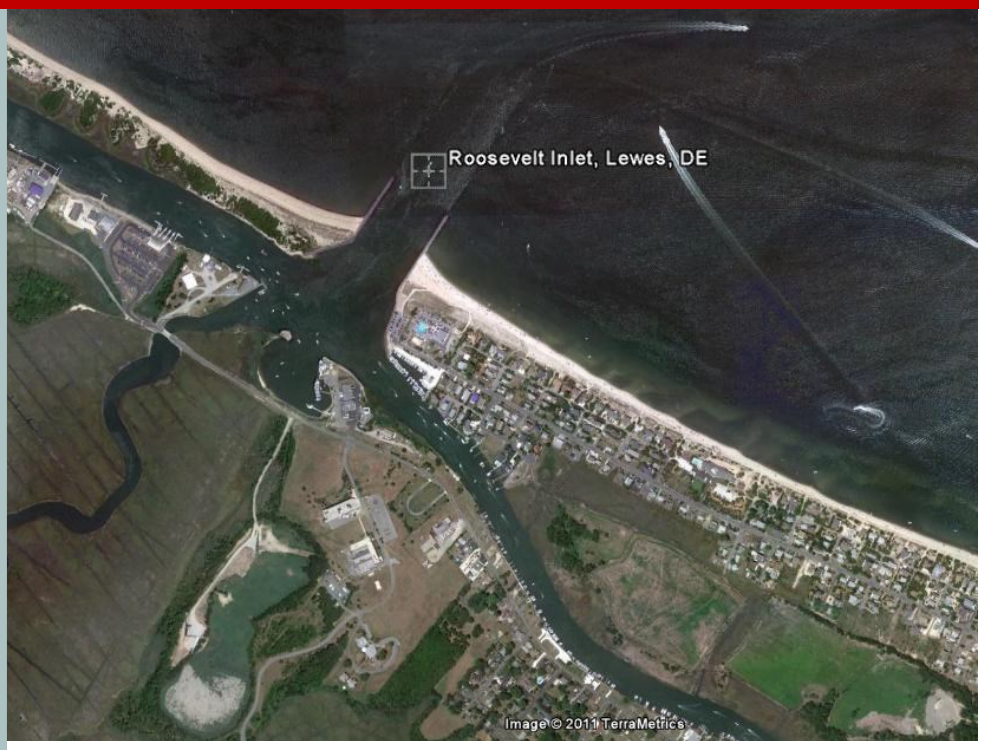
Summarized Federal Financial Data ($000)		
FY 19 Allocation	27	Impacted by Low Use Navigation budget cuts; Additional funding ($20) provided thru Work Plan
FY 20 Allocation	33	Funds will be used for managing the project, channel surveys and geospatial real estate efforts.
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	43,901	$43,871 is BIL funds.
FY 23 Allocation	278	Impacted by Low Use Navigation budget cuts
FY 24 Budget	40	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 March of 2022. Maintenance dredging of the Roosevelt Inlet Entrance Channel was conducted using the Government Dredge Murden in February 2023. 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 in October 2023 thru a contract awarded to Dredgit of Houston, TX in September of 2022.

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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.

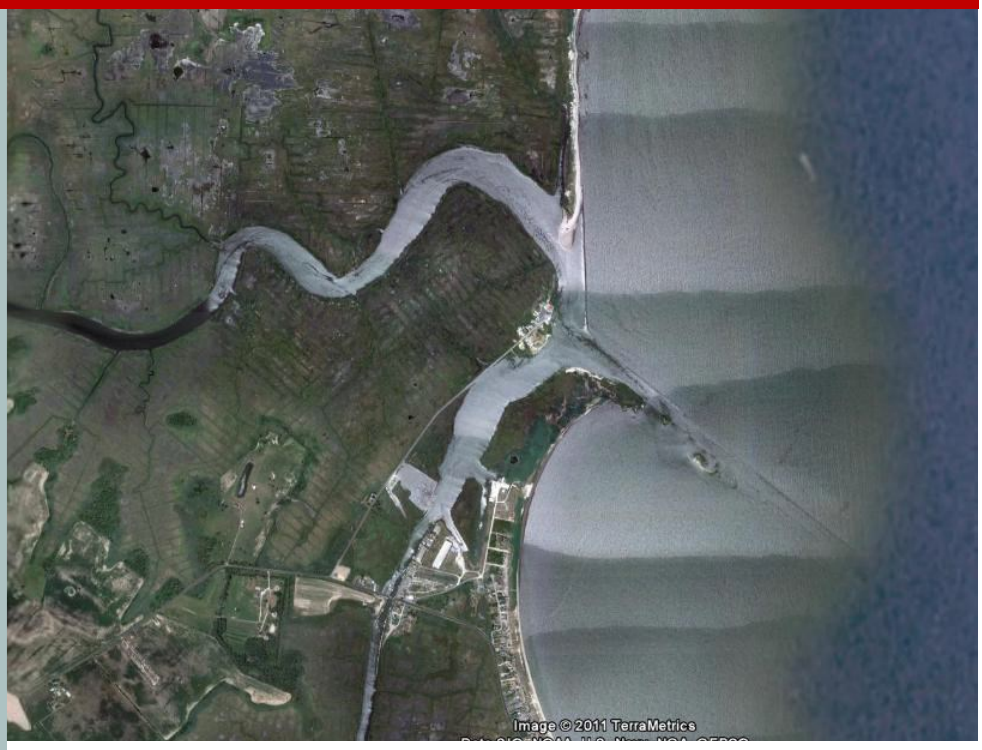
Summarized Federal Financial Data ($000)		
FY 19 Allocation	30	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	30	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	3,934	$3,785,000 is IIJA funds.
FY 23 Allocation	7,475	
FY 24 Budget	150	Impacted by Low Use Navigation budget cuts

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 . Maintenance dredging has been conducted annually from February 2020 to February 2023 with the Government Dredge Murden removing up to 5,000 cubic yards of sediment each year from the Mispillion entrance channel and Cedar Creek confluence 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.

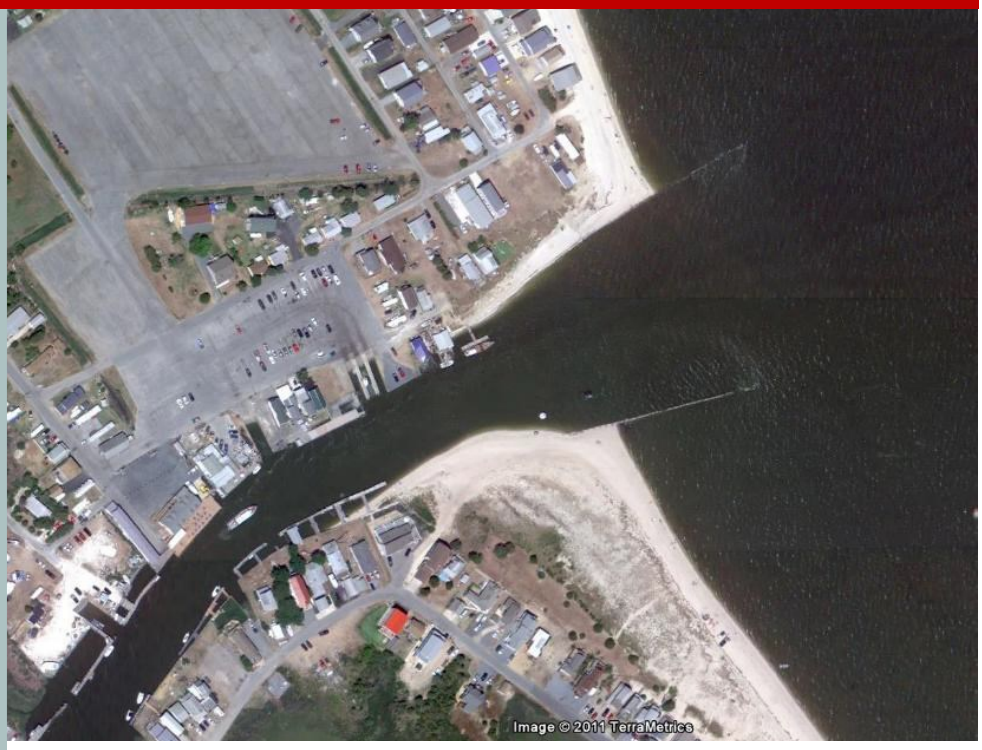
Summarized Federal Financial Data ($000)		
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	$400	$400 was provided thru the Work Plan.
FY 23 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 24 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 by the USACE Philadelphia District in January 2021 and again in August 2022 following channel dredging by the State of Delaware and for USCG use to re-mark the channel.

Since federal funds have not been received in recent years, the channel was dredged by the State of Delaware in 2014 and again in July 2022 with sandy material beneficially used on adjacent beaches and fines placed in a disposal area within the bay.

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U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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 and again in August 2022 to update conditions and inform project users of conditions in the federal channel.

Prior to the dredging that was conducted by the State of Delaware in July 2022, concerns were raised by congressional interests and locals that the USCG had 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. Markers were replaced by the CG in late summer 2022 following the dredging and channel exam by USACE.

Failure to maintain this channel will result in deteriorated channel conditions that will negatively impact the use of this project by first responders and as a safe harbor for recreational and commercial users. The channel supports first responders including the Bowers Beach fire suppression boat, South Bowers water rescue boat, State of Delaware police vessels and the USCG auxiliary station operation for response to emergency situations. The channel also supports a local commercial fishing fleet. Failure to maintain waterway would result in impacts to the USCG mission, inability for emergency responders to conduct their critical missions, damage to commercial vessels and economic hardship for the region.

Coordination of this project with federal, state, academic and local partners significantly increased in FY22 and continues in FY23, with objective to develop a federal maintenance dredging project for beneficial use of the mixed channel sediments on both beaches as well as degraded marshes, vs disposal of the fines in the bay.

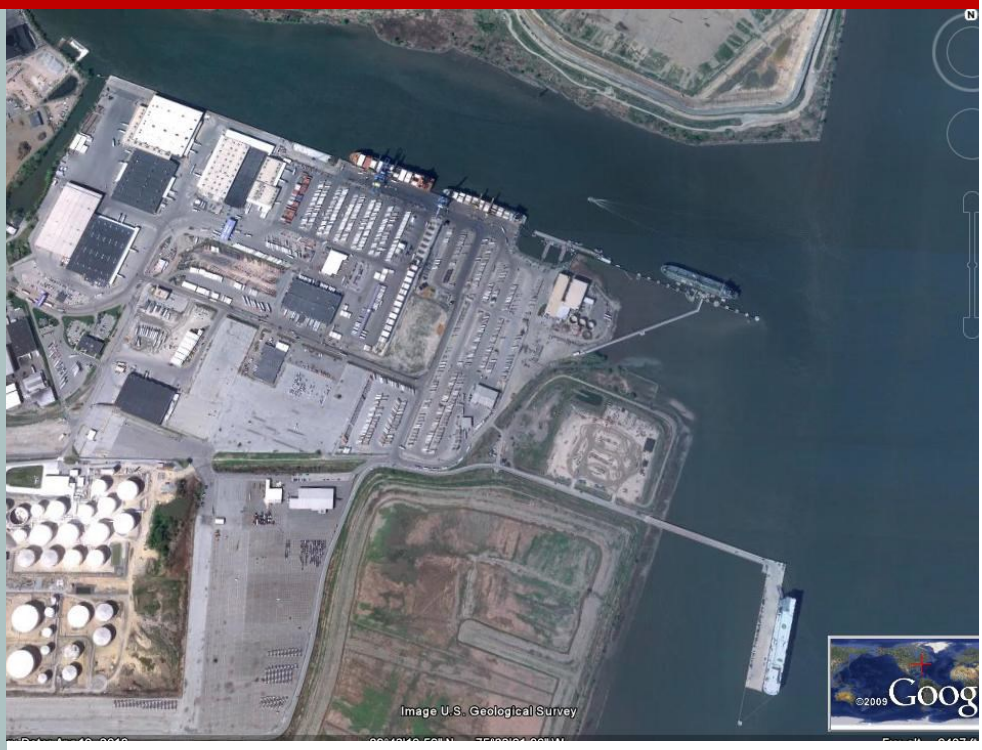
Summarized Federal Financial Data ($000)		
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 20 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 21 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 22 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 23 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 24 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 FY 22 annual maintenance dredging for both the 35-foot and 38-foot project channels and turning basin was completed in January of 2023. Approximately 715,000 cubic yards of material was removed.

The following work will be accomplished in FY 2023: 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 July of 2023. Actual dredging should commence in October of 2023 with completion within approximately 30 days. Similar to FY22, 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 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	9,111	Additional funds ($250) was received thru the Work Plan.
FY 23 Allocation	10,432	
FY 24 Budget	15,095	

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 over $12M annually (NOAA Fisheries, 2021).

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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, 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 beneficial use placement in the nearshore to the north of the Steel Pier, supporting the Absecon Island federal shore protection project.

The Government Dredge Murden conducted maintenance operations at the Clam Creek entrance again in June 2022 with beneficial use placement. In FY22, 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.

Shoaling of approximately 50,000 cubic yards of fine-grained material remains in the interior portion of the Clam Creek channel impacting navigation for the US Coast Guard, Sta Atlantic City and commercial fisheries; however a cost-effective placement area has not yet been identified. The local community continues to express concern as they try to promote recreational use and economic development of the area, including with the offshore wind industry.

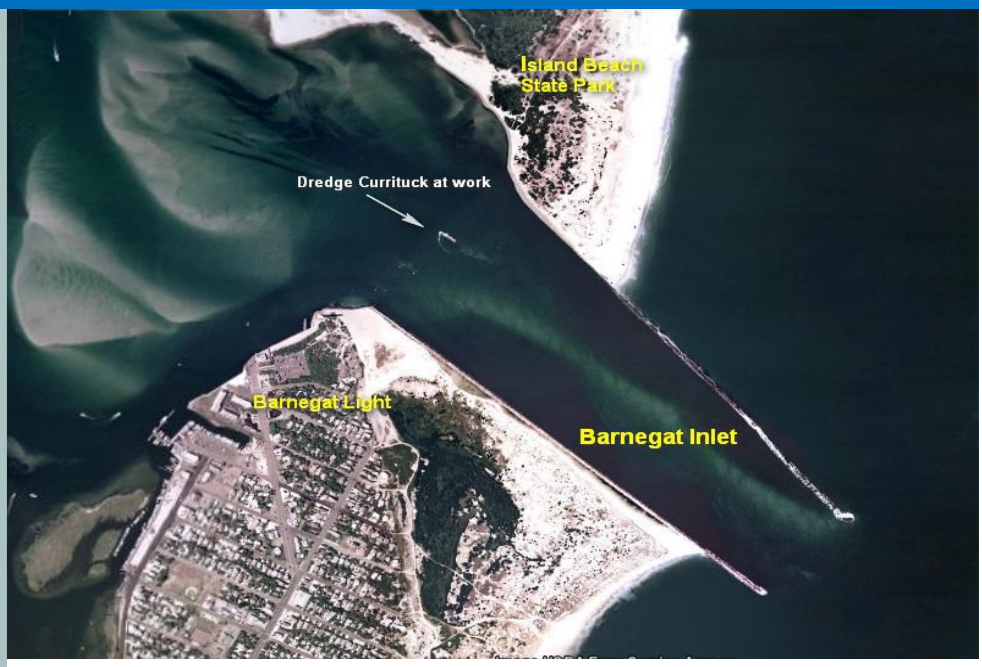
Future beachfill operations should continue to utilize the inlet entrance channel as a borrow source in a Regional Sediment Management approach that benefits both the Coastal Storm Risk Management and Navigation business lines.

Summarized Federal Financial Data ($000)		
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 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 24 Budget	0	Impacted by Low Use Navigation budget cuts

Barnegat Inlet, Ocean County, NJ

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

Congressional District: NJ-2



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 an innovative nearshore berm placement at the Harvey Cedars hot spot using the Dredge Murden, supporting the federal beachfill project. Permits were obtained for the 1122 project that also support future maintenance operations and beneficial use, optimizing placement and sediment needs to downdrift shorelines.

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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.

FY22 Operations & Maintenance funds as well as the FY22 and FY23 Bipartisan Infrastructure Law (BIL) funding are used to conduct inlet maintenance dredging with the Government Dredge, maintenance dredging of Oyster Creek channel, a sediment budget, 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 FY22 and will be conducted in FY23. Dredging of the Oyster Creek portion with new island creation with Oyster Creek channel sediments was conducted in December 2020 and maintenance dredging with a second lift of the island was conducted again in Fall 2022.

USACE is evaluating repair of the seaward portion of the north jetty, which remains only at mid-tide level. A capability for a Major Maintenance Report as the decision document for these potential repairs has been identified.

The inlet entrance channel continues to have significant shoaling in this sediment rich coastal system. A sediment budget analysis and maintenance of the inlet channel using the Dredge Murden was funded in FY22 under the BIL. Use of the government dredge continues to be a good return on investment as the channel can be maintained on limited annual funds while beneficially using the sediments supporting the federal Coastal Storm Risk Management project along Long Beach Island. However, a better understanding of sediment dynamics, especially across the ebb bar is important to optimize dredging and to support the USCG Aids to Navigation mission in this channel.

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 $27M/year (NMFS, 2021).

Summarized Federal Financial Data ($000)		
FY 19 Allocation	699	
FY 20 Allocation	479	
FY 21 Allocation	759	$750 was provided in Work Plan funds to complete work related to the 1122 RSM project.
FY 22 Allocation	1,675	$922 is BIL funds to conduct dredging and a sediment budget analysis.
FY 23 Allocation	329	$329 is BIL funds.
FY 24 Budget	336	$336 is BIL 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 $148M/year in direct fish value (NOAA, 2021) and over $300M in economic value to the region.

The authorized project services the only U.S. 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.

FY22 funds were used to conduct condition surveys and conduct maintenance dredging in the inlet and harbor channel with the Government Dredge Murden. FY23 Bipartisan Infrastructure Law (BIL) funds will be used to dredge the inlet entrance channel with the Dredge Murden and conduct channel surveys with dredging occurring in March 2023 and planned again in June 2023.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 conducted in May 2022.

The New Jersey Department of Transportation has rebuilt a portion of USACE's "Railroad" confined disposal facility, building some capacity for both USACE and the State of NJ channels under a Real Estate agreement. Additional maintenance of the disposal facility by USACE will be conducted in FY23.

FY22 BIL funds were also received 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. This investigation is underway with USACE's Engineering Research and Development Center.

Summarized Federal Financial Data ($000)		
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	2,109	$297 is for project monitoring at Cape May Inlet to Lower Township, NJ. $550 is BIL funds and additional funds ($1,262) was provided thru the Work Plan.
FY 23 Allocation	429	$409 is BIL funds.
FY 24 Budget	418	$418 is BIL funds.

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

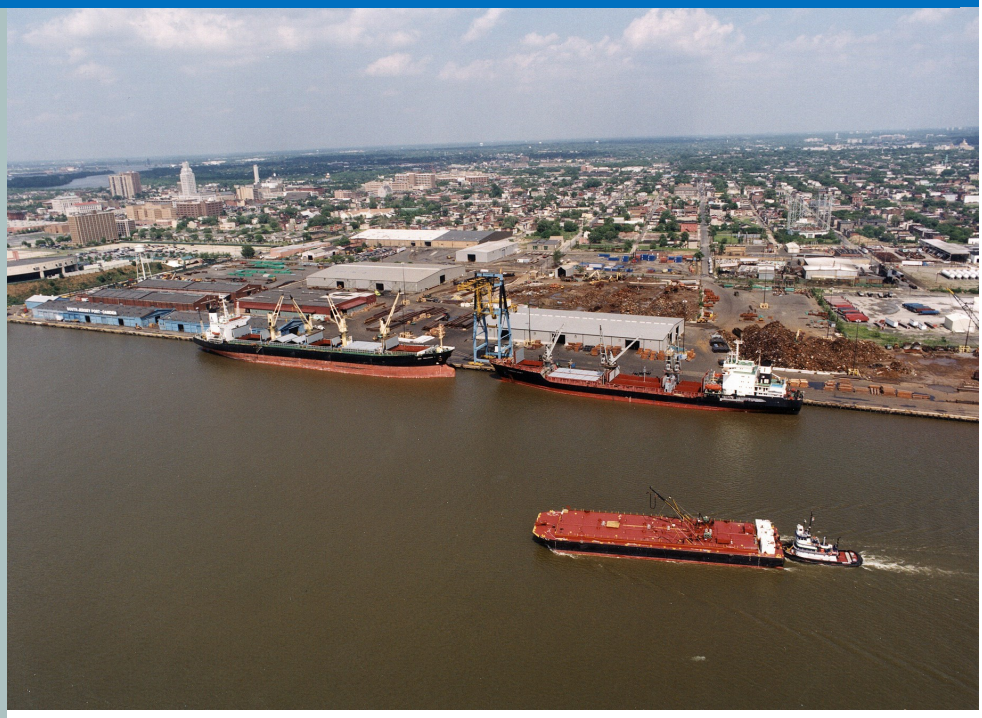
The existing project which is a modification to the Delaware River from Philadelphia to the Sea project was adopted as House Document No. 63 1120 in 1919 and modified by House Document No. 70-111 in 1930 and House Document No. 77-353 in 1945. Section (3a) of the Water Resources Development Act of 1988 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.

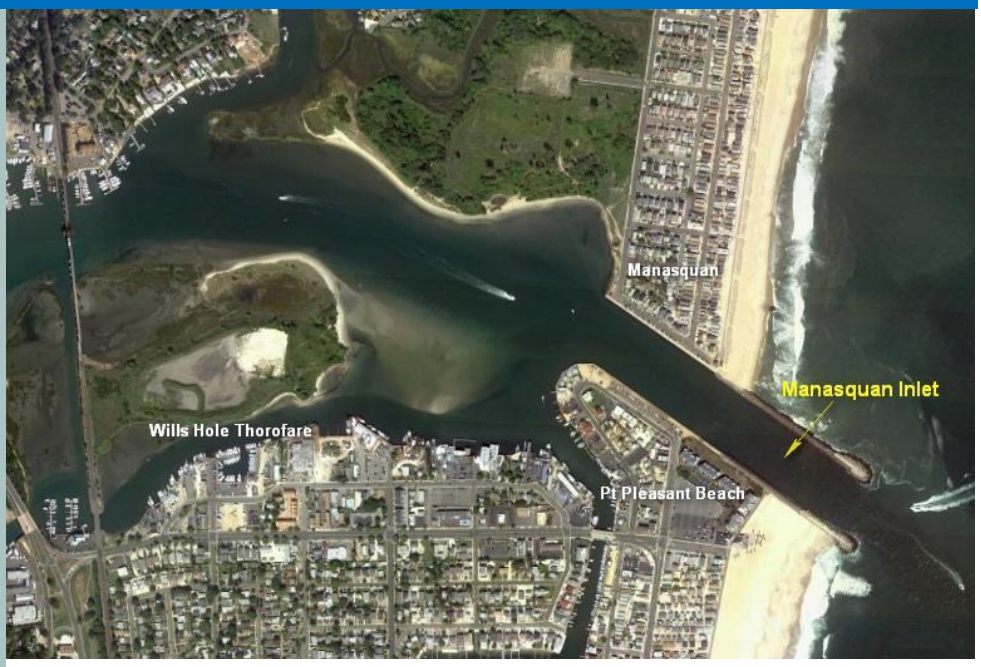
Summarized Federal Financial Data ($000)		
FY 19 Allocation	15	Channel Surveys
FY 20 Allocation	15	Channel Surveys
FY 21 Allocation	15	Channel Surveys
FY 22 Allocation	15	Channel Surveys
FY 23 Allocation	15	Channel Surveys
FY 24 Budget	15	Channel Surveys

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-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 U.S. 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.

O&M funds were provided in FY22 to perform channel condition surveys and dredge the inlet using the Government Dredge Murden in November 2021 and August 2022. FY23 funds have been provided to perform maintenance dredging and conduct channel surveys with dredging operations occurring in January 2023 and planned for June 2023. 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..

Manasquan Inlet is a dynamic tidal inlet with unpredictable shoaling, especially experienced in 2022. A sediment budget is recommended for the region from Sea Bright to Barnegat Inlet.to best understand sediment pathways and subsequently shoaling rates in the inlet.

Sections of concrete protection panels along the north bulkhead are failing and a capability has been identified for repairs.

The project supports the commercial fishing industry with an annual direct fish value of $34M/year (NOAA, 2021). 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 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 Allocation	431	Dredge Inlet and perform channel surveys
FY 24 Budget	0	Impacted by Low Use Navigation Budget Cuts.

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.

Shoaled conditions in the federal channel from the Delaware Bay to Bivalve are causing significant vessel delays and impacts to industries that rely on this channel.

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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 2022 to inform project stakeholders of shoaled areas and report channel conditions and to support a maintenance dredging design. Additional sediment sampling, drone surveys and environmental consultations for the dredging project were also conducted in FY22..

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 cost and increase 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 design a 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 and Northwest Reach located within the Heislerville State Wildlife Management Area.

A Project Delivery Team composed of 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 has developed plans and specifications for this dredging and beneficial use placement. A contract award for maintenance dredging is planned for July 2023 and dredging with beneficial use placement is anticipated in Fall 2023..

Summarized Federal Financial Data ($000)		
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 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 24 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-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 in the waterway identified by the US Coast Guard as a high priority for needed maintenance dredging. Additional critical shoals remain in several locations along the waterway while placement areas are challenging but progress has been made on beneficial use alternatives through important partnerships with the State of NJ. Using FY22 BIL funds, a contract option was awarded to conduct maintenance dredging to clear shoals in the Cape May Canal channel. Using FY22 BIL funds, two new contracts will be awarded to dredge the Cape May Ferry channel and additional shoals near Avalon/Stone Harbor. A rental dredging contract structure has been used historically to cost-effectively manage this dynamic waterway but USACE Contracting/Counsel has now prohibited that strategy. This contract structure was unsuccessfully pursued in FY21 and FY22, but will continue to be pursued to accomplish the FY24 BIL-funded work. Funding is also being used to conduct environmental consultations for pilot projects to maintain the NJIWW with the Government Dredge Merritt.

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 19 Allocation	2,630	
FY 20 Allocation	886	
FY 21 Allocation	1,245	
FY 22 Allocation	15,326	$14,350 is BIL funds for maintenance dredging, shoreline stabilization and gabion repair.
FY 23 Allocation	1,200	$151 is BIL funds for dredging ferry entrance with Murden.
FY 24 Budget	10,281	$7,429 is BIL funds.

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 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 placement to support Oakwood Beach.

The Dredge Murden conducted maintenance dredging operations in the bend again in February 2023 with beneficial use placement to Oakwood Beach under funding provided by the Bipartisan Infrastructure Law (BIL).

Under FY22 BIL funds, plans & specs have been developed to conduct maintenance dredging of the remaining fine-grained sediments in the lower portion of the channel. Dredged material from the Salem River channel has historically been placed in the Kilcohook confined disposal facility, but beneficial use alternatives have been developed to restore marsh using a Regional Sediment Management approach in USFWS's Supawna Meadows at Goose Pond. A contract award is anticipated in July 2023.

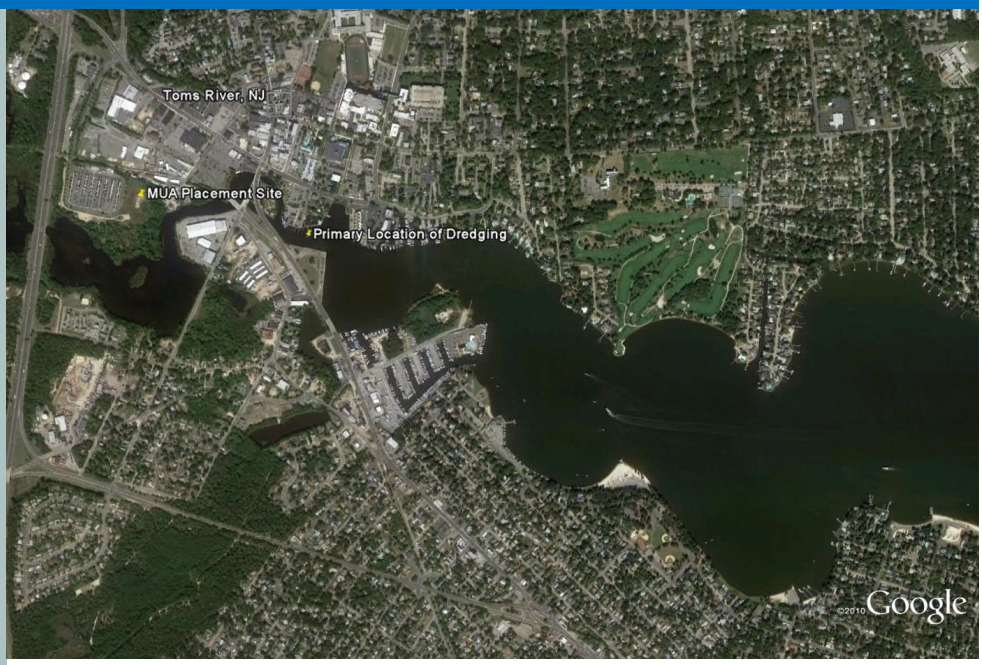
Summarized Federal Financial Data ($000)		
FY 19 Allocation	0	Impacted by Low Use Navigation budget cuts.
FY 20 Allocation	437	Received $338 of Work Plan funds.
FY 21 Allocation	99	Impacted by Low Use Navigation budget cuts.
FY 22 Allocation	7,249	$7,150 is BIL funds.
FY 23 Allocation	6,957	$6,858 is BIL funds.
FY 24 Budget	7,066	$6,966 is BIL funds.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Toms River, Ocean County, NJ

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

Congressional District: NJ-4



Aerial view of project area—Toms River, NJ

The existing project provides for a channel 5 feet deep and 100 feet wide, from the New Jersey Intracoastal Waterway channel at Barnegat Bay to the highway bridge at Toms River, approximately 4.5 miles long.

The authorized project adopted in 1910 and modified in 1945, provided for a channel 12 feet deep and 100 feet wide from the New Jersey Intracoastal Waterway channel in Barnegat Bay to the highway bridge over South Fork at Toms River, including a turning basin. The project also provided for a channel 5 feet deep for the full width of the North Fork to the highway bridge. The unconstructed portion of the project, deepening the channel from 5 feet to 12 feet and providing a 12-foot turning basin, was deauthorized 2 November 1979, under Section 12, PL 93-251.

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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 June 2022 and will be conducted again in FY23.

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 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 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 24 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-7



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 flow 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 $72M between 1972 and 2022.

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Beltzville Lake, Lehighton, PA



- **Project Goals:** Beltzville is a multiple purpose project developed for flood control, water quality, water supply, low flow augmentation, and recreation. It consists of a dam, emergency spillway, a gate controlled intake tower, a conduit, and stilling basin. Beltzville Dam has an extensive recreation program. Approximately 3,000 acres of Federal lands is leased to the Pennsylvania Department of Conservation and Natural Resources. It is operated as Beltzville State Park. The facilities include two boat launches, a day use area with a swimming beach and several hiking trails and access areas.

FY22 funds were used for routine operation and maintenance of the dam, real estate , water control, water quality, boundary monumentation, and actuator replacement for the water quality system. As part of the dam safety program, an annual inspection, underwater dive inspection, two bridge inspections, and project positional surveys were conducted. Design work for the right service gate rehabilitation, swapping of the water quality gate, remaining underwater dive repairs on the operating tower, fabrication of a new flood control gate, and repairs and replacement for portal#4 and #6 of the water quality system were also completed. This contract was awarded in FY22 and began execution in FY23.

In addition to routine operation and maintenance of the dam, FY23 funds include Infrastructure Investment and Jobs Act (IIJA) money that will be used to complete contracts for lead paint abatement in the operating tower and water supply valve, emergency spillway concrete monolith repair, and repair of an abandoned instrumentation vault on the downstream dam embankment. Other notable dam safety work that will be completed in FY23 using project funding includes a full Periodic Assessment (PA), an emergency tabletop exercise, a hydraulic steel structure (HSS) inspection, a conduit inspection, and an awarded herbicide contract.

Summarized Federal Financial Data ($000)		
FY 19 Allocation	$1,943	
FY 20 Allocation	$2,337	
FY 21 Allocation	$1,271	
FY 22 Allocation	$3,268	$1,400 is BIL funds.
FY 23 Allocation	$4,377	$2,650 is BIL funds.
FY 24 Budget	$1,857	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Blue Marsh Lake, Leesport, PA

Authority: HD 87-522

Congressional District: PA-4, PA-6, 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 $124M between 1978 and 2022.

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:** Blue Marsh is a multiple purpose project developed for flood control, water quality, water supply, low flow augmentation, and recreation. It consists of a dam, emergency spillway, a gate controlled intake tower, a conduit, and stilling basin. In addition, Blue Marsh has an extensive recreation program that encompasses two USACE owned boat launches, a day use area with a swimming beach, and various walking trails and access areas.

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 FY22, as part of the dam safety program, an annual inspection, underwater dive inspection, bridge inspection, and project positional surveys were conducted. A new emergency generator was procured and installed at the operating tower. Design work was completed at the Bernville Protective Works for the construction and procurement of an emergency generator, and the rehabilitation of five remaining pumps. This work will be executed with awarded contracts in FY23 using Infrastructure Investment and Jobs Act (BIL) funding.

Notable dam safety work to be completed in FY23 includes a geophysical investigation of dike A, emergency tabletop exercise, hydraulic steel structure (HSS) inspection, and conduit inspection. As part of the Environmental Stewardship mission, the Blue Marsh Master Plan will be updated beginning in FY23. Other notable BIL work includes awarded contracts to pave the administration building and stilling basin area, lead paint abatement on the service bridge to the operating tower, stem replacement in the water quality gate, and procurement of an emergency generator for the operations and administration buildings.

Summarized Federal Financial Data ($000)		
FY 19 Allocation	$3,646	
FY 20 Allocation	$3,267	
FY 21 Allocation	$3,586	
FY 22 Allocation	$6,337	$1,650 is BIL funds.
FY 23 Allocation	$10,313	$6,000 is BIL funds.
FY 24 Budget	$3,950	

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



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. USACE NAP is currently in the process of seeking an exemption package to extend the study out until 2025 with a strong emphasis on drought contingency.

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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, FY22 funds were used to perform a tree trimming and daylighting contract on public roadways, and a debris removal contract on the dam embankment. As part of the dam safety program, a full Periodic Assessment (PA), underwater dive inspection, bridge inspection, hydraulic steel structures (HSS) inspection, tunnel inspection, and project positional surveys were conducted.

FY23 funds will be used to complete the design work to secure an awarded contract to replace and rehabilitate the emergency flood control gates in the operating tower, conduct a sedimentation survey in the outlet, and conduct a seepage evaluation on existing instrumentation. Other notable tasks include replacing aging mission critical equipment, updating physical security around the operations building, updating the automated piezometer system, and executing a herbicide spraying contract. Dam safety activities include an annual inspection and an emergency tabletop exercise.

In addition to routine operation and maintenance of the dam, FY23 funds include Infrastructure Investment and Jobs Act (IIJA) money that will be used to complete contracts for fabrication of three new bulkheads and the rehabilitation of three existing, replacement of the center emergency flood control gate, and installation of new automated piezometers near the drainage zone and station 84 on the downstream embankment.

Summarized Federal Financial Data ($000)		
FY 19 Allocation	$2,693	
FY 20 Allocation	$1,903	
FY 21 Allocation	$901	
FY 22 Allocation	$1,313	$100 is BIL funds.
FY 23 Allocation	$4,351	$2,100 is BIL funds.
FY 24 Budget	$1,622	

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 $46M in cumulative damages between 1960 and 2022.

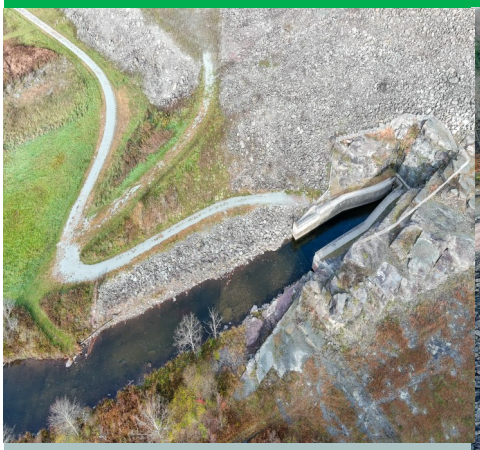
In FY22, the Corps performed routine operation and maintenance activities for the project and grounds, dam safety actions and oversight, water control and other data collection and analyses, and real estate actions as required. As part of the dam safety program, an annual inspection, underwater dive inspection, emergency tabletop exercise, and project positional surveys were conducted. FY22 Infrastructure Investment Jobs Act money was awarded as part of storm supplemental funds for damages resulting from Hurricane Ida. A new debris curtain was purchased and installed in front of the intakes.

Notable FY23 items include a herbicide spraying contract and an annual inspection for dam safety.

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U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

General Edgar Jadwin Dam, Honesdale, PA





Aerial view of General Edgar Jadwin Dam under construction.

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 recommended 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 Pre-construction Engineering and Design Phase for this work was completed in FY21. A construction contract was awarded to Mohawk Valley Contractors in March of 2022. Work began in July 2022 and the expected completion date is June 2023.

Summarized Federal Financial Data ($000)		
FY 19 Allocation	$244	
FY 20 Allocation	$332	
FY 21 Allocation	$377	
FY 22 Allocation	$490	$35 is BIL funds.
FY 23 Allocation	$388	
FY 24 Budget	$716	

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. Prompton Dam 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 reservoir and USACE lands are surrounded by Prompton State Park, owned and operated by the Pennsylvania Department of Conservation and Natural Resources. The project has prevented cumulative damages of over $36M between 1961 and 2022.

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Prompton Lake, Prompton, PA



FY22 funds were 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 and parking lots. Other specific work included water control, water quality monitoring, real estate, environmental stewardship, continuing evaluation gathering, and dam safety efforts. As part of the dam safety program, a Periodic Inspection, bridge inspection, conduit inspection, hydraulic steel structure (HSS) inspection, emergency tabletop exercise, underwater dive inspection, and positional surveys were conducted. Notable repair work included a completed contract to repair a concrete monolith in the emergency spillway. Field staff also began rough grade construction on a new boat launch at the facility.

FY22 environmental stewardship funding was secured to update Prompton's Master Plan. The Master Plan is the strategic land use management document that guides the comprehensive management and development of all project recreational, natural, and cultural resources throughout the life of a Corps project. The final document was released for dissemination in February 2023.

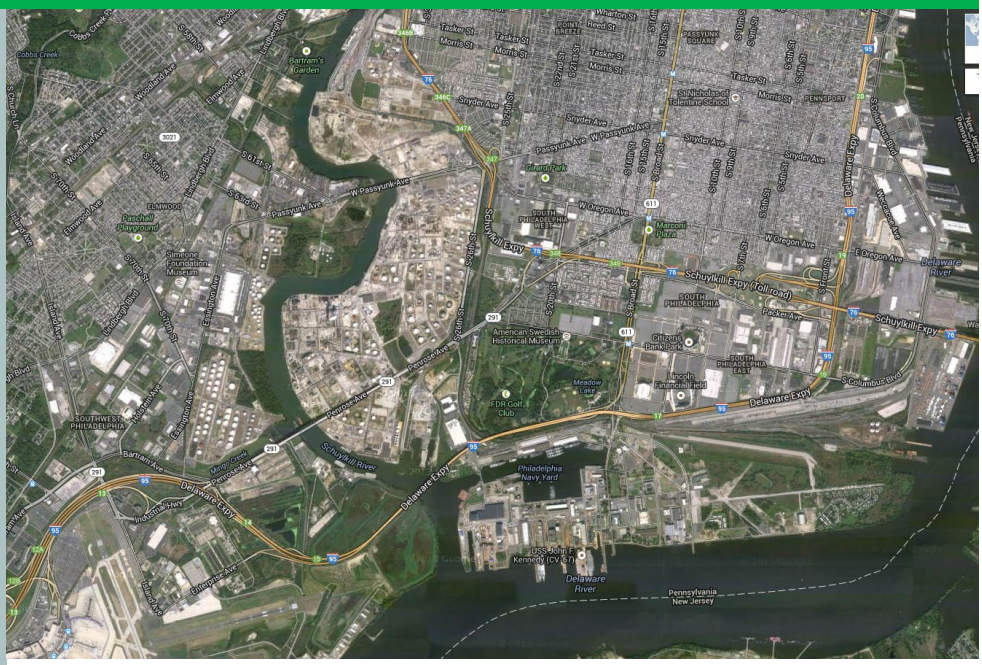
FY23 funds will be used to conduct an annual inspection for dam safety and a herbicide spraying contract. Other notable items include plans and specs and engineering and design work for the construction of a new boat launch. This work will be executed via an awarded contracted with a target date of September 2023. It includes paving the newly constructed roadway, entrances, boat turnaround area, and adjacent visitor lot.. Several headwall structures and culverts will be replaced in FY23. All paving and drainage headwall structure work will be completed using the Infrastructure Investment and Jobs Act (IIJA) funding.

Summarized Federal Financial Data ($000)		
FY 19 Allocation	$600	
FY 20 Allocation	$550	
FY 21 Allocation	$553	
FY 22 Allocation	$1,039	
FY 23 Allocation	$2,254	$1,675 is BIL funds.
FY 24 Budget	$608	

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

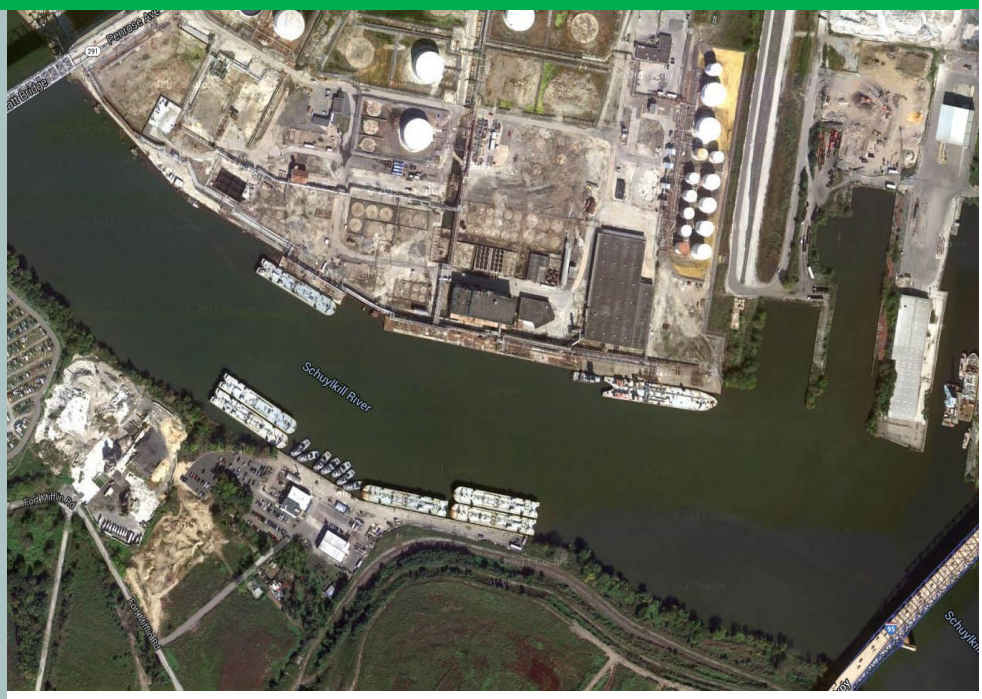
The project was authorized 8 August 1917 (HD 1270, 64th Congress, 1st Session) and modified 3 July 1930 (R&H Committee Document 40, 71st Congress, 2nd Session) and 24 July 1946 (HD 699, 79th Congress, 2nd Session). WRDA 1996 included the Fairmount Pool to the project.

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 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 is BIL funds.
FY 23 Allocation	8,099	$8,000 is BIL funds.
FY 24 Budget	100	Impacted by Low Use Navigation budget cuts

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

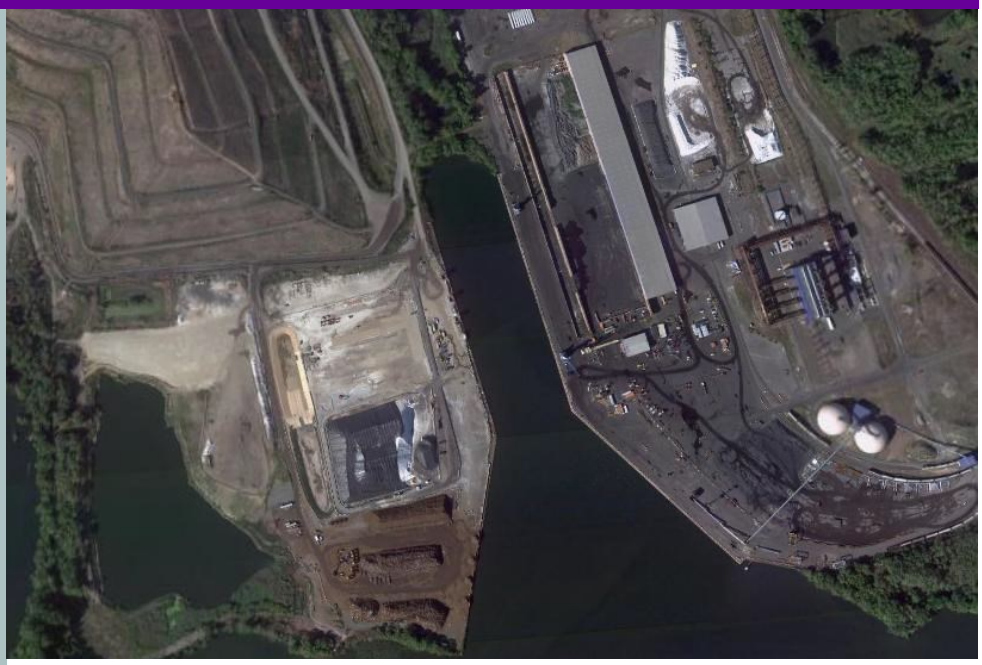
The Port of Philadelphia is located in the heart of the Northeast Corridor, with superior connections to New York City, Washington DC, the U.S. Midwest, and Canada. It is estimated that 100 million people live within a day's drive of Philadelphia. All of the terminal facilities have access to major trucking 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 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	99,005	$25,000 is BIL funds and additional Work Plan funding ($28,600) was provided.
FY 23 Allocation	49,967	$500 is BIL funds and additional Work Plan funding ($3,680) was provided.
FY 24 Budget	72,860	$25,000 is BIL 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-1, 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 2022 O&M funding accomplished periodic channel examinations, environmental support services, earthwork services at the Money Island Disposal Area to create additional dredged material storage capacity and contract maintenance dredging of the upper reach of the 40-foot channel that included the Fairless Turning Basin in Falls Township, PA.

FY 2023 O&M funds will be utilized to accomplish periodic channel examinations, environmental support services and a contract for maintenance dredging in both the lower and upper reach of the 40-foot channel, as well as the Fairless Turning Basin. This contract is scheduled to be advertised in March of 2023. Approximately 500,000 cubic yards of material will be dredged between the Tacony Palmyra Bridge and Newbold Island and placed at the Palmyra Cove Disposal Area in Burlington County, NJ as well as the Money Island and possibly Biles Island Disposal Areas 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 is ready to accept the dredged material from the lower reach of the project in the Summer of 2023.

Summarized Federal Financial Data ($000)		
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 Allocation	17,548	
FY 24 Budget	18,070	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

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.

Project Manager
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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

FY22 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.

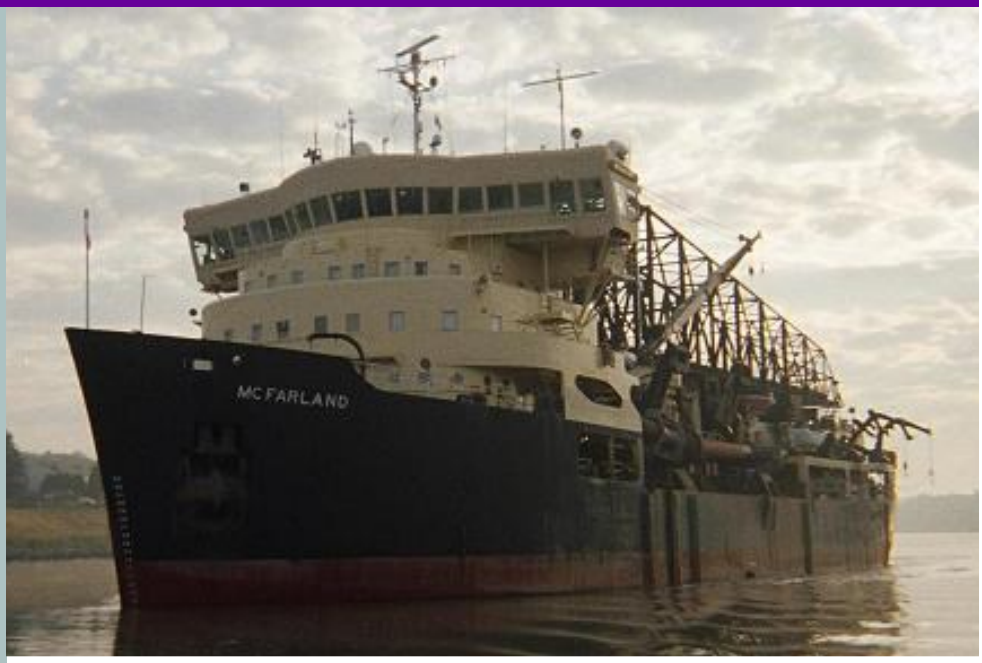
FY23 funds will be used for routine operation and maintenance of the project . Major channel maintenance dredging projects will include the dredging of the southern Approach Channels to the C&D Canal, major bridge maintenance projects include the redecking of the St. Georges Bridge and Reedy Point Bridge bearing replacement and steel repairs.

Summarized Federal Financial Data ($000)		
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	81,414	$3,200 is BIL funds and additional Work Plan funding ($59,275) was provided.
FY 23 Allocation	30,894	Additional Work Plan funding ($8,790) was provided.
FY 24 Budget	20,427	

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.

McFarland Operations Manager
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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 due to the COVID restrictions and shipyard delays, she did exercise in FY22. The McFarland over haul tentative date of completion is April 30th, she will then execute her FY23, 70 day 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



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 USACE CIVIL WORKS MISSION

The origins of the U.S. Army Corps of Engineers (USACE) can be traced back to 1775 and the early days of the American Revolution when the Massachusetts Provincial Congress appointed Richard Gridley to the rank of Colonel and Chief Engineer. In 1779, Congress created a separate Corps of Engineers, but the engineers dissipated from military service after the Revolutionary War ended. Congress reestablished the Corps of Engineers within the Army in 1802. At the same time, it established the United States Military Academy at West Point, NY, the country's first, and for 20 years its only, engineering school. With the Army having the Nation's most readily available engineering talent, successive Congresses and Administrations established a role for USACE as an organization to carry out both military construction and works "of a civil nature." In 1824, the Supreme Court ruled that Federal authority covered interstate commerce, including riverine navigation. Shortly thereafter, Congress enacted laws that marked the beginning of USACE's continuous involvement in civil works, with a mission focus on water resources.

Three primary mission areas are the heart of the USACE Civil Works Program.

- The **flood risk management** mission includes both inland and coastal flood risk management and addresses assessment, management, and communication of current and future flood risk in a systematic and comprehensive manner.
- The **navigation** mission focuses on safe, reliable, and efficient waterborne transportation systems (channels, harbors, and waterways) for movement of commerce, national security needs, navigational access for the Coast Guard, and recreation. Inland (riverine) and deep draft navigation, as well as small boat harbors, are all part of the USACE navigation mission.
- The **ecosystem restoration** mission restores, protects, and manages aquatic ecosystems. Ecosystem restoration projects assist in the recovery of ecosystems that have been degraded, damaged, or destroyed and focuses on establishing the ecological processes necessary to make aquatic ecosystems sustainable, resilient, and healthy under current and future conditions.

Congress has also directed the USACE Civil Works Program to address **recreation**, **hydropower**, and **water supply**. USACE engagement in these areas is generally required to be associated in some relevant manner with one or more of the three primary mission areas, e.g., a flood risk management project that also provides recreation benefits to the community.

In addition, the USACE Civil Works Program has a robust mission area in **emergency response**, including providing infrastructure and engineering response services to the Nation.

Flood Risk Management

The USACE flood risk management mission area, including both inland and coastal storm risk management, encompasses ongoing and diverse flood risk management projects, programs, and authorities, and includes engagement and partnerships with other Federal agencies, State and Tribal organizations, and regional and local agencies. USACE activities related to flood risk management include technical services, project planning and construction, dam safety, levee safety, emergency operations, and emergency response.

USACE flood risk management projects utilize structural and nonstructural measures to manage the hazards associated with flooding and reduce the negative consequences of flooding to people and property. Structural and nonstructural flood risk management measures include channel modifications, levees, floodwalls, dams,

diversion culverts, natural and nature-based features, elevating structures in the floodplain, floodproofing, acquisition or relocation, flood warning systems, floodplain management, and increasing road elevations.

USACE has an active role in assessing, managing, and communicating flood risk associated with approximately 14,000 miles of levees in the USACE Levee Safety Program portfolio, and operates and maintains approximately 700 dams through the USACE Dam Safety Program portfolio that provide multiple significant benefits to the Nation. USACE manages these important elements of the Nation's flood risk management infrastructure to ensure its civil works projects deliver their intended benefits.

Navigation

The Federal interest in navigation derives from the Commerce Clause of the Constitutionand is limited to the navigable waters of the United States. Navigation was USACE's first civil works mission dating to Federal laws in 1824, which authorized and funded USACE to improve safety on the Ohio and Mississippi Rivers and several ports. The primary objective of the USACE navigation mission is to provide safe, reliable, and efficient waterborne transportation systems, including channels, harbors, and waterways for movement of commerce, national security needs, and recreation.

Today, USACE operates and maintains nearly 12,000 miles of commercial inland and intracoastal shallow draft (9- to 14-foot) navigation channels and waterways, and 13,000 miles of channels greater than 14 feet deep, for a total of 25,000 miles operated and maintained for commerce. USACE also assists in the movement of commerce by operating about 190 lock sites on 41 waterways, dredging more than 200 million cubic yards of construction and maintenance material annually, and maintaining 926 coastal, Great Lakes, and inland harbors.

Navigation studies and projects employ various measures to improve navigation. Port and harbor development typically consists of navigation channels that permit safe passage of vessels and any necessary breakwaters or jetties for protection against hazardous wave conditions. Inland waterway projects include navigation channels and locks. USACE's non-Federal partners or other non-Federal interests are responsible for providing the infrastructure necessary for full harbor and waterway development, including dredging of berthing areas, docks, and landside warehousing and transportation facilities.

Ecosystem Restoration

The USACE Civil Works Program's ecosystem restoration mission area focuses on restoring degraded aquatic ecosystem structures, improving function and dynamic processes to a less degraded and more natural condition, and employing system-wide watershed approaches to problem solving and management for ecosystem restoration projects.

USACE's principal ecosystem restoration focus is on ecological resources and processes that are directly associated with, or directly dependent upon, the hydrological regime of the ecosystem and watershed(s). Ecosystem restoration opportunities that involve modification of hydrology or substrate are likely to be most appropriate for USACE initiatives; USACE is most likely to partner in activities addressing ecosystems associated with wetland, riparian, and aquatic systems.

Not all ecosystem restoration opportunities are appropriate for USACE involvement. Generally, it will not be appropriate for USACE to conduct ecosystem restoration activities on upland, terrestrial sites that are not closely linked to water and related land resources; such activities may best be addressed by other Federal agencies through their missions and programs.

Recreation

USACE is the second largest Federal provider of outdoor recreation, with more than 400 lake and river projects in 43 states. Recreational features can be, and often are, considered as an element to enhance the overall benefit of a USACE project to the public. However, when partnering with USACE in cost-shared civil works studies and projects, recreational features cannot be the primary objective of the project.

Hydroelectric Power

Hydropower is one of the products of developing rivers for multiple purposes. Over the years, Congress has directed USACE to build water resource projects to serve public needs. Where feasible, hydropower has also been included. USACE-operated hydropower plants offer reliable hydroelectric power services at the lowest possible cost as a benefit to the Nation, consistent with sound business principles and in partnership with other Federal and non-Federal hydropower generators, power marketing administrations such as the Tennessee Valley Authority, and hydropower customers. USACE collaborates on its hydropower efforts with the Department of Energy, the Federal Energy Regulatory Commission, and a variety of other Federal, regional, and State agencies and some private Corps-permitted hydropower facilities.

USACE is the largest operator of hydroelectric power plants in the U.S., and one of the largest in the world. The 75 Corps hydropower plants across the country have a total installed capacity of over 20,000 megawatts and produce nearly 100 billion kilowatt-hours a year. At nearly a third of the Nation's total hydropower output, it is enough energy to serve about ten million households.

Water Supply

USACE may participate and cooperate with states and local communities in developing water supplies in connection with water resource improvements when certain conditions of non-Federal participation are met. These water supply features may be included in Federal navigation, flood risk management, or multipurpose projects when they are being considered for construction, operation, maintenance, and/or modification. This USACE involvement policy is based on a recognition that states and local governments, not the Federal Government, have the primary responsibility for the development and management of their water supplies.

Emergency Management

USACE is prepared to respond to natural and man-made disasters as part of the Federal Government's unified national response to disasters and emergencies. As part of its Emergency Management mission, USACE prioritizes saving lives, protecting property, and supporting immediate emergency response needs for USACE, the Department of Defense (DoD), the Federal Emergency Management Agency (FEMA), and the Federal Government. During natural disasters and other emergencies, USACE can respond under its own authorities; as a component of the DoD; and as the designated lead agency in support of FEMA for the Public Works and Engineering Emergency Support Function. Some examples of USACE's primary Emergency Management activities include: preparing for disasters; providing technical assistance related to flood fighting, mapping, and modeling; and inspecting and rehabilitating coastal and inland flood risk management projects that have been damaged or destroyed by floods.

USACE'S ORGANIZATION & OPERATION

While largely composed of civilians, USACE operates as part of the U.S. Army and has both military and civilian leadership that operate in tandem. It is an organization of thousands of dedicated civilian and military employees representing over 100 different professional engineering, scientific, environmental, and managerial specialty areas.

The military leadership operates through a chain of command that provides a direct link within the hierarchy of the U.S. Army, USACE Headquarters, regional Division offices, and local Districts. The Headquarters, Division, and District offices are generally organized in the same way: executive leadership at all levels rests with a military commander supported by a senior civilian program manager or director.

The USACE Commanding General and Chief of Engineers is located at the USACE Headquarters (HQUSACE) in Washington D.C. Reporting to HQUSACE are nine Division offices, also known as Major Subordinate Commands (MSCs). Each Division office oversees multiple District offices within its Division boundaries.

Divisions serve as the regional USACE interface with other regional agencies and organizations within their boundaries. The Districts' Civil Works Programs are responsible for conducting and completing assigned civil works studies, projects, and programs within their respective areas of responsibility. District boundaries are based on watersheds, and thus may not correspond directly with state or other governmental boundaries.

In addition to the nine Division offices, USACE also operates a number of other organizations including specialized labs and research branches such as the Army Geospatial Center (Alexandria, VA), the Engineer Research & Development Center (Vicksburg, MS), the Institute for Water Resources (Alexandria, VA), and the Marine Design Center (Philadelphia, PA).

Need Help Answering Questions?

The online location map for Headquarters, Divisions, Districts, and other organizations includes hyperlinks with specific information about each office. You can also find USACE offices using your favorite search engine.

https://www.usace.army.mil/Locations

USACE REGIONS



Office of the Assistant Secretary of the Army for Civil Works

The USACE Commanding General and Chief of Engineers reports to the Assistant Secretary of the Army for Civil Works (ASA(CW)). The ASA(CW) is appointed by the President, confirmed by the U.S. Senate, and establishes policy direction and provides supervision of the Department of the Army functions relating to all aspects of the USACE Civil Works Program. The Office of the ASA(CW) represents USACE's interests to the Administration, and represents the Administration's interests to USACE in:

- The annual legislative program, which usually includes recommended authorizations to conduct studies and construct projects;
- The development of the annual Civil Works Program budget included in the President's Budget submission to Congress, which includes requests to fund selected studies and projects;
- The annual appropriations process, providing operations and maintenance and project-based funding for the Civil Works Program; and
- Providing policy direction and interpreting policy guidance on specific USACE studies, projects, and programs.

U.S. Army Corps of Engineers Headquarters (HQUSACE)

At HQUSACE, the Chief of Engineers is the Commanding General of the Corps of Engineers. Reporting to the Chief of Engineers, the Director of Civil Works is the senior civilian leader overseeing the Civil Works Program, and the Deputy Commanding General for Civil and Emergency Operations is the senior military leader overseeing the Civil Works Program.

HQUSACE is responsible for organizational leadership and management of the programs and resources of the agency. It ensures that policy established by the ASA(CW), including associated USACE interpretive policy and guidance on specific projects and programs, is applied to all phases of project development. HQUSACE staff also monitor and provide guidance to the Divisions and Districts; provide progress reports to the ASA(CW); support and help the ASA(CW) to work with other agencies and organizations; and, together with the ASA(CW), provide requested testimony to Congress in support of the Civil Works Program and the Administration.

Regional Divisions

Division leadership rests with the military Division Commanders, sometimes referred to as Division Engineers. The Divisions are the regional offices responsible for the supervision and management of their subordinate Districts. Divisions are also responsible for efficient use of personnel and funds, ensuring that the Districts' activities are compatible with policy, and monitoring and reporting to HQUSACE on progress. Divisions serve as the regional interface with other regional agencies and organizations within their boundaries.

Local Districts

The Districts are led by military District Commanders, sometimes referred to as District Engineers. The Districts are the local offices responsible for conducting and completing their assigned civil works studies, projects, and programs.

With their focus on implementation, the Districts represent "one door to the Corps." Large regional projects that cross state lines or District boundaries will be managed by a single District and include multidisciplinary team members from multiple USACE offices.

PARTNERING TO DEVELOP A CIVIL WORKS PROJECT

NON-FEDERAL PARTNERS

In most cases, non-Federal interests will be both a partner with, and client to, USACE. We will work together to meet the needs of the local community and Nation.

Throughout this Guide, non-Federal interests that are contractual or cost-sharing partners with USACE to plan and deliver a civil works project may also be referred to as "sponsors."

USACE works hand-in-hand with non-Federal partners throughout the country to investigate water resources and related land problems and opportunities and, if warranted, develop projects that would otherwise be beyond the sole capability of the non-Federal partner(s). Study and project non-Federal partners are States, Tribes, county or local governments, or agencies that are interested in partnering with USACE to participate in civil works projects.

These partnerships are multifaceted, and vary by the scope and scale of the project being developed. The development of a civil works project can be a complex undertaking and requires a successful partnership and a contractual agreement between USACE and the non-Federal study or project partner. In contrast, as a technical services client, a non-Federal partner's engagement with USACE may be limited in scope and duration.

USACE civil works water resources activities are initiated by non-Federal partners or potential non-Federal partners, authorized by Congress, funded by Federal and non-Federal partners, and typically constructed by private contractors supervised by USACE. A civil works project partnership between USACE and a non-Federal partner progresses through four phases: feasibility study (planning); preconstruction, engineering, and design (PED); construction; and, once project construction is complete, operation, maintenance, repair, replacement, and rehabilitation (OMRR&R). Most civil works projects – from planning through construction – are cost-shared between the Federal Government and a non-Federal partner or partners. With the exception of navigation projects, the non-Federal partner is generally responsible for the OMRR&R phase of the project.

Project Delivery Team

Each individual civil works study or project will have a Project Delivery Team (PDT) led by a project manager. PDTs are typically made up of members from the USACE planning, engineering, construction, operations, and real estate functions that bring needed expertise for that specific study or project. Other USACE personnel from branches and divisions of the District are needed from time-to-time to perform certain functions, like assisting with contracts, scheduling tasks, and funding activities.

Non-Federal partner (also referred to as the non-Federal sponsor) representatives are also members of the PDT. The sponsor is expected to contribute knowledge and perspectives on local conditions, agencies' and public views, the environmental setting, potential solutions to the water resources problem(s), and other information. While some PDT staff changes are expected as a project moves from planning, to PED, to construction, certain sponsor and USACE representatives will remain involved and play a key role throughout the entire project development process.

The PDT, including the non-Federal partner(s), works closely with other Federal, State, Tribal, and local government agencies, businesses, interest groups, homeowners, and other members of the public.

NON-FEDERAL PARTNER (SPONSOR) PROJECT DELIVERY TEAM ROLE

- *Participate as active PDT member(s).*
- *Provide funding and/or in-kind contributions that amount to the statutory share of financial costs of studies and projects.*
- *Meet agreed-upon budget, scope, quality, and schedule reporting requirements.*

Non-Federal Partner Roles and Responsibilities

A partnership combines the resources and expertise of USACE and the non-Federal partner to address water resources problems. Most USACE water resources studies and projects require non-Federal partners to share the cost of the study and the project. Sponsoring a study or project requires a formal, legal agreement that is binding, but not irreversible. Cost-sharing requirements vary by the type of problem (i.e., USACE mission area) as well as the phase of the effort (e.g., planning phase, design, or construction) and are specified by Congress. The local share generally ranges from 25 percent to 50 percent of the cost depending on the project type and the phase of project development, although some elements must be fully funded by the non-Federal partner. Sponsors may also provide negotiated "in-kind contributions" for a portion of the required cost share.

Most study and project partnerships are initiated via a request to the local USACE District office. A project manager in the District will work with an interested non-Federal partner to learn about the water resources problem and make an initial determination whether USACE has a program under which it could be considered. This is often followed by an in-person meeting and site visit to gather more information, and to discuss the details and requirements of a partnership.

If it is determined that the problem is appropriate for USACE involvement, the non-Federal partner and the USACE team will work together to define the actions to be taken, e.g., technical data needed, public involvement, or next steps in the process to advance a civil works study or project.

CONGRESSIONAL COORDINATION: AUTHORIZATION & APPROPRIATIONS

Before any USACE civil works project or study can begin, three steps must take place: 1) Congress establishes the authority for USACE to conduct the study; 2) the study is included in the President's Budget, indicating Administration support for addressing that specific study; and 3) Congress provides Federal appropriations to initiate the study or project. Each are separate actions which must happen sequentially and therefore, can take several years. There are, of course, exceptions – emergency authorities and appropriations by Congress following a large scale national disaster can enable USACE and non-Federal partners to move forward on studies or projects expeditiously.

Congress provides permission to undertake a study by providing "study authority" to USACE to evaluate the feasibility of a recommended solution (project) for a specific water resources problem. The local District can identify if there may be an existing study authority available to meet specific water resources needs. New study authorizations can be provided by a House of Representatives or Senate committee resolution, in the periodic USACE authorization laws known as "Water Resources Development Acts" (WRDAs), or, less commonly, via another legislative vehicle.

STUDY AUTHORITIES

There are many existing study authorities that cover much of the Nation's water resources needs. Check with your local District for assistance to determine what authority may be already available in advance of outreach to Congressional interests.

Congress also provides permission for USACE to undertake construction of a water resources project by providing "project authority" for a specific water resources project. Generally, Congress will not provide project authority until a completed study results in a recommendation to Congress of a water resources project, conveyed via a Report of the Chief of Engineers (Chief's Report) or Report of the Director of Civil Works (Director's Report). Without project authority, USACE cannot invest Federal dollars to construct a water resources project, even if it has been studied by USACE and recommended for authorization.

There are also several standing authorities or "continuing authorities" that cover both the study and construction authorities for certain types of water resources development projects under a total project cost threshold.

The recommended first step for any community considering a partnership on a USACE civil works project is to contact the local District office to determine whether there is already a study or project authority associated with the problem, and identify the opportunities that may exist to address the issue.

For those projects that do not fall either under an existing study or project authority or a standing authority, such as the Continuing Authorities Program (CAP) or the Tribal Partnership Program (TPP), potential non-Federal project or study partners may submit their requests for study and project authorization to the Corps for inclusion in the Annual Report to Congress on Future Water Resources Development (see Section 7001 of WRRDA 2014, as amended). Proposals are included in the report if they meet five criteria outlined by Congress. Since this process has begun in 2015, Congress has used the Annual Report to Congress to identify areas where new study and project authorities are required.

Budgetary Process

Once authorized, a study or project must have Federal funding before it can begin. Federal funding from the annual USACE appropriations will not be available for a specific study or project until the authorized study is

included in either the President's Budget, which is submitted to Congress each February, or the Administration's work plan, which is submitted by the Office of Management and Budget.

The President's Budget categorizes requested funds by the phase of the civil works project. Funds for all pre-construction activities, including feasibility studies and preconstruction, engineering and design (PED) up to the award of the first construction contract are "Investigation" funds. "Construction General" funds are then provided to complete engineering and design after award of the first construction contract and cover all remaining project construction and implementation requirements. "Operations and Maintenance" (O&M) funds are allocated for the operations and maintenance of all USACE-owned and operated projects, along with the Inspection of Completed Works program.

USACE is always looking at least two fiscal years ahead in the budgetary process. Therefore, a newly authorized study may not appear in the President's Budget in the Investigations category for at least two years. Similarly, a newly authorized project may take years before it is included in the Construction General budget.

Federal Funding: Annual Appropriations Processes

Congress provides funding for USACE civil works studies and projects through the annual Energy and Water Development Appropriations Act. This Act is one of several appropriations bills that Congress passes each year to fund the operations of the Federal Government. Other agencies are also funded by the Energy and Water Development Appropriations Act, including the Department of Energy, Department of Interior, and other agencies and commissions. Congress typically describes the studies and projects they want USACE to work on in the report attached to the appropriations bill, and requires USACE to develop a work plan that describes how the Federal funding will be allocated to specific projects and programs.

THE FEASIBILITY STUDY

Often referred to as the first step toward construction of a USACE civil works water resources development project, the feasibility study is the disciplined process under which USACE planners work with non-Federal study sponsors and multi-disciplinary study teams to identify water resources problems, formulate and evaluate solutions, resolve conflicting interests, and prepare recommendations. A feasibility study is used to establish the Federal interest, engineering feasibility, economic justification, and environmental acceptability of a recommended water resources project. A feasibility study determines if Congressional authorization and USACE implementation of a specific civil works project are warranted.

Feasibility studies are generally cost-shared equally between USACE and a non-Federal partner, and reflect the shared responsibility for management and protection of the Nation's water resources. The non-Federal share may be in the form of 100 percent work-in-kind in lieu of a partial or complete cash contribution.

The feasibility phase concludes with either the finding of no Federal interest or the recommendation for the authorization of a specific water resources project. The analyses that support the recommendation are documented in a decision document. The final feasibility report will include documentation required by the National Environmental Policy Act (NEPA) and other applicable laws and guidance. The recommended project and the technical and engineering appendices in the decision document will lay the groundwork for the preconstruction, engineering and design (PED) phase of the project.

The recommendation to Congress for authorization of a water resources project will be made by the Chief of Engineers in the form of a "Chief's Report." After the Chief's Report is signed, the ASA(CW) will officially transmit the Chief's Report to Congress along with the views of the Administration.

Note that there are other USACE post-authorization decision documents that follow a similar process to the feasibility study process. For example, General Reevaluation Reports are developed to affirm, reformulate, or modify a previously completed feasibility study and the resulting recommended water resources project, or portions of the project. Although these reports are not technically "feasibility studies," the process they follow is extremely similar.

Non-Federal partners are also authorized to independently undertake feasibility studies of proposed projects for submission directly the ASA(CW) and transmission to Congress. The Secretary of the Army reviews the feasibility study and the process under which the study was developed to determine the following: (1) whether the study complies with Federal laws and regulations, and (2) whether the project is feasible. The Secretary of the Army can also provide recommendations concerning the plan or design of the project, as well as set additional conditions that will be required for construction of the project. The local USACE District can provide valuable advice for a non-Federal partner interested in this path to a civil works project.

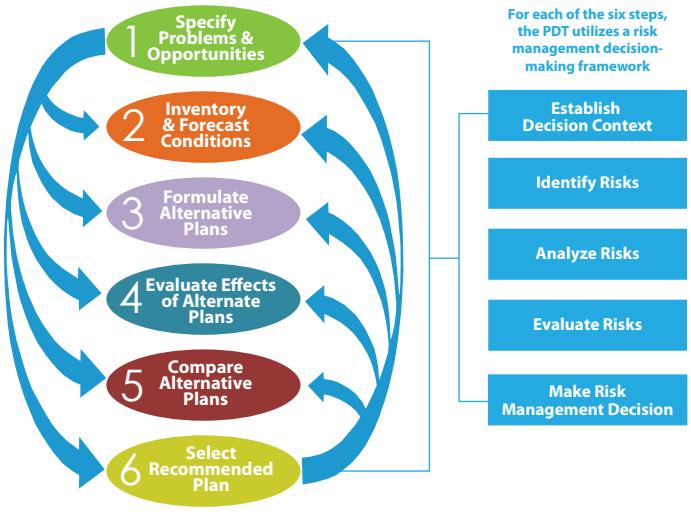
Planning Process

USACE follows the six-step planning process defined in the *Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies* developed in the 1980s to guide the formulation and evaluation of water resources projects. This process is a structured approach to problem solving which provides a rational framework for sound decision making.

The six-step process is used for all USACE feasibility studies, regardless of scale. This process is typically presented and discussed in a sequential manner for ease of understanding, but usually requires multiple, and sometimes

THE SIX STEP PLANNING PROCESS

The USACE Planning process is both sequential (left side of the diagram) and iterative (right side). Past steps can be revisited as more information is developed and more decisions are made during the study.



concurrent, iterations to formulate efficient, effective, complete, and acceptable plans, and to identify a single recommended plan.

USACE applies the six-step planning process within a risk management decision-making framework, so teams are better able to identify and communicate the way they use information and reduce uncertainty to inform decisions through iterations of the planning process. The approaches and techniques of planning provide USACE and its non-Federal partners with tools to efficiently reduce uncertainty by gathering the evidence needed to make the next planning decision and to manage the risks that result from doing so without more complete information.

SMART PLANNING

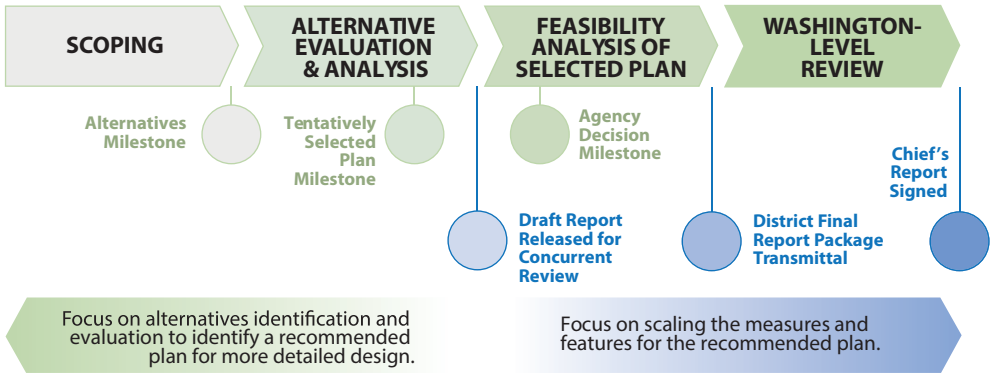
*To emphasize the need to make risk-informed decisions throughout the planning process, USACE implemented **SMART (Specific, Measurable, Attainable, Risk-Informed, Timely) Planning** in 2012 to conduct civil works feasibility studies for water resources development projects. The SMART Planning process relies on a structured multi-step risk-informed decision-making process, and is intended to improve and streamline feasibility studies (and other studies), reduce cost, and expedite completion.*

Initiating a Planning Study

No work may begin on a study until execution of a cost-sharing agreement between USACE and the non-Federal sponsor occurs. The USACE model feasibility cost-sharing agreements (FCSAs) for projects that will require specific authorization are based on completion of the study within three years, using no more than a total combined funding and in-kind contributions amount of $3 million for both the Federal and non-Federal share. The three-year timeline begins with the signing of the FCSA and ends with a signed decision document (such as a Chief's Report) or the termination of the study. Consideration of exemptions to these time and cost limits is part of the USACE feasibility decision-making process in which risk and uncertainty, scope, schedule, and funding. As a general rule, exemptions should only be required for the most complex studies. The three-year timeframe and funding limit for a feasibility study do not apply to studies conducted under the Continuing Authorities Program.

Once the FCSA has been signed, the PDT determines the initial framework for how decisions will be made and communicated, how risks will be managed, and what level of detail of information is needed to support the decision-making process. Adjustments may be made to the scope, schedule, and budget as a result of early PDT interaction, leading to agreement among principal parties on realistic expectations about study outputs, resource commitments, timeframe, and affirmation that the study can be completed within three years and for

SMART FEASIBILITY STUDY PROCESS — *KEY DECISION & PRODUCT MILESTONES*



Note: The duration of each phase of a feasibility study is unique for each study. Not to scale.

no more than $3 million. Throughout the study, the PDT will communicate with its Division office and HQUSACE if adjustments are needed that impact schedule and funding.

The USACE project manager works with the non-Federal partner and other PDT members to develop a mutually acceptable project management plan that outlines tasks, costs, schedule, and responsibilities (the what, when, and how). The resulting project management plan is signed by the study sponsor and USACE representatives and serves as a road map for the conduct of a study, and, potentially, for the related design and construction of a project.

The nature of planning is such that it is accepted that circumstances change based on new information, and decisions made leading up to that point in the study may need to be revisited. It is expected that the PDT and sponsor may identify changes to study scope, schedule, and budget during scoping and other stages of the study. Therefore, the project management plan is regularly updated and maintained throughout the study.

From Scoping to Washington-level Review

During the first months of a study, the PDT is expected to complete at least one iteration of the six-step planning process to formulate and evaluate an array of distinctly different alternative plans, and a rough order of magnitude of costs, benefits, and environmental impacts using existing and available information. The PDT coordinates with representatives from its Division and HQUSACE to affirm that there is Federal interest in developing a recommendation to address the water resources problem, and a representative array of distinctly different solutions has been formulated and will be evaluated.

Early coordination with Federal and State resource agencies, such as the National Marine Fisheries Service and / or U.S. Fish and Wildlife Service, will inform the study scope and path forward, as well as jump start Fish and Wildlife Coordination Act activities, Endangered Species Act (ESA) compliance, and other environmental and cultural resources activities. Within 90 days of study initiation, the PDT will convene an interagency meeting of all Federal, Tribal, and State agencies that may be required by law to conduct or issue a review, analysis, or opinion on, or to make a determination concerning a permit or license for the study. If the study will require an Environmental Impact Statement (EIS), the PDT's letter inviting the relevant agencies to the meeting will request that they serve as either a cooperating agency or a participating agency, if applicable.

The PDT will also hold a public scoping meeting early in the process, providing another opportunity to define the scope of the study and consider external views on the water resources problem(s).

After a focused array of alternatives is identified, the PDT continues to use iterations of the risk-informed six-step planning process, and evaluates and compares the array of distinct strategies for achieving the water resources objectives in the study area against the forecasted "future without project" condition. The result is determination

of Federal interest in recommending a water resources project and the identification of a "Tentatively Selected Plan" (TSP), which may be either the "national economic development" (NED) or "national ecosystem restoration" (NER) plan identified as reasonably maximizing the economic or ecosystem restoration benefits, respectively, of the project compared to its costs. At this point, a "Locally Preferred Plan" (LPP) may also be identified. An LPP is a plan that is preferred by the non-Federal sponsor over the NED or NER plan, and is sometimes recommended for project authorization instead of the NED or NER plan, with caveats. The analysis to determine and describe the TSP is documented in the draft feasibility report. The PDT usually takes 12 to 18 months to gather the necessary information, conduct required analyses, and develop the draft feasibility report.

The draft feasibility report is a pre-decisional document. The plan presented in the study is, at this point, the tentatively selected plan; it is not yet the recommended plan. The draft feasibility report documents the process to date, but the concurrent public comment, technical review, and policy review of the draft feasibility report may result in a change to the TSP. In addition, there are technical and policy elements that are required for the final feasibility report that will not yet be completed when the draft report is released for review.

The PDT considers all public, technical, and policy comments on the draft report as it moves forward to complete additional design and analyses of the TSP to reduce risk and uncertainty with cost data, engineering effectiveness, environmental impacts, and economic benefits. The PDT will also analyze design requirements to assure functionality of the recommended project and life safety.

There are several procedural and policy requirements that must be met by the PDT during the development of the final feasibility report and NEPA documentation. During this period, USACE and the sponsor continue to document environmental compliance activities under relevant laws and policies including NEPA, the National Historic Preservation Act, the Fish and Wildlife Coordination Act, the ESA, the Clean Water Act, the Clean Air Act, and others.

The District Commander's signed feasibility report represents the District's response to the study authority with the recommendation of a project to address the water resources problem. Once the District Commander signs the recommendations in the final feasibility report, the District will forward the final report, final NEPA document, and related materials to the applicable Division and/or HQUSACE for final USACE policy review, final NEPA review, and State & Agency review (for studies that lead to a Chief's Report).

The Chief's Report

The recommendation to Congress for authorization of a water resources project will be made by the Chief of Engineers in the form of a "Chief's Report." If a project has already received congressional authorization pending identification of an acceptable solution during the feasibility phase, the final recommendation may be made by the Director of Civil Works in a "Director's Report," depending on the project and study.

The Chief's Report provides Congress with a succinct recommendation of a project for authorization and assurance that the process to develop the recommendation is consistent with Administration policy and all applicable laws. After the Chief's Report is signed, the ASA(CW) will officially transmit the Chief's Report to Congress, along with the views of the Administration.

PRECONSTRUCTION, ENGINEERING & DESIGN (PED)

During preconstruction, engineering and design (PED), USACE and the non-Federal partner(s) complete the detailed engineering, technical studies, and design needed to begin construction of the project as recommended in the planning decision document, including engineering design documentation and the plans and specifications ("Plans and Specs") of the first significant project construction contract.

PED may begin after the District Engineer's transmittal of the final feasibility report, once PED funds have been appropriated by Congress and a Design Agreement is executed with the non-Federal sponsor. The costs of PED activities are usually shared using the same percentages as construction of the project based on the mission area (e.g., flood risk management, navigation, ecosystem restoration). This is different than the typical 50%-50% cost-sharing of feasibility studies.

PED activities usually require several years to complete, and are a critical engineering component to prepare for project construction. PED activities continue under the original study authorization and may begin before congressional project authorization and construction funding of the project are received. However, construction may not begin until the project has been authorized and construction funding has been appropriated.

USACE and its non-Federal partners use the more detailed engineering design documentation developed during PED as a resource to draft and negotiate the Project Partnership Agreement (PPA) for project construction.

PROJECT CONSTRUCTION

USACE must be congressionally authorized to participate in the construction or modification of a water resources project. The authorization can be project-specific, programmatic, or general. While most USACE project authorizations are included in Water Resources Development Acts, some construction projects are undertaken under other authorities. Your local District can help determine if there is existing authority for the construction or modification of a water resources project.

USACE's ability to act on an authorization also requires congressional funding. Once a project is authorized, appropriations are sought through annual Energy and Water Development Appropriations Acts. Once a project has secured Federal funding, the non-Federal sponsor and USACE can sign a Project Partnership Agreement (PPA). The PPA outlines Federal and non-Federal responsibilities for construction and for OMRR&R of the project once construction is complete.

After the PPA is signed, the non-Federal partner can begin acquisition of the real estate required for project implementation, as established during the feasibility study. Non-Federal partners are responsible for providing all lands, easements, rights-of-way, relocations, and disposal/borrow areas (LERRD) required for construction, operation, and maintenance of the project, and may receive credit towards cost-share responsibilities for costs associated with acquiring the LERRD necessary to implement a project. Typically, the construction is then performed by private contractors with oversight by USACE construction staff.

After the project has completed its final construction contract, a final inspection will be conducted by USACE to ensure that the project has been completed as designed. If the project will be operated and maintained by the non-Federal partner, USACE transfers the project to the sponsor along with an operation and maintenance manual.

PROJECT OPERATION & MAINTENANCE

Project operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) requirements are initially identified during the feasibility phase and considered in the economic analysis when weighing project costs and benefits. Responsibility for OMRR&R is described in the feasibility report and is outlined in the construction PPA. Responsibilities for OMRR&R are based on the project purpose. If the non-Federal partner will eventually operate and maintain the project, USACE will prepare an Operation and Maintenance manual. During the lifetime of the project, the non-Federal partner completes operations reports on a regular basis, and USACE will periodically inspect the project through the Inspection of Completed Works program.

In most cases, costs for OMRR&R for newly completed projects are 100 percent sponsor costs. Exceptions to this are for commercial navigation projects, where USACE usually pays 100 percent of OMRR&R costs for projects with depths to 50 feet, and 50 percent of increased OMRR&R costs for depths in excess of 50 feet.

TRIBAL PARTNERSHIP PROGRAM

Most Districts have a Tribal Liaison. Contact a local District office for additional assistance or use the following link: Tribal Nations Community of Practice

USACE is authorized to study and determine the feasibility of carrying out projects that will substantially benefit Indian Nations. The Tribal Partnership Program (TPP) provides USACE with broad authorities to assist with water resources projects that address economic, environmental, and cultural resource needs through studies including flood risk management, environmental restoration, and protection and preservation of natural and cultural resources. Other opportunities for TPP involvement include watershed assessments and planning activities as well as other projects as the Secretary of the Army, in cooperation with Indian Tribes and the heads of other Federal agencies, determines to be appropriate. The TPP also includes an "Ability to Pay" provision for studies and projects carried out under its authorities.

Upon request, USACE will cooperate with Tribes to study water resources problems primarily located within Tribal lands. Because the TPP is a programmatic authority, specific Congressional authorization is not needed to initiate a feasibility study. After a Tribe requests a study, a 50 percent Federal / 50 percent Tribal cost-shared feasibility study is initiated. The Tribal cost share may be in the form of 100 percent work-in-kind. During the feasibility study, potential solutions are identified, the costs, benefits, and environmental impacts are analyzed, and a recommended project is developed.

If the Federal cost share of the recommended project is below $12,500,000, USACE can carry out the project design and implementation without specific Congressional authorization. If the Federal cost share is above $12,500,000, Congressional authorization is required. Depending on the type of project to be developed, different cost-sharing responsibilities for the Tribe and Federal Government will apply. A cost-share waiver up to $482,000 may be applied to any TPP project that recommends project implementation (i.e., not a watershed study).

CONTINUING AUTHORITIES PROGRAM

In addition to project-specific authorities and the Tribal Partnership Program, there are nine additional "continuing authorities" to plan, design, and construct water resources projects under a certain cost threshold. For many communities, if a water resource problem can be addressed by an authority in the Continuing Authorities Program (CAP), the entire project may be implemented more expeditiously. Studies conducted under CAP authorities are approved at the Division level. CAP authorities and cost limits, however, are generally insufficient for particularly large or complex water resources problems.

Local governments and agencies seeking assistance can request that USACE investigate potential water resource issues that may align with a particular CAP authority. USACE will review a non-Federal partner's request to determine if it is aligned with an existing authority or whether the request would require additional Congressional authorization. Following an initial site visit to inform the determination if a project is potentially eligible to be included as a CAP project, the USACE Headquarters CAP manager will determine if and when the proposed new CAP project can be funded and started. Once approved, the District requests funds (up to $100,000 initially) to prepare a Federal Interest Determination (FID) on the advisability of continuing work consistent with the principles, priorities, and constraints of the specific CAP authority, and initiates the feasibility phase, which is then followed by a design and implementation phase. The first $100,000 for a CAP feasibility study is entirely federally funded, and then cost-shared above that amount for costs to complete the study.

Both phases of a CAP project are cost-shared between the Federal Government and the non-Federal partner. Certain territories of the U.S., including Puerto Rico and the U.S. Virgin Islands, as well as Tribes, are eligible for a reduction of the non-Federal cost-share requirement.

Timelines vary, but the feasibility phase of a CAP project is typically completed within two years. Cost and duration of the design and implementation phase of a CAP project will vary based on the size and complexity of the project.

CAP authorities are described in the following table.

CONTINUING AUTHORITIES PROGRAM

SECTION	AUTHORITY	AUTHORITY PURPOSE	FEASIBILITY COST SHARE DIVISION (Fed/non-Fed)	GENERALIZED DESIGN AND IMPLEMENTATION COST SHARE DIVISION (Fed/non-Fed)[1]	MAXIMUM FEDERAL EXPENDITURE PER PROJECT[3]	NATIONAL PROGRAM LIMIT (Per FY)[3]
14	**Emergency Stream Bank and Shoreline Protection** *(Flood Control Act of 1946, as amended, or 33 USC 701r)*	Emergency stream bank stabilization and shoreline protection for public works and non-profit public services in imminent danger of failing (e.g., roads, bridges, hospitals, schools, treatment plants). Private properties/facilities not eligible.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35 [2]	$10,000,000	$25,000,000
103	**Beach Erosion and Hurricane and Storm Damage Reduction** *(Rivers and Harbors Act of 1962, as amended, or 33 USC 426g)*	Protection of utilities, roadways and other public infrastructure, private properties, and facilities against damages caused by storm-driven waves and currents (e.g., construction of revetments, groins, and jetties; may also include periodic sand replenishment).	1st $100k Fed; 50/50 cost share for any remaining costs	65/35	$10,000,000	$37,500,000
107	**Navigation Improvements** *(Rivers and Harbors Act of 1960, as amended, or 33 USC 577(a))*	Plan, design, and construct small projects for commercial navigation improvements to ensure safe and efficient use of navigable waterways (e.g., channel dredging, widening of turning basins, breakwaters, jetties).	1st $100k Fed; 50/50 cost share for any remaining costs	Varies, based on depth	$10,000,000	$62,500,000
111	**Shore Damage Prevention or Mitigation of Damages Caused by Federal Navigation Projects** *(Rivers and Harbors Act of 1968, as amended, or 33 USC 426i)*	Investigate and construct projects for the prevention or mitigation of shoreline erosion damages to public and privately owned shores along the coastlines when the damages are a result of a Federal navigation project.	Shared in same proportion as the original project causing damage	Shared in same proportion as the original project causing damage	$12,500,000	N/A
204	**Beneficial Uses of Dredged Material** *(Water Resources Development Act of 1992, as amended, or 33 USC 2326(g))*	Use Regional Sediment Management concepts, restore, protect or create aquatic and wetland habitats in connection with construction maintenance dredging of an authorized Federal navigation project. Base disposal plan is least costly for typical disposal of dredged material.	100/0	100/0 for base disposal plan 65/35 for costs beyond base disposal	$10,000,000	$62,500,000
205	**Flood Risk Management** *(Flood Control Act of 1948, as amended, or 33 USC 701s)*	Local protection from flooding by non-structural measures (e.g., flood warning systems or flood proofing) or by structural flood risk management features (e.g., levees, diversion channels, or impoundments).	1st $100k Fed; 50/50 cost share for any remaining costs	65/35[2]	$10,000,000	$68,500,000
206	**Aquatic Ecosystem Restoration** *(Water Resources Development Act of 1996, as amended, or 33 USC 2330)*	Restore degraded aquatic ecosystems and wetland habitats to improve the quality of the environment.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35	$10,000,000	$62,500,000
208	**Snagging and Clearing for Flood Damage Reduction** *(Flood Control Act of 1954, as amended, or 33 USC 701g)*	Channel clearing and excavation, with limited embankment construction by use of materials from the clearing operation only.	1st $100k Fed; 50/50 cost share for any remaining costs	65/35[2]	$500,000	$7,500,000
1135	**Project Modifications for Improvement of the Environment** *(Water Resources Development Act of 1986, as amended, or 33 USC 2309a)*	Modifications of USACE-constructed water resources projects to improve the quality of the environment. Also, restoration projects at locations where an existing USACE project contributed to the degradation.	1st $100k Fed; 50/50 cost share for any remaining costs	75/25	$10,000,000	$50,000,000

[1] *For structural flood risk management purpose, non-Federal share is 35% up to 50% (based on cost of LERRDs), plus 5% must be in cash*

[2] *For non-structural flood risk management purpose, non-Federal share is limited to 35% with no cash requirements*

[3] *Per project limits and national program limits are subject to change; program funds' availability are subject to annual appropriations*

WATERSHED STUDIES

Watershed studies allow USACE to examine the water resources needs of river basins and watersheds of the United States in consultation with Federal, State, Tribal, interstate, and local governmental entities. Non-Federal partners may engage with USACE in watershed studies or assessments, using comprehensive and strategic evaluations and analyses that include diverse political, geographical, physical, institutional, technical, and stakeholder considerations. Watershed planning addresses water resources needs from any source, regardless of agency responsibilities, and provides a shared vision of a desired end state that may include recommendations for potential involvement by USACE, other Federal agencies, or non-Federal interests.

The overarching USACE strategy for watershed studies is to work in partnership with other interests on providing a shared vision with a holistic focus on water resource challenges and opportunities that reflect coordinated development and management of water and related resources. Key components of an effective watershed planning process include:

- Determining problems, needs, and opportunities in the watershed by involving non-Federal partners, water and related land resources interests (stakeholders), resource agencies, and the public.
- Preparing a collaborative inventory and future forecast of relevant water and related land resources consistent with the needs of the study, such as: land use; multiple agency programs and capabilities; jurisdictional boundaries; demands and needs within the watershed; existing models; existing mapping and data; water supply and treatment systems; water rights; transportation systems; or any inventory consistent with the needs of the study.
- Developing management measures based on a feature or activity at a site which address one or more of the planning objectives. Measures will be screened initially by using constraints, expert judgment, metrics, and specific screening criteria to focus on those that will contribute towards meeting the planning objectives.
- Providing a clear description of alternative approaches to address identified problems and needs, emphasizing alignment of actions of Federal, Tribal, State, interstate, and local governmental entities, with an explanation of expected outcomes resulting from combinations of measures and actions considered.
- Evaluating the alternative strategies, in consultation with non-Federal partners, to assess how effectively the strategies address the identified problems while focusing on collective values, missions, and the shared vision.
- Comparing the strategies against one another, noting trade-offs between the strategies, and selecting the best suited strategy for meeting the watershed study goals and objectives.

Watershed studies may identify potential USACE civil works projects consistent with priority missions; however, this is not the primary consideration of watershed planning. Ultimately, watershed studies should inform multiple audiences and decision makers at all levels of government, and provide a strategic roadmap to inform future investment decisions by multiple agencies.

It is expected that a watershed study will be completed within three years, and is typically cost-shared 75 percent Federal and 25 percent non-Federal. Specifically-authorized watershed studies and comprehensive studies may have their own cost-share requirements. Interested non-Federal partners should engage with their local District to evaluate opportunities for ongoing or new watershed studies.

TECHNICAL ASSISTANCE PARTNERSHIP OPPORTUNITIES

Floodplain Management Services

The Floodplain Management Services (FPMS) program (authorized by Section 206 of the 1960 Flood Control Act, as amended) provides information on flood hazards to local interests, State agencies, Tribes, and other Federal agencies to guide floodplain development. The FPMS program addresses the needs of people who live and work in floodplains by helping them better understand flood hazards and the actions they can take to reduce property damage and prevent the loss of life caused by flooding. The program's objective is to foster public understanding of the options available to address flood hazards and promote prudent use and management of the Nation's floodplains.

FPMS program services are provided to State, Tribal, regional, and local governments at no cost, within program funding limits. When funding is available, USACE will work with the requesting organization to develop a scope of work and assemble the appropriate study team for the effort being requested. FPMS program services for other Federal agencies and private persons are provided on a cost-recovery or fee basis. USACE may also accept voluntarily contributed funds to expand the scope or accelerate the provision of services requested. All requestors are asked to furnish available field survey data, maps, historical flood information, etc. to help reduce the cost of services. Requests for assistance under the FPMS program should be submitted by an appropriate representative of a non-Federal partner to the local District and include the location and nature of the problem to be investigated.

The FPMS program provides a full range of information, technical services, and planning guidance and assistance on floods and floodplain issues that is needed to support effective floodplain management. Under the FPMS program, USACE can compile and disseminate information on floods and flood damages, including identification of areas subject to inundation by floods of various magnitudes and frequencies, and general criteria for guidance of Federal and non-Federal interests and agencies in the use of floodplain areas. FPMS activities include advice to other Federal agencies and local interests for their use in planning to address local flood hazards. Examples of FPMS technical services include the development or interpretation of site-specific data on obstructions to flood flows, flood formation, and timing; flood depths or stages; floodwater velocities; and the extent, duration, and frequency of flooding. USACE may also provide information on natural and cultural floodplain resources of note, and flood loss potentials before and after the application of floodplain management measures.

On a larger scale, FPMS general planning guidance provides assistance in the form of "special studies" on all aspects of floodplain management planning including the possible impacts of off-floodplain land use changes on the physical, socio-economic, and environmental conditions of the floodplain. Special studies can range from helping a community identify present or future floodplain areas and related problems, to a broad assessment of which various remedial measures may be effectively used. Some of the most common types of special studies include: floodplain delineation/flood hazard evaluation studies; dam break analysis studies; hurricane evacuation studies; flood warning/preparedness studies; regulatory floodway studies; comprehensive floodplain management studies; flood damage reduction studies; urbanization impact studies; stormwater management studies; flood proofing studies; and inventories of flood-prone structures.

Through the FPMS program, USACE can also prepare guides and pamphlets to disseminate to States, Tribes, local governments, Federal agencies, and private citizens to convey the nature of flood hazards and to foster public understanding of floodplain data and available options including flood proofing techniques, floodplain regulations, floodplain occupancy, natural floodplain resources, and other related aspects of floodplain management.

Planning Assistance to States

Typical PAS studies are only conducted at a planning level of detail and do not include detailed design for project construction. Implementation of the plan is the responsibility of the State, Tribe, or Territory.

The Planning Assistance to States (PAS) program (authorized by Section 22 of WRDA 1974, as amended) offers comprehensive planning and technical assistance. Any State, or group of States, may partner with USACE under the PAS program. Federally-recognized Tribes, U.S. Territories, non-profits or other non-Federal interests working with a State, and regional coalitions of governmental entities and institutions of higher education are also eligible non-Federal partners in the PAS program. In addition, qualifying federally-recognized Tribes, U.S. Territories, and Commonwealths are eligible to apply a waiver to part or all of the cost of a PAS study. Requests for assistance under the PAS program should be submitted by an appropriate representative of a non-Federal partner to the local District and include the location and nature of the problem to be investigated.

COMPREHENSIVE WATER RESOURCES PLANNING

Comprehensive water resources plans include planning for the development, utilization, and conservation of the water and related resources of drainage basins, watersheds, or ecosystems located within the boundaries of a state, including plans to comprehensively address water resource challenges such as the State Water Plan. Comprehensive plans can extend across state boundaries, provided both states agree.

Typical water resources problems and opportunities included in comprehensive state water resource planning efforts include flood risk management, water supply, water conservation, environmental restoration, water quality, hydropower, erosion, navigation, coastal zone protection, fish and wildlife, cultural resources, and environmental resources. These PAS water resources planning efforts do not result in a recommendation for a USACE civil works project.

Comprehensive planning activities through the PAS program are cost-shared (50% USACE, 50% non-Federal partner); the partner may provide voluntarily contributed funds in excess of its cost share. The non-Federal cost share for preparation of a state comprehensive water resources plan may be provided by funds or through the provision of services, materials, supplies, or other in-kind contributions.

TECHNICAL ASSISTANCE SUPPORTING STATE WATER RESOURCES MANAGEMENT PLANS

Technical assistance provided through the PAS program also includes support of planning efforts related to the management of state water resources, provision and integration of hydrologic, economic, or environmental data, and analysis in support of the state's water resources management and related land resources development plans. These plans are often identified in the State Water Plan or other water resources management related planning documents, such as state hazard mitigation, preparedness, response, and recovery plans and plans associated with changing hydrologic conditions, climate change, long-term sustainability, and resilience. This technical assistance cannot include the preparation of site-specific designs or construction.

Technical assistance activities through the PAS program are only conducted at a planning level of detail and are cost-shared (50% USACE, 50% non-Federal partner). The non-Federal partner may provide voluntarily contributed funds in excess of its cost share. The cost share for technical assistance must be provided by funds, not in-kind contributions. Some financial credit is available for qualifying federally-recognized Tribes and U.S. Territories.

Interagency and International Services

Through the Interagency and International Services (IIS) program, USACE can provide technical assistance to non-Department of Defense Federal agencies, State and local governments, Tribal nations, private U.S. firms, international organizations, and foreign governments. Through the IIS program, USACE may provide engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land-related natural resources, relief and recovery work, and other management and technical services. Most IIS work is funded on a reimbursable basis.

Teaming to Address State Flood Risk Priorities: Silver Jackets

The Silver Jackets program is an approach facilitated by USACE to bring together multiple State, Federal, and sometimes Tribal and local agencies to learn from one another and apply their knowledge to reduce the risk of flooding and other natural disasters in the Nation.

Silver Jackets teams are state-based and state-led, with organizational and technical support provided by USACE flood risk managers or planners. Although each State's Silver Jackets team is unique, common agency participants include State agencies with mission areas of hazard mitigation, emergency management, floodplain management, and natural resources management or conservation. Federal participation typically includes, but is not limited to, USACE, the Federal Emergency Management Agency (FEMA), the National Weather Service, the U.S. Geological Survey, the U.S. Environmental Protection Agency, and the U.S. Department of Housing and Urban Development. USACE Silver Jackets coordinators can assist State and Federal agencies interested in expanding their Silver Jackets teams. Resources for activities associated with the Silver Jackets team come through the individual programs of participating agencies within the constraints of available budgets.

Silver Jackets teams work together to:

- Facilitate strategic life-cycle flood risk management.
- Create or supplement a continuous mechanism to collaboratively solve state-prioritized issues and implement or recommend those solutions.
- Improve processes, identify and resolve gaps and counteractive programs.
- Leverage and optimize resources.
- Improve and increase flood risk communication and present a unified interagency message.
- Establish close relationships to facilitate integrated post-disaster recovery solutions.

The relationships and teamwork established in a Silver Jackets team often pay dividends, benefitting response and recovery efforts when flooding or large-scale events do occur.

PARTNERING IN TIMES OF NEED: EMERGENCY RESPONSE AND EMERGENCY MANAGEMENT

Each year, USACE responds to domestic and world-wide disasters. In the event of a natural or man-made disaster, USACE is prepared and ready to respond as part of the Federal Government's unified national response to disasters and emergencies. In any disaster, USACE's top priorities are to save lives and protect property, and to support the Federal Government's immediate emergency response priorities.

USACE has many subject matter experts that support the Department of Defense and other Federal agencies in response to disasters around the world in areas such as emergency management, flood risk management, landslides, construction, urban search and rescue, oceanography, hydrology and hydraulics, and engineering.

FEMA Support

Domestically, USACE supports the Department of Homeland Security and the Federal Emergency Management Agency (FEMA), the Nation's primary disaster response agency. USACE assists FEMA by coordinating Federal public works and engineering-related support, as well as providing technical assistance, engineering expertise, and construction management to prevent, prepare for, respond to, and/or recover from domestic incidents or disasters.

Under the National Response Framework, USACE is assigned as the primary agency for the Public Works and Engineering Emergency Support Function, which establishes responsibilities and expertise beyond its three primary civil works mission areas. USACE Emergency Operations responsibilities include conducting needs assessments, debris management, providing emergency power to public facilities, emergency infrastructure assessments, temporary housing, temporary roofing, critical public facility restorations, demolition or structural stabilization, and technical assistance.

Public Law 84-99 and the Flood Control and Coastal Emergencies Act

During natural disasters and other emergencies, USACE can respond under its own emergency management authority, Public Law 84-99 (PL 84-99) authorized by the Flood Control and Coastal Emergency Act (33 U.S.C. 701n) (69 Stat. 186)). Under PL 84-99, USACE can undertake a variety of activities. Some activities require a Project Cooperation Agreement (PCA) between USACE and non-Federal partners:

- Disaster Preparedness, ensuring that USACE activities are available to respond to a broad range of disasters and emergencies, including coordination, planning, training, and exercises with key local, State, Tribal, and Federal stakeholders/partners under USACE statutory authorities and in support of FEMA. For example, disaster preparedness authorities provide for the purchase and stockpiling of critical supplies and equipment for flood fighting efforts. Levees and other flood risk management projects are inspected to identify issues that may keep the project from providing reliable design-level flood risk management during the next flood or coastal storm.

- Advance Measures Assistance may be provided in order to prevent or reduce damages when there is an imminent threat of unusual flooding. Technical assistance may be provided when there is a significant potential that an imminent threat of unusual flooding will develop, and is provided to Tribes, States, and local communities to help them prepare for the threat. Advance Measures projects are temporary projects that prevent or reduce impacts of floods that pose a significant threat to life and/or improved property, and are beyond the capability of Tribal, State, or local interests to perform in a timely manner. Advance Measures projects must be engineeringly feasible and capable of being constructed in time to meet the anticipated threat.

- Emergency Operations during flood and storm-related disasters include activating USACE Emergency Operations Centers to command and control the operation, providing liaisons to FEMA, States, Tribes, and local governments, providing technical assistance and direct assistance for flood fighting, and conducting rescue operations. Technical assistance includes advice on flood fighting methods and techniques, inundation mapping, flood modeling, and historical data. Direct assistance includes the provision of sandbags, pumps, and other types of flood fight materials, and emergency contracting to raise and stabilize threatened flood risk management projects.

- The Rehabilitation Program provides for the inspection and rehabilitation of Federal and non-Federal flood risk management projects damaged or destroyed by floods and coastal storms. There are approximately 9,500 miles of levees in the Rehabilitation Program, and all projects must meet certain standards in order to be eligible for rehabilitation assistance. Rehabilitation of eligible non-Federal flood risk management projects is cost-shared 80% Federal 20% local funding; rehabilitation of eligible Federal projects may be 100% percent federally funded.

- The Restoration Program provides for the inspection and restoration of Federal coastal storm damage reduction projects damaged or destroyed by floods and coastal storms. All projects must meet certain standards in order to be eligible for restoration assistance.

- Drought Assistance includes technical assistance, well drilling in limited circumstances, and transportation (but not purchase) of water to drought-distressed areas to make up for inadequate supplies of water.

- Emergency Water Assistance due to a contaminated water source may be provided when a locality is confronted with a source of contaminated water causing, or likely to cause, a substantial threat to the public health and welfare of the local inhabitants. Emergency water assistance includes technical assistance, purchase of water, transport of water to local water points, delivery of bulk or bottled water to community-level distribution points, temporary connection of a new water supply to the existing distribution system, and installation of temporary filtration.

Interested Federal and non-Federal partners should contact their local District office to get more information or request assistance.

FOR MORE INFORMATION

Find a local contact – the District public affairs or project management office is the best "first stop" for most questions.

- *Corps District and Division Office Locator:* https://www.usace.army.mil/Locations/

Study and Project Partnership Agreement Models

- *HQUSACE Project Partnership Agreement website:* https://www.usace.army.mil/Missions/Civil-Works/Project-Partnership-Agreements/

Technical Services & Engagement

- *Floodplain Management Services Fact Sheet:* https://planning.erdc.dren.mil/toolbox/library/FactSheets/fpmsfactsheet_June2017.pdf
- *Planning Assistance to States Fact Sheet:* https://planning.erdc.dren.mil/toolbox/library/FactSheets/PAS_FS_Aug2019.pdf
- *Silver Jackets Program:* https://silverjackets.nfrmp.us/

Emergency Management & Emergency Response

- *HQUSACE Emergency Operations website:* https://www.usace.army.mil/Missions/Emergency-Operations/

Submit a proposal for Congressional authority for a water resources study or project

- *Report to Congress on Future Water Resources Development website, HQUSACE:* https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/WRRDA-7001-Proposals/

Project Planning & Feasibility Studies

- *HQUSACE Project Planning website:* https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/
- *Corps Planning Community Toolbox:* https://planning.erdc.dren.mil/toolbox/index.cfm
- *Continuing Authorities Program:* https://planning.erdc.dren.mil/toolbox/processes.cfm?Id=229&Option=Continuing%20Authorities%20Program%20(CAP)
- *Tribal Partnership Program:* https://www.usace.army.mil/Missions/Civil-Works/Tribal-Nations/
- *Planning Manual:* https://planning.erdc.dren.mil/toolbox/library/IWRServer/96r21.pdf
- *Planning Manual Part II: Risk Informed Planning:* https://planning.erdc.dren.mil/toolbox/library/Guidance/PlanningManualPartII_IWR2017R03.pdf
- *SMART Planning Feasibility Studies: A Guide to Coordination and Engagement with the Services:* https://planning.erdc.dren.mil/toolbox/library/smart/SmartFeasibility_Guide_highres.pdf

U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

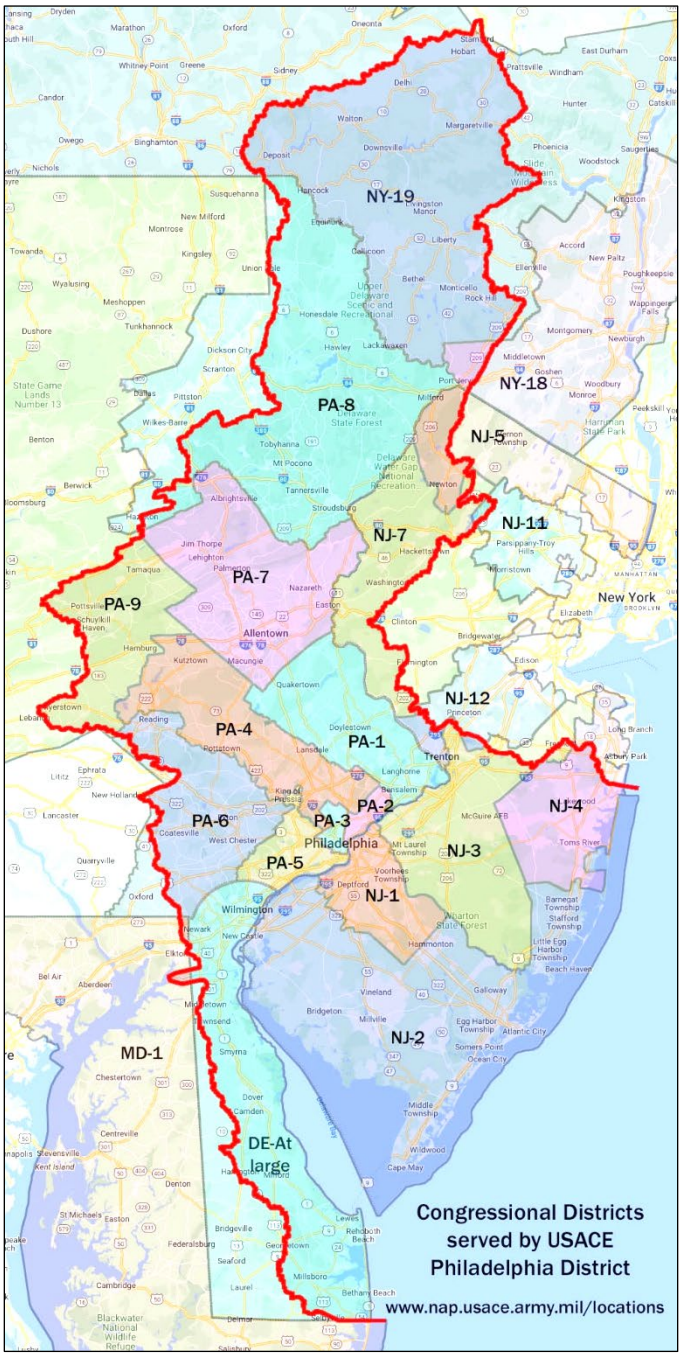
404(b)(1) – Water quality permit per CWA 77
902 limit – Maximum project cost per WRDA 86
905(b) – Reconnaissance Report per WRDA 86
AAA – Army Audit Agency
AAE – Average Annual Equivalent
AAR – After Action Review
ABC – Army Benefits Center
ACTEDS – Army Civilian Training, Evaluation and Development 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 118th Congress and the USACE Philadelphia District

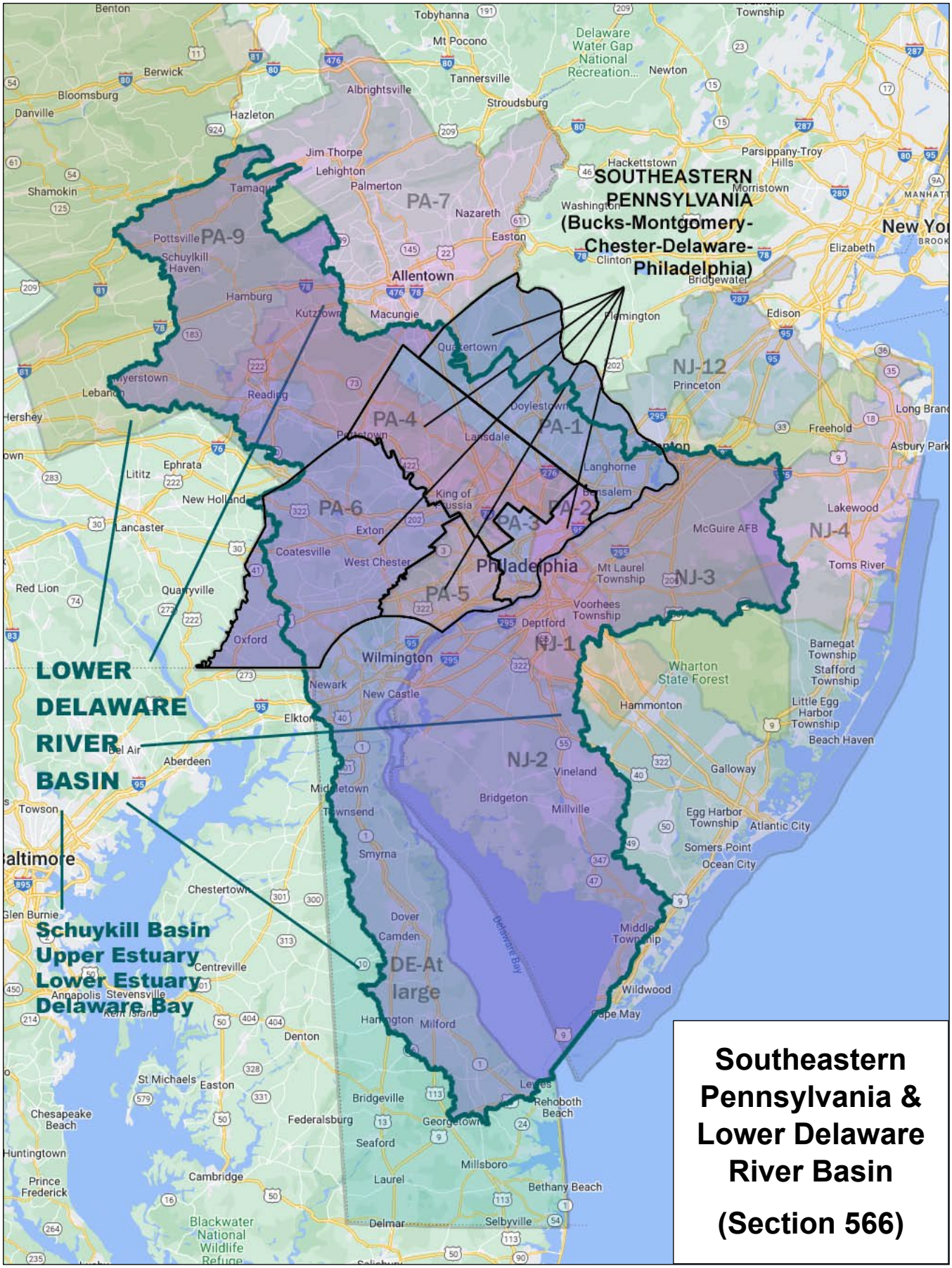


UNITED STATES SENATE

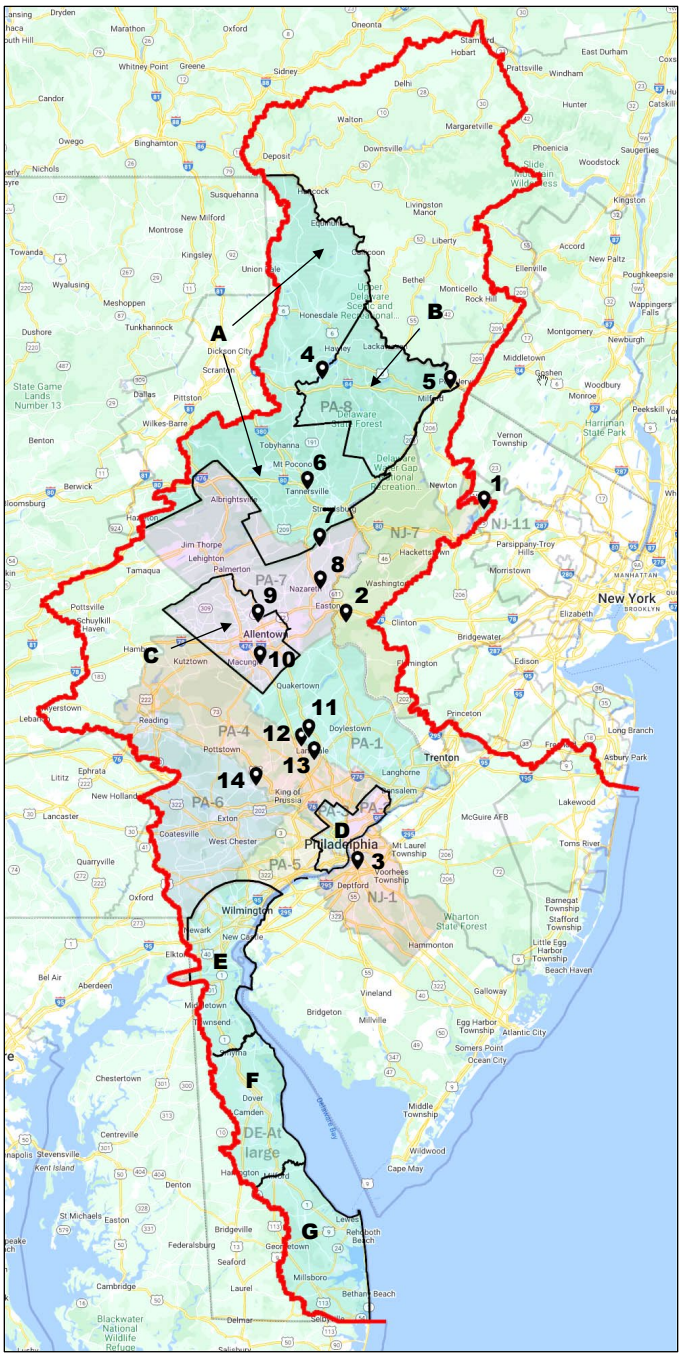
Delaware	Tom Carper	D
	Chris Coons	D
New Jersey	Bob Menendez	D
	Cory Booker	D
Pennsylvania	Bob Casey	D
	John Fetterman	D
Maryland	Chris Van Hollen	D
	Ben Cardin	D
New York	Chuck Schumer	D
	Kirsten Gillibrand	D

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	Josh Gottheimer	D
NJ-7	Tom Kean	R
NJ-11	Mikey Sherrill	D
NJ-12	Bonnie Watson Coleman	D
NY-18	Pat Ryan	D
NY-19	Marc Molinaro	R
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	Matt Cartwright	D
PA-9	Dan Meuser	R


SOUTHEASTERN PENNSYLVANIA (Bucks-Montgomery-Chester-Delaware-Philadelphia)
PA-1
PA-2
PA-3
PA-4
PA-5
PA-6
PA-7
PA-9
NJ-1
NJ-2
NJ-3
NJ-4
NJ-12
LOWER DELAWARE RIVER BASIN
Schuykill Basin
Upper Estuary
Lower Estuary
Delaware Bay
DE-At large
Philadelphia
Wilmington
Allentown
Reading
Lancaster
Trenton
Atlantic City
Southeastern Pennsylvania & Lower Delaware River Basin
(Section 566)

Environmental Infrastructure Projects (Section 219)

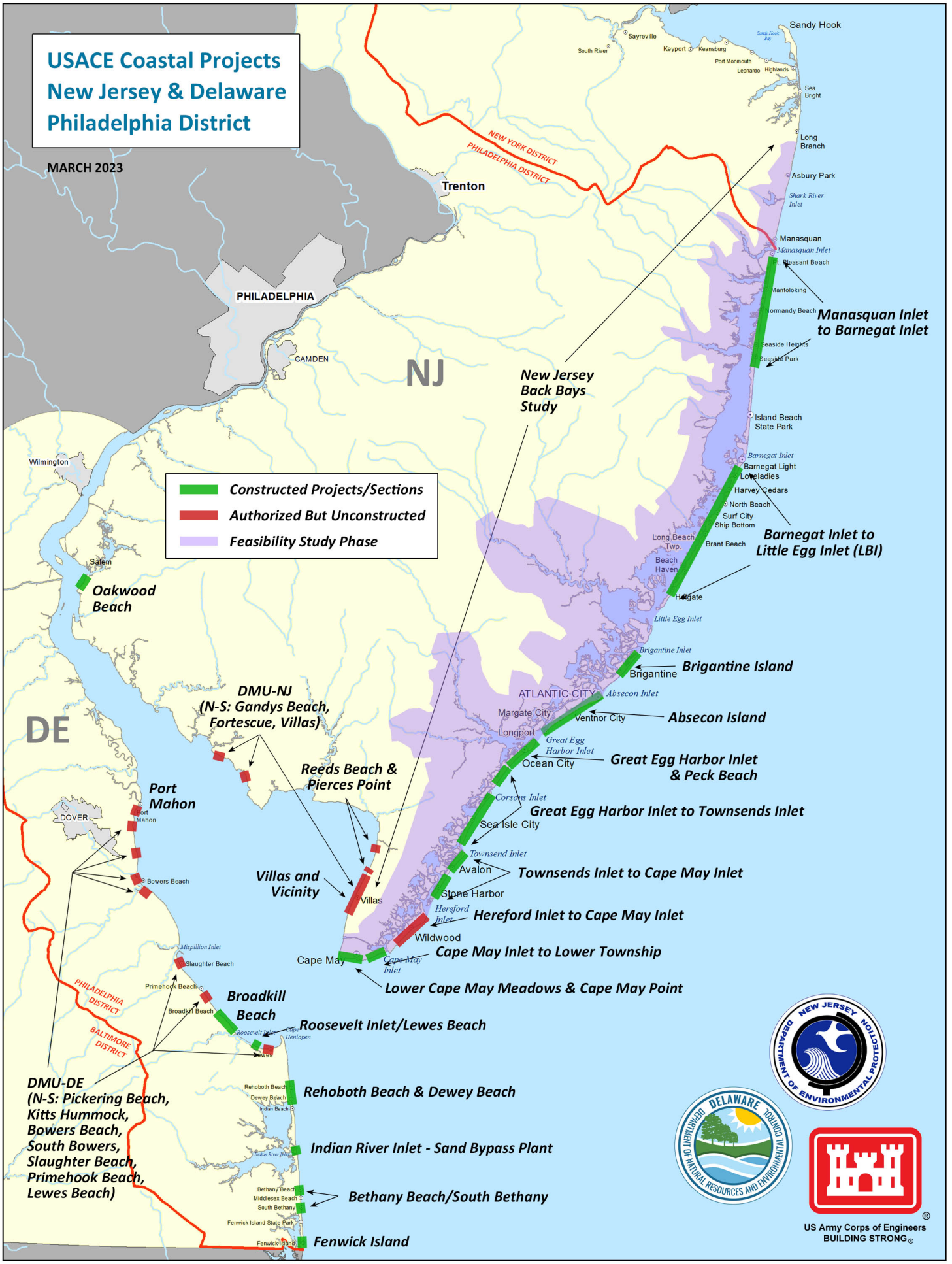


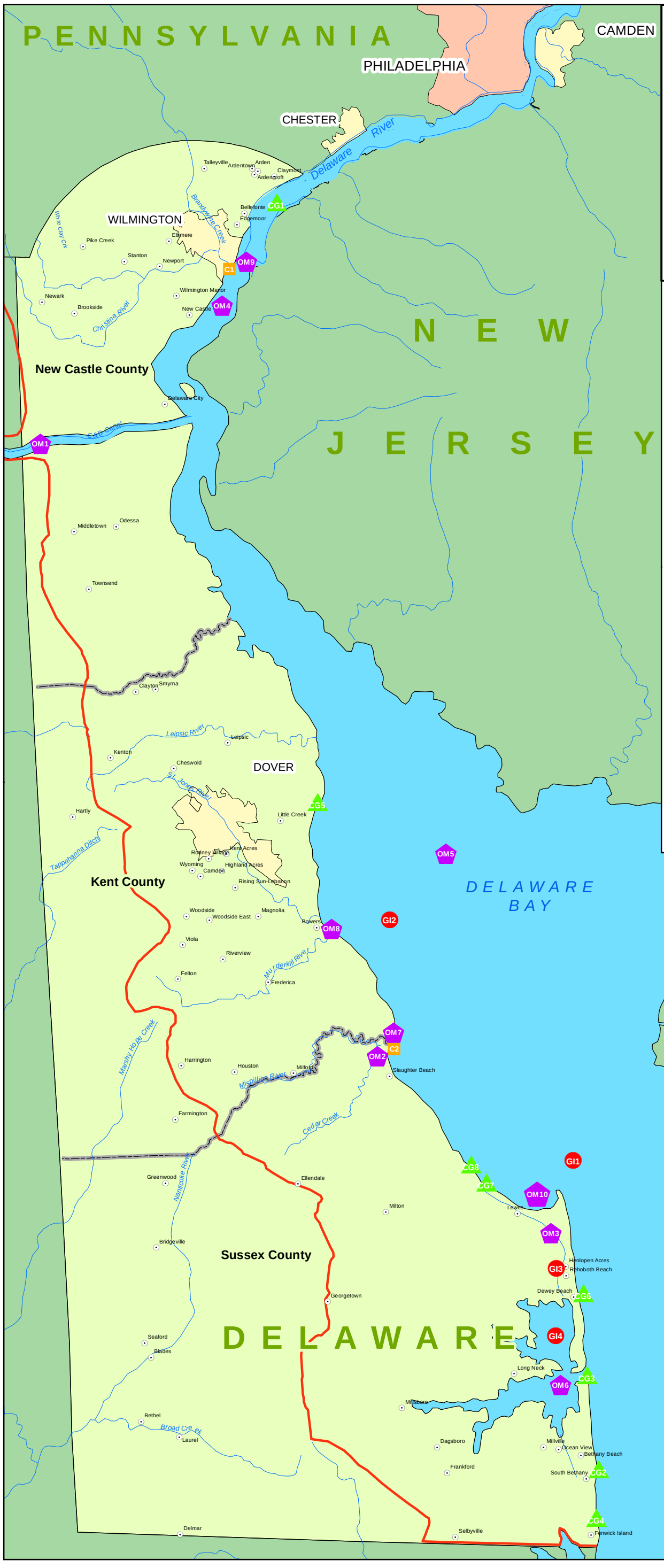
COUNTIES

A	Northeast Pennsylvania (Pike, Wayne, Luzerne & Monroe Cos), PA
B	Pike County, PA
C	Lehigh County, PA
D	City of Philadelphia, PA
E	New Castle County, DE
F	Kent County, DE
G	Sussex County, DE

MUNICIPALITIES

1	Jefferson Twp, NJ
2	Phillipsburg, NJ
3	Camden, NJ
4	Palmyra Twp, PA
5	Westfall Twp, PA
6	Pocono Twp, PA
7	Pen Argyl, PA
8	Stockerton Boro, Tatamy Boro, & Palmer Twp, PA
9	Whitehall & S Whitehall Twps, PA
10	Vera Cruz, PA
11	Hatfield Boro, PA
12	Towamencin Twp, PA
13	North Wales Boro, PA
14	Phoenixville Boro, PA


USACE Coastal Projects
New Jersey & Delaware
Philadelphia District
MARCH 2023
NEW YORK DISTRICT
PHILADELPHIA DISTRICT
Trenton
PHILADELPHIA
CAMDEN
NJ
DE
Wilmington
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
Roosevelt Inlet/Lewes Beach
Rehoboth Beach & Dewey Beach
Indian River Inlet - Sand Bypass Plant
Bethany Beach/South Bethany
Fenwick Island
Oakwood Beach
DMU-NJ (N-S: Gandys Beach, Fortescue, Villas)
Reeds Beach & Pierces Point
Port Mahon
Villas and Vicinity
Broadkill Beach
DMU-DE (N-S: Pickering Beach, Kitts Hummock, Bowers Beach, South Bowers, Slaughter Beach, Primehook 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
Salem
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®



Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- OPERATIONS & MAINTENANCE
- Philadelphia District
- Rivers / Streams
- County Lines

Map Document:
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Last Updated 3/23/2023

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
Deleware Inland Bays Watershed Rapid Assessment, DE (Sec 22 - PAS)	GI 4

CONTINUING AUTHORITIES PROGRAM (CAP)

Wilmington Harbor, Christina River Navigation Project Wilimington, DE (Section 107)	C 1
Mispillion River Inlet, Sussex Co., DE (Section 111)	C 2

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

Delaware Projects Within Philadelphia District

N W E S

Miles

0 1.25 2.5 5 7.5 10

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)

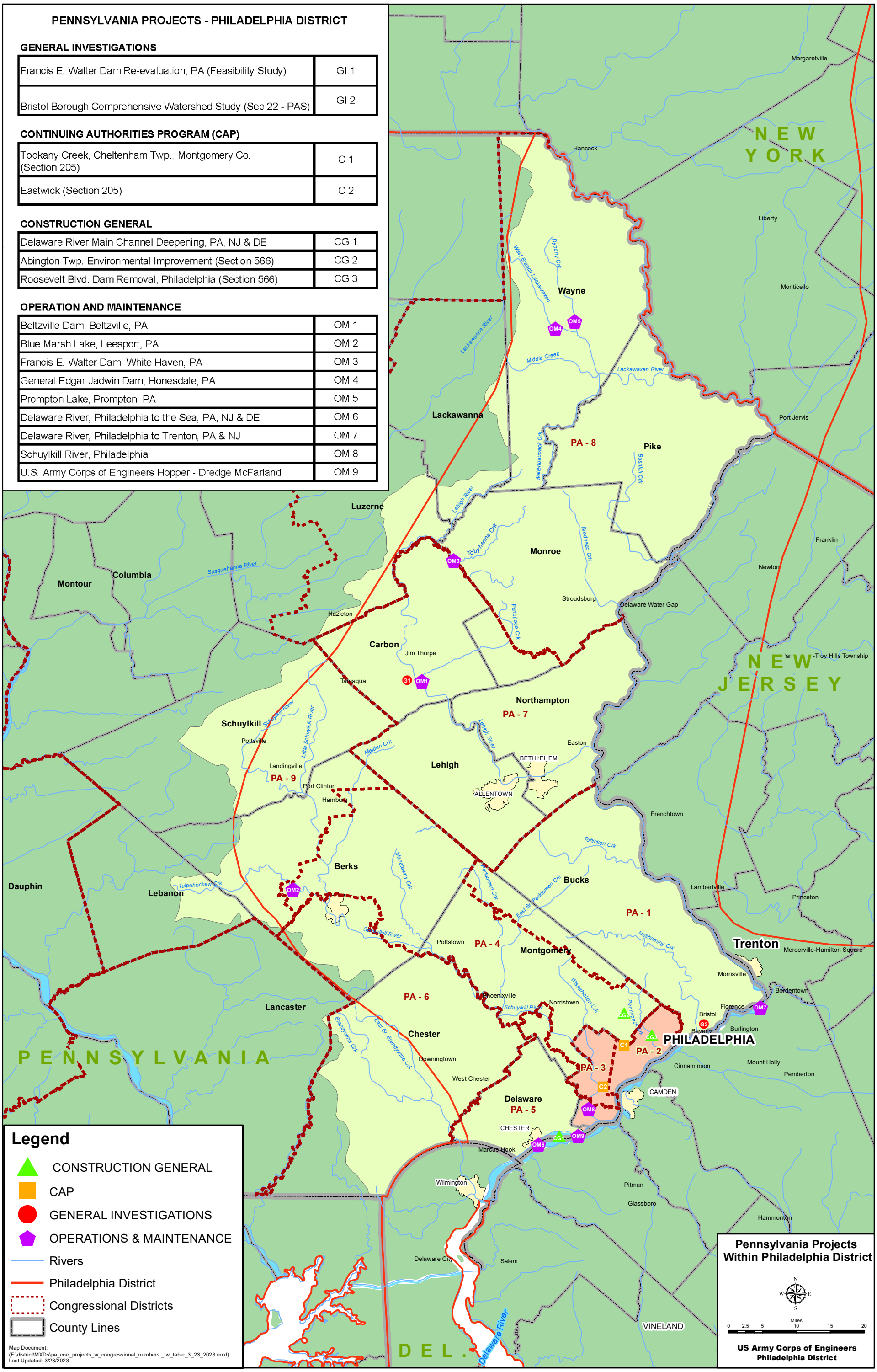
Tookany Creek, Cheltenham Twp., Montgomery Co. (Section 205)	C 1
Eastwick (Section 205)	C 2

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: 3/23/2023

Pennsylvania Projects Within Philadelphia District

N W E S

0 2.5 5 10 15 20
Miles

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
Musconetcong River Habitat Connectivity Study	GI 5

CONTINUING AUTHORITIES PROGRAM (CAP)

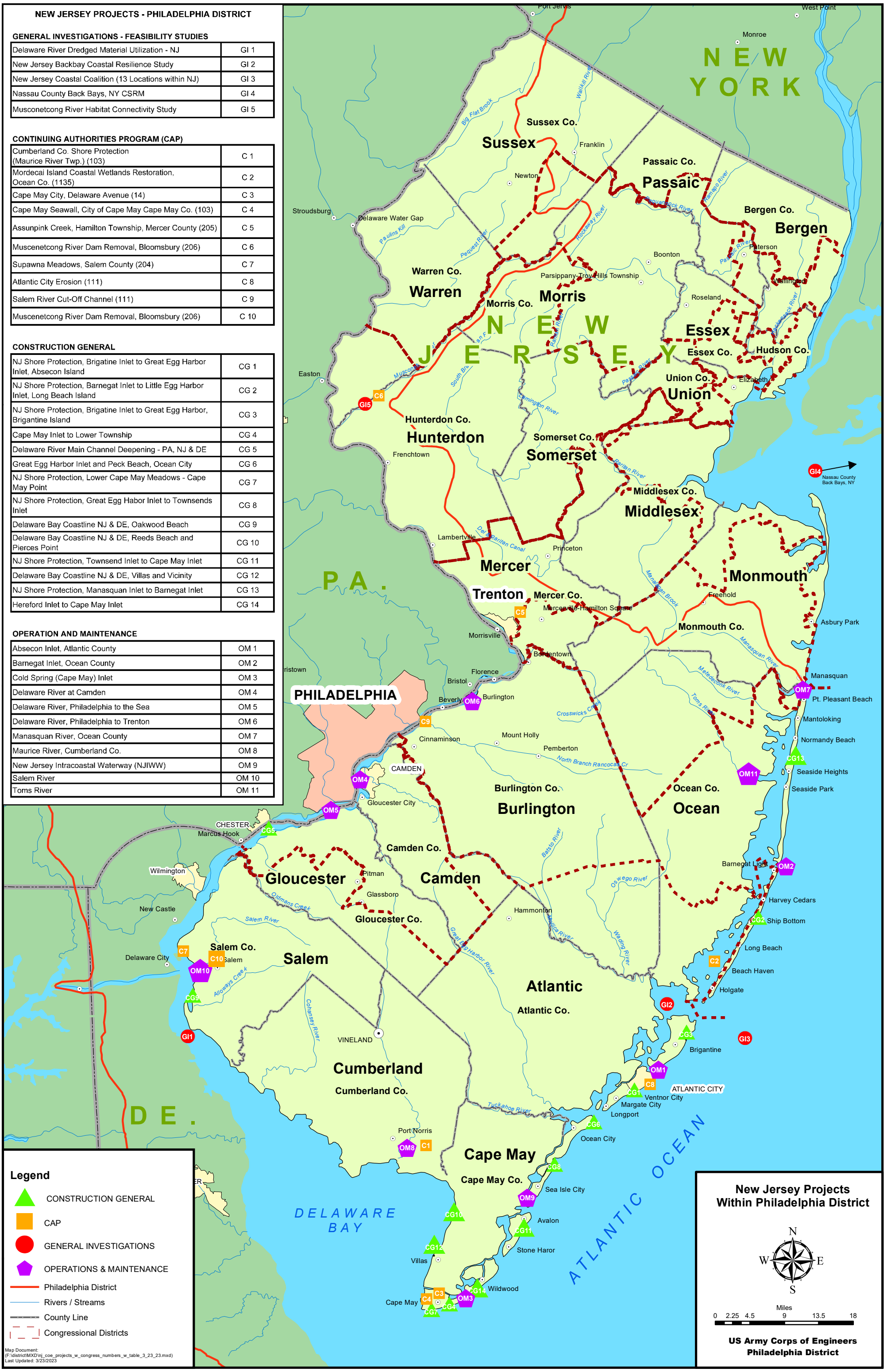
Cumberland Co. Shore Protection (Maurice River Twp.) (103)	C 1
Mordecai Island Coastal Wetlands Restoration, Ocean Co. (1135)	C 2
Cape May City, Delaware Avenue (14)	C 3
Cape May Seawall, City of Cape May Cape May Co. (103)	C 4
Assunpink Creek, Hamilton Township, Mercer County (205)	C 5
Muscenetcong River Dam Removal, Bloomsbury (206)	C 6
Supawna Meadows, Salem County (204)	C 7
Atlantic City Erosion (111)	C 8
Salem River Cut-Off Channel (111)	C 9
Muscenetcong River Dam Removal, Bloomsbury (206)	C 10

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
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- Rivers / Streams
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Map Document:
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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