DOI-NFWF
42279 Building Ecological Solutions to Coastal Community Hazards
NJ DEP Office of Coastal and Land Use Planning
Municipal Project Narrative

Atlantic City

Scope: The Atlantic City NFWF funded activities are the design, development of permit documents, permit approval, bidding, implementation and monitoring of a living shoreline and vegetated embankment on Lot 6, Block 103, a small site at historic Gardner's Basin just north of the intersection of North Rhode Island Ave and Parkside Ave in Atlantic City.

Goals: The goals of these activities are habitat enhancement/creation (horseshoe crab, red knots and pollinators), shoreline stabilization, tidal flood mitigation, public outreach and education, and overall additional resiliency for the upland area beyond the site which contains public park facilities and an active commercial center. The site conditions reflect the common occurrence of gaps in bulk-headed shorelines and transitional environments.

Project Partners: NJ Department of Environmental Protection, National Wildlife Federation, Barnegat Bay Partnership, Partnership for the Delaware Estuary, Stevens Institute of Technology, Atlantic City Dept. of Planning and Development, Arthur W. Ponzio and Associates, and Rutala Associates,

Project Funding:
DOI NFWF Grant
Atlantic City Match

Project Design: The site is a non-bulk-headed gap, approximately 100 feet wide, along a mostly bulk-headed lagoon, Gardner's Basin, off the Absecon Inlet. The site currently has gravel and debris at the shoreline and upper sections. The existing conditions were assessed for elevation, fetch, wave action, wildlife, habitat, tidal and storm flooding. The design consists of shoreline stabilization comprised of an angled dog's leg stone sill, 10' wide by approximately 90' long at the shoreline with a second straight stone sill, 8' wide by 35' long set back and upland approximately 8' from the first sill. These areas are to be filled and planted to create low and high marshes. Upland of this, a vegetated embankment, 100 linear feet wide by 15 feet deep, will be planted to provide pollinator habitat and flood mitigation. The project will include seating, educational signage on living shorelines at a path along the inland property edge.

Value: This project is designed to make the bayside of the City of Atlantic City more resilient by providing protection/resiliency for the historic Gardiners Basin ten acre commercial center and park. The site conditions reflect the common occurrence of gaps in bulk-headed shorelines and transitional environments. The project will provide insight into the issues and benefits of using ecological solutions at such conditions. Other municipalities may learn from the project and apply similar techniques along their shorelines.

DEP and USACE Permit Approval Process:
Joint Permit Processing Meeting (1-for preliminary design review and permitting input)
DEP Coastal GP 24 – Habitat creation, restoration, enhancement and living shorelines activities
CAFRA (for activities above mean high water)
Water Quality Certificate
Green Acres Review (for compliance with Green Acres approved usage)
USACE Standard Permit

Monitoring: A monitoring plan will provide for documenting existing site conditions, monitoring during implementation, and post implementation monitoring through Jan 2018. Citizen scientist monitoring may be provided by locals.

Project Schedule: Implementation of the project is funded by the grant and is anticipated to occur during May 2017 - June 2017.

Associated Projects: There are no associated projects at this time. However Atlantic City is currently marketing the City as a new hub for resiliency and coastal studies and working with Stockton University and others to develop research on ecological responses to coastal hazards.

Detailed Project Activities: The site is a non-bulk-headed gap, approximately 100 feet wide, along a bulk-headed lagoon, Gardner's Basin, off the Absecon Inlet. The site currently has gravel and debris at the shoreline and upper sections. The debris will be removed. There are 5 existing piles used for mooring of vessels with shallow embedment that require removal. The removal is anticipated to cause very little turbidity as this effort will probably take less than one day and will consist of loosening the piles and pulling them vertically out of the site and onto land.
The existing conditions were assessed for elevation, fetch, wave action, wildlife, habitat, tidal and storm flooding. The design consists of shoreline stabilization comprised of an angled dog's leg stone sill, 10' wide by approximately 90' long at the shoreline with a second straight stone sill, 8' wide by 35' long set back and upland approximately 8' from the first sill. The total volume of Rock/Stone is 715 CY within an area of .028 Acres. The total volume of sand is 105 CY within an area of .062 Acres.
In the area upland of the sills, approximately 1700 sf, is to be filled with loamy sand to EL 1.0 NAVD 88 and planted with saltmarsh cordgrass, 850 2' plugs, in 18" O.C. grid to create an area of salt marsh wetland. Upland and landward of this area, 300 salt meadow cordgrass shall be planted at 1' O.C. at EL 1.5 to EL 3.0 NAVD 88 to create an area of salt meadow approximately 300 sf. Above this an area, approximately 12' wide by 100' long (the width of the site), of steeper slope will be planted with a Native Species Steep Slope Mix and switch grass. Within this area the following 3-4' tall shrubs will also be planted: six Iva Frutescens at the lower slope; six Baccharis Halimifloria on the mid to upper slope and six Morella Pensylvanica along the upper slope. At the highest elevation of the site an area, approximately 18' wide by roughly 95' long, will be a mowed and managed area of cool season grasses: tall fescue, Kentucky bluegrass annual ryegrass and perennial ryegrass. On the waterward edge of this area a 4' post and rail fence will run across the site. Within this area, two benches and an interpretive sign will be located.

It is anticipated that all material and equipment will arrive by land. Equipment will be able to remain land based during implementation. All debris and demolition material will be removed by land.