

1 – ABERDEEN TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Captain Craig Hausmann	Administrative Division Commander	Primary Point of Contact, Municipal Workshop #1, Municipal Workshop #2, Coordination, Input and Review
Ron Osadacz	Deputy OEM Coordinator	Coordination, Input and Review
Brendan Parker	Deputy OEM Coordinator	Coordination, Input and Review
Bryan Russell	Deputy OEM Coordinator	Coordination, Input and Review
Roger Peter	Operations Division Commander	Coordination, Input and Review
Duane Patterson	Director of Public Works	Coordination, Input and Review
Matthew Lloyd	Chief of Police	Coordination, Input and Review

COMMUNITY PROFILE

Overview

The Township of Aberdeen is a suburban community with a land area of 5.4 square miles. Aberdeen is located, along with eight other municipalities, on the Raritan Bayshore. Aberdeen is a predominantly dense residential community with commercial uses along New Jersey Routes 34 and 35. The Aberdeen-Matawan Train Station is at the southern border of the Township and is serviced by the North Jersey Coast Rail Line. Commuters may also utilize the ferry in nearby terminals at South Amboy and Perth Amboy. A 9-mile section of the 24-mile-long Henry Hudson Trail, which was built on the former Central Railroad of New Jersey right-of-way, connects Aberdeen to Atlantic Highlands, traversing five other municipalities across the Bayshore. Freneau Woods Park of the Monmouth County Park System is a 313-acre park located in the southeastern portion of the Township that is detached from main Aberdeen. The Township has a Safe Routes to School Bronze Rating.

Land Use, Development, & Growth

Aberdeen is a predominantly residential community. Since 2015, the Township experienced negligible change in its land use. Some marginal land use composition changes include a 17-acre increase in the Township's barren land, an 11-acre increase in its urban/developed land, and a 24-acre decrease in forested land. From 2015 to 2020, urban/developed land accounted for nearly 67 percent of the total land in the Township, while wetlands and forested land made up approximately 17 percent and 16 percent respectively of its total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	33.2	33.2	>0%
Barren Land	43.3	60.1	39%
Forest	447.1	422.7	-5%
Urban	2392.4	2403.2	>0%
Water	94.1	94.0	>0%
Wetlands	603.5	600.3	-1%

Source: NJDEP Land Use/Land Cover data, 2015-2020

Recent Major Development and Infrastructure from 2020 to Present

Overall, in the past five years, approximately 476,000 new square footage was added through 741 new building permits. Most notably, there have been four recent major development projects in the Township. The first was Ryan Homes at the Anchor at Glassworks. These are brand-new townhomes. A new residential care home facility called Dove's Haven was also built with 36 units on five acres. Hidden Village Apartment Complex was also recently constructed within the Township. This added over 100 apartment units. Additionally, 12 homes were put on Meinzer Street within the Township. Out of these developments, Dove's Haven may fall within the New Jersey Flood Hazard Area as determined by FEMA BFE +3, method 3 from the NJ Flood Hazard Area Control Act.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years

There are development plans for a new waterfront construction for Monmouth University and the NWSE Cooperative. The development site is approximately 26 acres and part of the site is located within special flood hazard areas subject to inundation by the 1% annual chance flood.

Demographics & Vulnerable Populations

This plan analyzed census-derived data on population trends and population age distributions to help illustrate potential vulnerability within the Township. A population increase or decrease can illustrate potential hazard vulnerability through development pressures on the built environment, or through physical and social impacts of marked population loss. A community with a large share of population under age five may indicate vulnerabilities in hazard response, resource allocation, and evacuation – FEMA identifies that the pediatric population is disproportionately affected during disasters, and requires special consideration in categories of anatomy and physiology, psychological, and education vulnerabilities (FEMA, 2022, NLM, 2022). Individuals over age 65 are a growing share of the country's population and often represent the greatest share of deaths from extreme weather events and other natural disasters. A larger share of population over 65 may indicate local vulnerabilities to hazard events both before and after a disaster occurs – these populations may have mobility needs, uneven access to resources, and limited social networks that makes pre-disaster engagement challenging (FEMA, 2023).

Aberdeen Township has an estimated total population of 19,234, a nearly 5% increase (estimated 4.7% growth) since the 2013-2017 ACS survey period. This growth has notably impacted the built environment of Aberdeen, with increased building permits and residential development noted above. The Township's population is estimated to be 4.7% under age 5, and 15.2% over age 65. With over 15% of Aberdeen's population over age 65, and the new development of residential care home facility units, hazard mitigation may take an aging population into consideration.

There are two block groups identified as potentially vulnerable due to indicators of overburden (OBC) in Aberdeen; both meeting criteria of vulnerable *Minority* populations. There are no areas of the Township meeting designation criteria for CDRZ or CEJST identification of vulnerable populations.

Demographics Summary	
Total Population (2018-2022 ACS 5-year Estimates)	19,234
Population Change since 2017	4.69%
Percent of Population Age < 5	4.7%
Percent of Population > 65	15.2%

Source: 2018-2022 ACS 5-Year Estimates, 2013-2017 ACS 5-Year Estimates

HAZARD IDENTIFICATION

One of the first steps in developing a risk assessment is for participating municipalities to review and prioritize the hazards that can affect them. This was done based on how often a hazard has occurred, how significant effects have been in the past, the difficulty and cost of recovering from such events. Jurisdictions ranked the list of hazards as either high, medium, low, or no concern. The following include the Borough's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

High	Medium	Low
Natural Hazards		
Hurricane/Tropical Storm	Extreme Temperature	Lightning
Nor'easter	Extreme Wind	Drought
Flood	Tornado	Earthquake
Storm Surge	Winter Storm	Wildfire
Coastal Erosion	Wave Action	
Human-made Hazards		
	Cyber Attack	Civil Unrest
	Economic Disruption	Power Failure
	Terrorism	
	Pandemic	

The Township ranked Dam Failure and Landslide as N/A.

Hazard Ranking Explanation

Coastal erosion has been elevated from medium to high concern in the latest HMP update. This change is attributed to several recent storms and flooding events that have significantly impacted the Township. The absence of a sea wall in the area has exacerbated these issues. Flooding has been ranked as a high concern, particularly near the shore. During high tide and storms, the entire roadway near the shore is prone to flooding. The lack of a sea wall further contributes to severe flooding on the roadway. Dam failure is not a concern as there are no dams within the Township. Similarly, landslides are not a major issue due to the relatively flat topography of the Township.

Significant Hazard Events Since Last Plan Update

In the past five years, all significant hazard events reported in Aberdeen Township have been related to flooding. The most affected areas include Beach Drive by the sea wall and Cliffwood Beach Waterfront Park. The roadway near Veterans Memorial Park also experiences perpetual flooding, partly due to the high level of impervious surfaces. Additionally, high tide events cause severe flooding near Lakeshore Drive, Greenwood Avenue, and Lakeview Way, as there is no sea wall in these areas.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to exacerbate existing risks and introduce new hazards for the Township of Aberdeen. Rising sea levels and increased frequency of severe weather events, such as hurricanes and nor'easters, will likely lead to more frequent and severe flooding, particularly in coastal areas. The absence of a sea wall in certain parts of the Township will further amplify the impact of storm surges and high tides, resulting in significant damage to infrastructure and property. Additionally, higher temperatures and changing precipitation patterns may increase the likelihood of extreme weather events, such as heatwaves and heavy rainfall, which can strain the Township's resources and emergency response capabilities.

Moreover, coastal erosion, already a high concern, may accelerate due to rising sea levels and increased wave action, threatening the stability of the shoreline and nearby properties. The Township's wetlands and forested areas, which play a crucial role in mitigating flood risks, may also be adversely affected by changing climate conditions, reducing their effectiveness as natural buffers.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Aberdeen Township	
Initial FIRM Date	3/18/85
Effective FIRM Date	6/20/2018
Number of Policies In-Force:	72
Total Losses:	71
Total Payments:	\$2,551,726.38
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	6
RL – Total Paid:	\$76,802.16
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	13
SRL – Total Paid:	\$719,269.13

Source: FEMA Policy and Loss Data, Community Status Update, August 2024

Vulnerability of the Built Environment

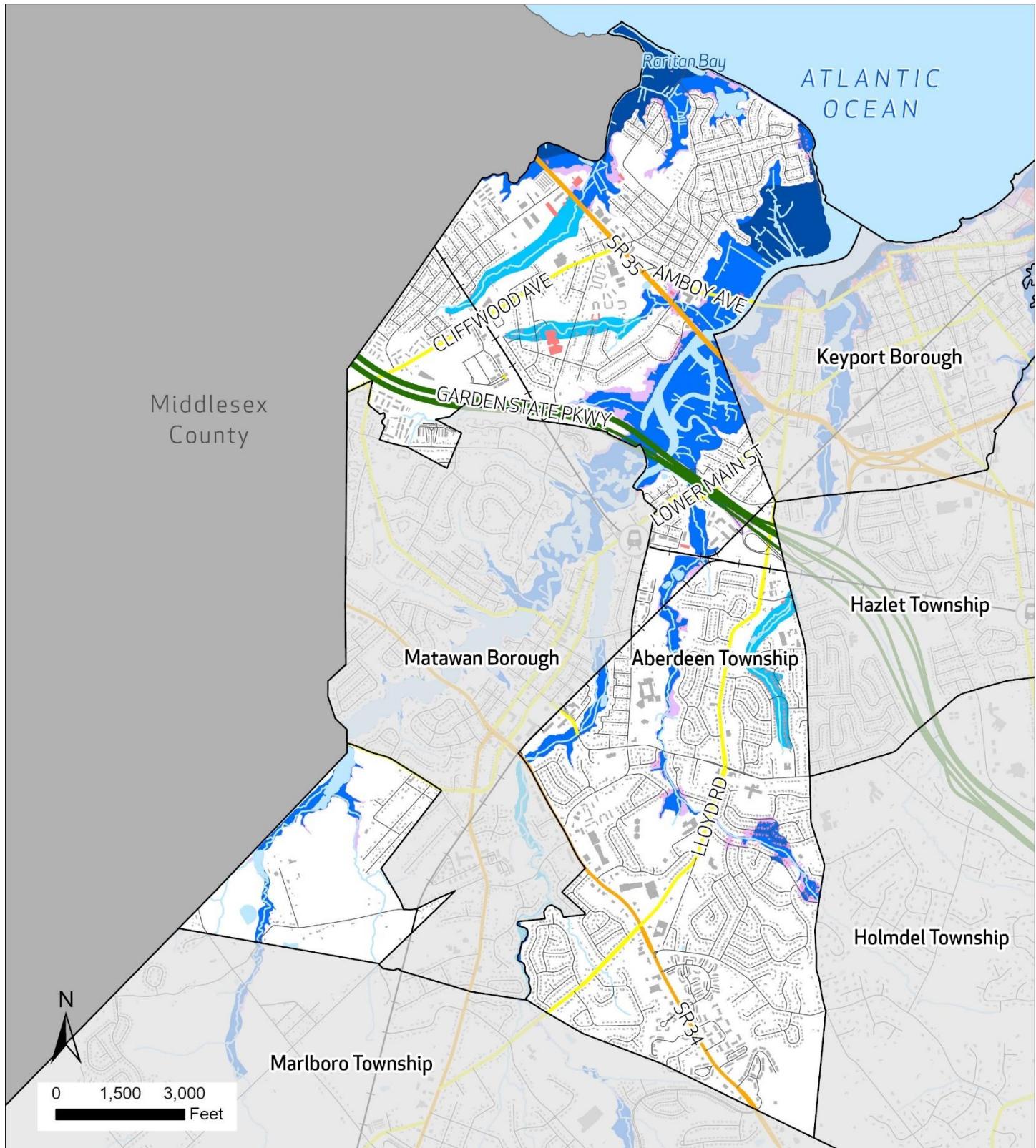
The Special Flood Hazard Area (SFHA) in Aberdeen Township is primarily located adjacent to the streams that pass through the borough such as Mohingson, Whale, and Wilkinson Creeks, as well as the areas adjacent to the Raritan Bay, especially where the aforementioned creeks flow into the bay. Approximately 17.5 percent of the total area of Aberdeen lies within the 1% annual chance flood zone as defined by FEMA. An additional 2.4 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 63.1 percent of Aberdeen is considered developed. Of the developed parcels of the town, 7.2 percent fall within the 1% annual chance flood zone and 1.9 percent are within the 0.2% annual chance flood zone. This illustrates that development in the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain	5 feet of Sea Level Rise
Developed Parcels	7.2%	1.9%	1.8%
Exposed Land Area	17.5%	2.4%	10.0%

During the planning process, Aberdeen identified critical facilities which function as community lifelines. These facilities provide the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Aberdeen identified 23 total facilities. Of these facilities, none were located in the floodplain or in areas that may be affected by sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Affected 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	-	-	-



Flood Risk

Aberdeen Township

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%)
- AE (1%)
- VE (1%)

Garden State Parkway

Interstate Highways

State Routes

County Routes

Local Roads

Rail Lines

NJ Transit Rail Station

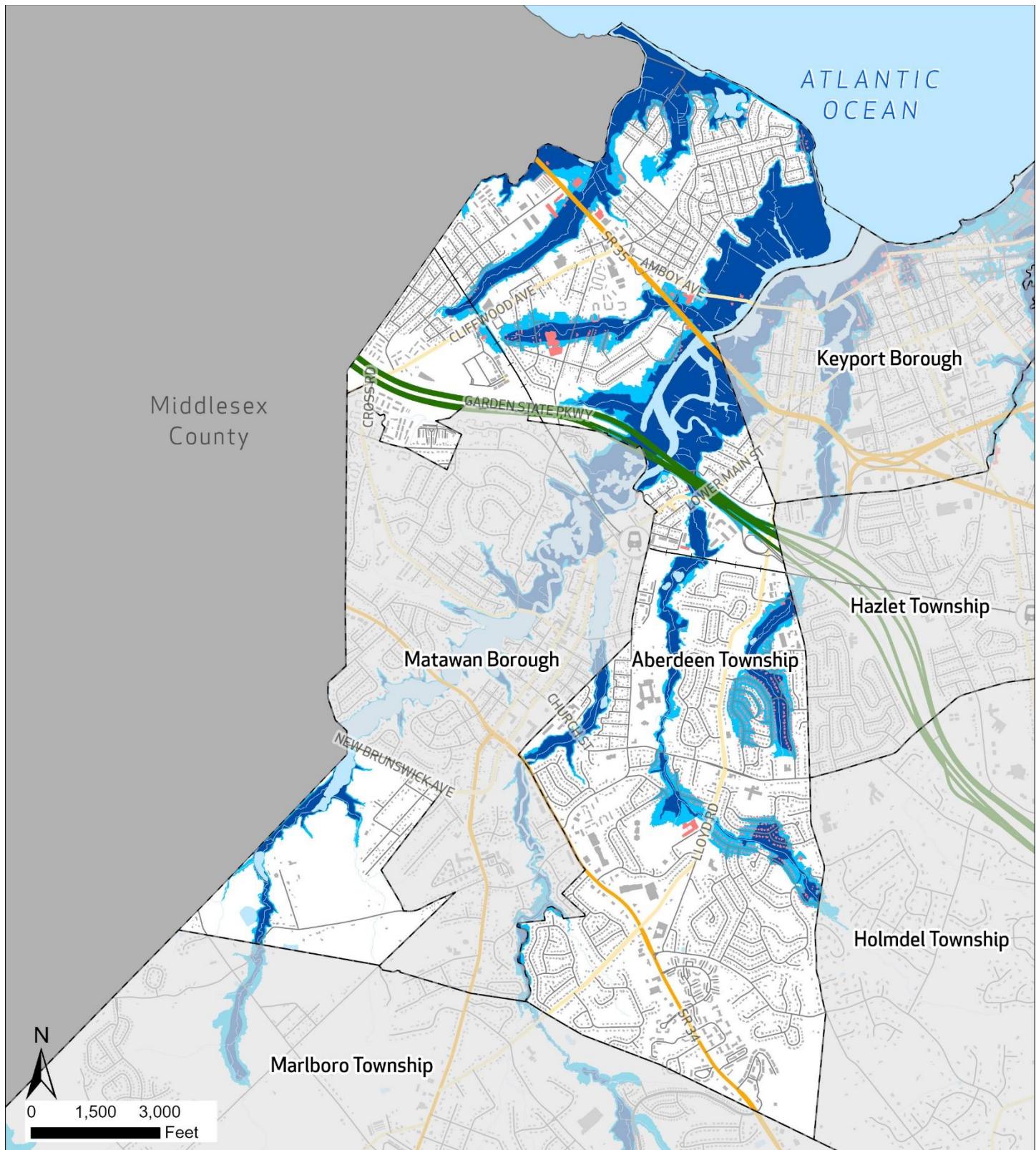
Municipal Boundaries

Building Footprints

Building Footprints within Floodplain

Water

Source: FEMA NJDEP, NJOIT, NJTransit



NJ Inland Design Flood Elevation Aberdeen Township

FEMA Flood Zone
Current Base Flood Elevation (1%)

NJ Inland Design Flood Elevation
FEMA BFE (1%) plus 3 Feet

Interstate Highways
State Routes
County Routes
Local Roads
Garden State Parkway
Railroad

NJ Transit Rail Station
Municipal Boundaries
Water
Building Footprints
Building Footprints within IDFE

Source: FEMA, Rutgers University, NJDEP, NJOIT, NJTransit



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

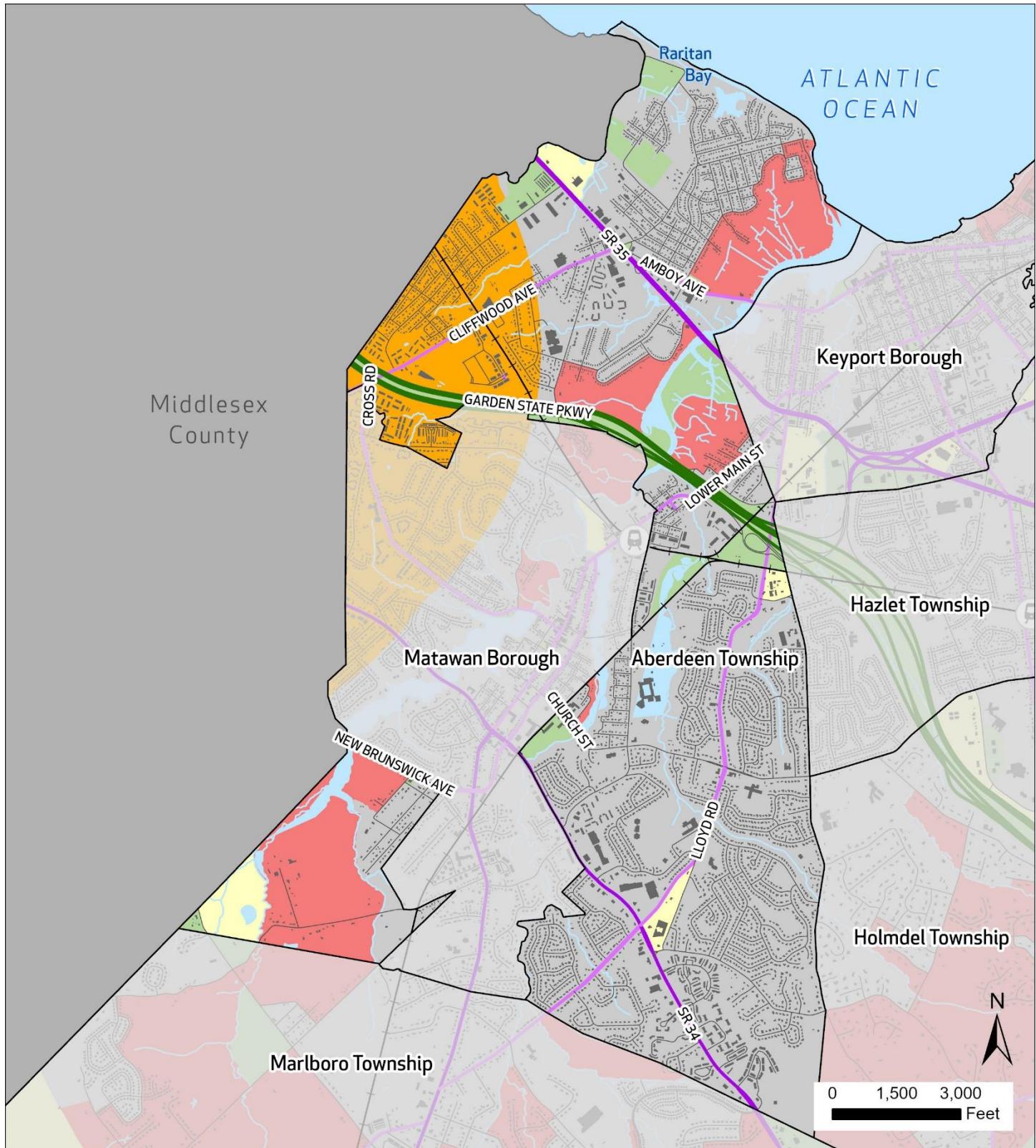
Aberdeen Township

- Area Inundated Under 2 Feet SLR
- Area Inundated Under 3 Feet SLR
- Area Inundated Under 5 Feet SLR

- Garden State Parkway
- Interstate Highways
- State Routes
- County Routes
- Local Roads

- NJ Transit Rail Station
- Rail Lines
- Municipal Boundaries
- Building Footprint
- Water

Source: NOAA, NJDEP, NJOIT, NJTransit



Wildland Urban Interface (WUI) Classification

Aberdeen Township

- Interface
- Intermix
- High or Medium Density Housing
- Low or Very Low Density Housing
- No Housing

- Garden State Parkway
- Interstate Highways
- State Routes
- County Routes
- Local Roads

- Rail Lines
- NJTransit Rail Station
- Municipal Boundaries
- Building Footprint
- Water

Source: USFS, NJDEP, NJOIT, NJTransit

CAPABILITY ASSESSMENT

Planning & Regulatory Capabilities

Aberdeen Township has the following additional Planning & Regulatory capabilities:

Plan and Regulation	Yes	No	Date of last update	How does this capability support hazard mitigation?
Master Plan	X		2025	Identify potential hazards, assess risk of those hazards, strategize mitigation
Capital Improvement Plan	X		2024	Identify and outline long-term projects and funding strategies to reduce the potential damage caused by natural disasters.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	Identify and outline how the Township will respond to and manage potential hazardous events.
Floodplain Development Ordinance	X		2025	Will regulate development within flood-prone areas, controlling land use, construction practices, and alterations to natural floodplains.
Floodplain Management Plan	X		2025	Manage development within flood-prone areas, aiming to reduce the potential damage from flooding by controlling where structures are built.
Stormwater Management Ordinance	X		2025	Establish regulations to control stormwater runoff and reduce risk of flooding.
Stormwater Management Plan	X		2025	Will outline strategies to manage stormwater runoff within the Township.
Watershed Management Plan	x		2025	Will identify natural hazards and use proactive mitigation measures.
Sheltering Plan	x		2024	Will safely evacuate and shelter residents during a hazardous event.
Evacuation Plan	X		2024	Provide guidance for the development and operation of a viable evacuation program during any emergency or disaster.
Substantial Damage/Improved Structures Response	X		2025	Respond to incidents where cost of repairing or improving building after damage reaches or exceeds 50% of the building's market value.
Repetitive Loss Plan	X		2025	Will strategize to reduce the risk of flood damage to properties that have experienced repeated flooding.
Disaster Debris Management Plan	X		2024	Will outline procedures to efficiently and responsibly manage debris generated by a natural disaster.
Tracking elevation certificates and/or Letter of Map Change	X		2025	Will monitor and update elevation certificates.
Post-Disaster Recovery Plan	X		2024	Will outline the steps taken to rebuild and restore normal operations after a disaster has occurred.
Current/recent redevelopment plans or studies				
Community Wildfire Protection Plan		X		
Climate Adaptation Plan				
Other Plans that discuss hazard mitigation	X			See Additional Capability Assessment Information.
Other ordinance and regulation that mitigate the impacts of natural hazards				

Administrative and Technical Capabilities

Aberdeen Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		DPW Director Duane Patterson
Grant Writer	X		Millennium Strategies
Staff trained to support mitigation		X	
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		HMH BLS, MAFAS, JFK/Hackensack
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		JCP&L, NJNG, American Red Cross, Matawan-Aberdeen Regional School District
Organizations that work with socially vulnerable or underserved populations	X		American Red Cross

Education and Outreach Capabilities

Aberdeen Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		MCSO, Social Media, Nixle, Code Red
StormReady	X		MCSO
Firewise USA	X		MCSO
Severe Weather Awareness Week	X		MCSO
Community Rating System (CRS)	X		FEMA NFIP

Financial Capabilities

Within the last five years, Aberdeen Township has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC		X	
FEMA FMA		X	
FEMA Public Assistance		X	
FEMA HMGP		X	
Non-FEMA Federal Funding Programs	X		
Other FEMA resources	X		
NJ Infrastructure Bank	X		
Other state municipal assistance or grant programs	X		
Evaluation process on the prioritization of risk reduction projects against other local activities	X		
Other ongoing efforts to build additional financial capabilities	X		

Additional Capability Assessment Information:

- Aberdeen Township is a Forerunner community. Forerunner helps manage flood risk and increase and providing timely information to residents. Forerunner give residents access to relevant property-level flood risk details to inform key decisions and minimize the number of assistance requests, and make CRS participation easier.
- Aberdeen participated in the 2022 Raritan/Sandy Hook Bay Coastal Resilience Design Study undertaken by the Monmouth County Division of Planning. The study, funded by the Department of Defense, focused on evaluating existing conditions at the Whale Creek wetlands inland of Veteran's Memorial Park and identifying potential improvements. Potential improvements for the Whale Creek wetlands include restoring the native tidal marsh community, establishing a maritime scrub-shrub community, and addressing the current hydraulic constriction.
- Aberdeen is one of four New Jersey municipalities currently being studied by A. R. Siders (University of Delaware) to understand how development in floodplains is regulated.
- **Community Rating System (CRS) Classification:** 8
- **Sustainable Jersey Participation Status:** Registered

MITIGATION STRATEGY

Overview and Progress Since Last Plan Update

The Township of Aberdeen is a Bayshore Community that actively seeks to establish proactive policies with the goal of increasing Aberdeen Township's resilience to natural catastrophe damage and adapting to future climate issues. The Township is currently working on a Beach Restoration Program to counteract shoreline erosion within the Township. Aberdeen Township has produced a Stormwater Management Plan, a Watershed Protection and Restoration Plan, and a Capital Improvement Plan, all of which promote a thriving community and help the town achieve its resiliency goals. Moving forward, Aberdeen Township will prioritize home, roadway, and critical infrastructure elevation, ongoing upgrades to water, sewer, and stormwater conveyance systems, and collaboration with state and local agencies on the best ways to achieve resiliency in this vulnerable coastal community.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 1-1	Improve Drainage /Elevate Flood-prone Roadways	Develop specific mitigation solutions for flood-prone roadways, specifically State Highway 35 at Long Neck Creek, under leadership of NJDOT; Lakeshore Drive at Greenwood Avenue, by Township; and Amboy Avenue under the leadership of Monmouth County. Route	Flood, Nor'easter, Hurricane and Tropical Storm	N/A	NJDOT/Township Engineer/Township Manager/Monmouth County Highway Dept.	N/A	\$550,000	N/A	Completed	Municipal Budget
Action 1-2	Elevate Pumping Stations Above Current BFE or Waterproof Stations	Raise structures, or vulnerable components thereof, to either be above current BFEs, or otherwise waterproofed, to provide resiliency in future events and minimize wastewater overflows	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	N/A	Township Manager, Director of Public Works, Township Engineer	N/A	N/A	N/A	Completed	Municipal Budget
Action 1-3	Repair Recreation Facilities and Sidewalks Near Seawall	Develop specific mitigation solutions for both dunes and sidewalk that would help mitigate future damages and provide a greater level of resiliency.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	N/A	Township Manager, Director of Public Works, Township Engineer	N/A	\$950,000	N/A	Completed	Municipal Budget

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 1-4	Improve Communications and Create a Community Shelter for Extreme Temperatures	Develop specific mitigation solutions that help residents prepare for and mitigate loss of communications and seasonal severe temperature events by providing a community shelter. This project is intended to protect public health and safety and reduce the	Extreme Temperatures, Flood, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	N/A	Township Manager, Director of Public Works, Township Engineer	N/A	\$50,000	N/A	Completed	Municipal Budget
Action 1-5	Install Surveillance Cameras along the Sea Wall	The Township is currently installing surveillance cameras along a portion of the sea wall to monitor natural and human-based hazards. There is a need for more cameras along the second half of the sea wall.	Flood, Terrorism, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	Township	Homeland Security grants, Municipal budget	\$37,000.00	1 year	Completed	Municipal Budget

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 1-6	Create a Hazard Mitigation Outreach Program	Create a mitigation outreach program that helps residents prepare for and mitigate disasters. Increase awareness of natural hazard risks and safety. Educate the public about hazard mitigation techniques and promote disaster-resistant development.	All Hazards	Medium	OEM Officer	Municipal budget	\$25,000	5 + years	Ongoing	Targeted outreach will help increase community-wide preparedness and resilience. This action addresses all hazards and with targeted outreach will address socially vulnerable populations. Climate change makes this hazard increasingly important.
Action 1-7	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on	Elevate, acquire, or floodproof 16 Residential Structures.	Flood, Nor'easter, Hurricane and Tropical Storm,	High	Township Manager, Construction Code Official, Director of Public	FEMA HMA	\$1M	5 + years	Ongoing	Flood risk can increase with climate change. By acquiring repetitive loss and severe repetitive loss properties disruption can be minimized within the Township.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties		Storm Surge		Works, Township Engineer					
Action 1-8	Prepare an Engineering Study for Nuisance Flooded Roads	The intersection of Greenwood Ave., Lakeshore Dr., and Ocean Blvd. experiences flooding during high tides, full moon, heavy rain and/or coastal storm events. An engineering study to prevent the flooding of roadways is needed.	Flood	Medium	Township	Municipal budget, FEMA HMA	\$100,000	1 year	Ongoing	These roads are the most frequently flooded in the event of a severe storm. Developing an engineering study will minimize disruption to the Township. Climate change makes this hazard increasingly important.
Action 1-9	Prepare an Engineering Study for Beach Erosion	An engineering study is needed for the constant beach erosion along the beach to the east of Cliffwood Beach Waterfront Park.	Flood, Wave Action, Coastal Erosion, Hurricane and Tropical Storm	Low	Township	Municipal budget, FEMA HMA	TBD	1 year	Ongoing	Coastal erosion is a high-risk hazard for Aberdeen Township.
Action 1-10	Conduct Creek Restoration at Whale Creek and Beach Stabilization at Cliffwood Beach	Restore salt marshes to enhance their ability to act as natural buffers to reduce impacts of storm-induced surge and waves while creating a maritime forest berm to help provide a buffer to Lakeshore Drive. The proposed wave attenuating devices, dune resto	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Township, County	NJCWRP, FEMA HMA, NFWF, Acres for America, NOAA, FWS, EPA	TBD	2 years	Ongoing	Floods, Nor'easter, hurricane, tropical storm, and storm surge are high risk hazards for the Township. By restoring natural buffers, risks associated with these hazards can be mitigated.
Action 1-11	Conduct Wetland Restoration at Happy Meadows	Restore marshlands to enhance their ability to act as natural buffers to reduce impacts of storm-induced surge and waves and build a maritime forest berm to provide a buffer to the surrounding residential area.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Township, County	NJCWRP, FEMA HMA, NFWF, Acres for America, NOAA, FWS, EPA	TBD	3 years	Ongoing	Floods, Nor'easter, hurricane, tropical storm, and storm surge are high risk hazards for the Township. By restoring natural buffers, risks associated with these hazards can be mitigated