

## 38 – OCEAN TOWNSHIP

### PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Tom Reu	OEM Coordinator	Point of Contact, Municipal Workshops #1 and #2
David G. Brown, II	Township Manager	Final Review
Greg Blash	Avakian Engineering, Twp Engineer	Review & Final Review
James Higgins	Higgins Associates, Planner	Final Review
Stephen Higgins	DPW Director	Final Review

### COMMUNITY PROFILE

#### Overview

The Township of Ocean, with a land area of 11.2 square miles, was officially established by an act of the New Jersey State Assembly in 1849. Today, Ocean is primarily a residential community with self-identifying neighborhoods, such as Wayside, Wanamassa, Oakhurst, Colonial Terrace, Deal Park, and West Allenhurst.

The township was awarded a Sustainable Jersey grant to complete its first Environmental Resource Inventory in 2018, and has achieved a Bronze rating for its overall planning initiatives, which include a bicycle and pedestrian network plan, improving public engagement at planning and zoning board meetings, making digitized public documents available on the township's website, assessing flooding risks due to climate change, and installing two electric vehicle chargers in the parking lot that serves Township Hall.

#### Land Use, Development, & Growth

In Ocean Township, residential, publicly owned and commercial land together constitute a large proportion of its area. As a result, in 2020, urban or developed land accounted for nearly 76 percent of the Township's area. In the same year, wetlands and forested land made up 14 percent and 7 percent respectively of Ocean Township's total area.

Since 2015, the community has experienced marginal land use changes; its forested land, barren land and wetlands diminished by 24 acres, 14.5 acres and 10 acres respectively, while its urban or developed land grew by nearly 51 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	26.6	25.2	-5%
Barren Land	41.1	26.6	-35%
Forest	546.6	522.6	-4%
Urban	5306.7	5357.2	1%
Water	88.2	88.2	>0%
Wetlands	1022.4	1011.8	-1%

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

#### Recent Major Development and Infrastructure from 2020 to Present

In 2023, construction on the Ocean Commons began on the corner of Route 35 and Deal Road. The mixed-use development features 6 commercial spaces area, a hotel, and 70 luxury townhomes, including Miller's Ale House which has been open since 2024.

Sand Hills, an industrial park at end of Sunset Avenue in west part of town, is being constructed.

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

Ocean Township continues to experience economic growth throughout the municipality, with commercial development primarily concentrated along its State Highway 35 corridor and industrial development in an area enclosed by Highway 18 to the west, Highway 35 to the east and the Seaview Square Shopping Center to the south. Portions of State Highway 35 fall under the FEMA 1% and 0.2% annual chance floodplain and regulatory floodway and NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper).

An 11-unit apartment building on Monmouth Road has been approved. This will have an impact on drainage.

Ocean Township adopted a new Master Plan in 2023, and the plan has many planning highlights, including:

- Expanding the townships municipal facilities,
- Working alongside the state government to repair roads under state jurisdiction,
- Expanding the municipalities utilities network,
- Reclaiming appropriate township owned vacant land as open space, and
- Maintaining existing land use patterns.

## 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).

Ocean Township has a total population of an estimated 27,733 people. Of Ocean's residents, an estimated 7.7% are under age 5, and 21.1% are over age 65. The Township experienced moderate population growth over the 2013-2017 and 2018-2022 ACS survey periods, with an estimated 2.7% increase. With an aging population making up over twenty percent of their total community, Ocean may focus hazard mitigation efforts on those with robust messaging and engagement for older residents, evacuation plans inclusive of populations with mobility issues, and resilient networks for resource accessibility post-disaster. A 2.7% population increase may be moderate yet may present impacts to the built environment that should be considered alongside pre-hazard communication and post-disaster response.

There are four block groups within the Township which meet criteria for overburden (OBC) according to the State of New Jersey; two for criteria of Minority communities, one for Low Income, and one for Low Income and Minority neighborhood characteristics. A single census tract is identified as potentially vulnerable for indicators of Workforce Development (CEJST). There are no parts of Ocean Township which are identified under CDRZ definitions.

Demographics Summary	
Total Population (2018-2022 ACS 5-year Estimates)	27,733
Population Change since 2017	2.7%
Percent of Population Age < 5	7.7%
Percent of Population > 65	21.1%

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 Township's hazard ranking. The full risk assessment is located in Section 4.0.

## Hazard Ranking

High	Medium	Low
<b>Natural Hazards</b>		
Nor'easter	Extreme Temperatures	Lightning
Flood	Extreme Wind	Drought
Storm Surge	Tornado	Earthquake
	Winter Storm	Wildfire
	Hurricane/ Tropical Storm	Landslide
<b>Human-made Hazards</b>		
	Cyber Attack	Civil Unrest
	Economic Disruption	
	Power Failure	
	Terrorism	
	Pandemic	

## Hazard Ranking Explanation

Tornadoes remain a medium level of concern due to the straight-line winds experienced in 2021. Power failure has increased to a medium level of concern from a low due to major substation issues, which occasionally arise from equipment problems.

## Significant Hazard Events Since Last Plan Update

During the week starting September 23, 2023, the area was impacted by a rain event brought by Tropical Storm Ophelia. This system, along with its remnants, caused a considerable amount of rain over the week. Despite the significant rainfall, the storm water management system managed the event with only minor difficulties. The remnants of Ophelia, combined with a low-pressure system developing along the Carolina Coast, created a substantial rain event affecting the Township and its surrounding communities. Between September 23 and September 28, approximately 3.25 inches of rain fell, while on September 29 alone, the Township experienced 7.9 inches. This resulted in notable flooding, particularly in West Deal, where many roads were shut down. Brookside Ave in Oakhurst saw unprecedented flooding, leading to the evacuation of four houses with assistance from local fire departments.

On May 13-14, 2023, heavy rain saturated the ground, causing Whalepond Brook at the West Long Branch border to flood and Popular Brook on Whalepond Road to overflow into the park, though it did not reach the roadway. The flooding receded as the rain stopped in the late morning.

On April 30, 2023, the Township experienced heavy flooding, with the east side receiving 5.2 inches of rain and the west side 7.8 inches. In December 2022 and January 2024, heavy rain events caused usual hot spots to flood but resulted in minimal or no property damage.

## Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to increase the risks and hazards for Ocean Township. Rising global temperatures will likely lead to more frequent and severe hurricanes, nor'easters, and heavy rainfall, exacerbating flooding issues. Currently, 8.8% of the township lies within the 1% annual chance flood zone, which may experience even more frequent and severe flooding events. Additionally, stronger storms could cause greater storm surge, threatening coastal and low-lying areas.

Higher temperatures can also increase the risk of heatwaves, posing significant health risks to vulnerable populations, especially the elderly and young children. With 21.1% of residents over the age of 65, the township's aging population may be particularly susceptible to heat-related illnesses.

## RISK ASSESSMENT

### National Flood Insurance Program (NFIP) statistics

Ocean Township	
Initial FIRM Date	10/14/77
Effective FIRM Date	6/15/2022
Number of Policies In-Force:	176
Total Losses:	269
Total Payments:	\$4,893,574.84
Number of RL Properties:	16
Number of Mitigated RL Properties:	0
RL – Total Losses:	37
RL – Total Paid:	\$791,555.80
Number of SRL Properties:	7
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	38
SRL – Total Paid:	\$1,211,648.60

Source: FEMA Policy and Loss Data, August 2024

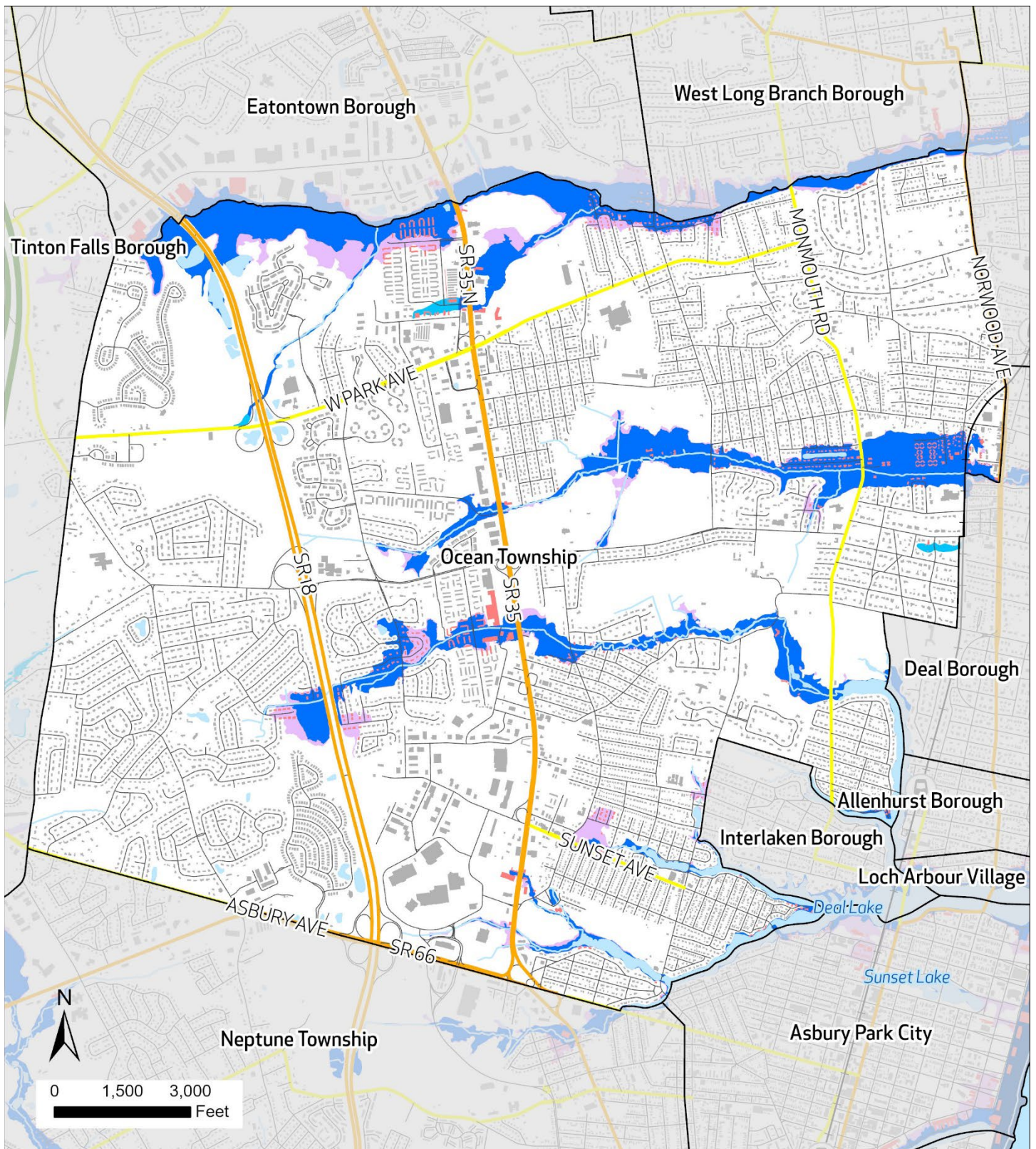
### Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Township of Ocean is primarily located adjacent to the many streams which pass through town flowing into Deal Lake or the Atlantic Ocean. Approximately 8.8 percent of the total area of Ocean Township lies within the 1% annual chance flood zone as defined by FEMA. An additional 1.9 percent of the area of the municipality is in the 0.2% annual chance flood zone. About 79.9 percent of Ocean Township is considered developed. Of the developed parcels of the town, 6.2 percent fall within the 1% annual chance flood zone and 1.4 percent are within the 0.2% annual chance flood zone. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain	5 feet of Sea Level Rise
Developed Parcels	6.2%	1.4%	NA
Exposed Land Area	8.8%	1.9%	NA

During the planning process, Ocean Township 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. The municipality identified 50 total facilities. Of these facilities, four are located within the floodplain. These four facilities are categorized under the Water Systems community lifeline. Examples of Water Systems includes dams and pump stations.

Community Lifeline Type	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number within 5 feet of Sea Level Rise
Water Systems	4	-	NA



## Flood Risk Ocean Township

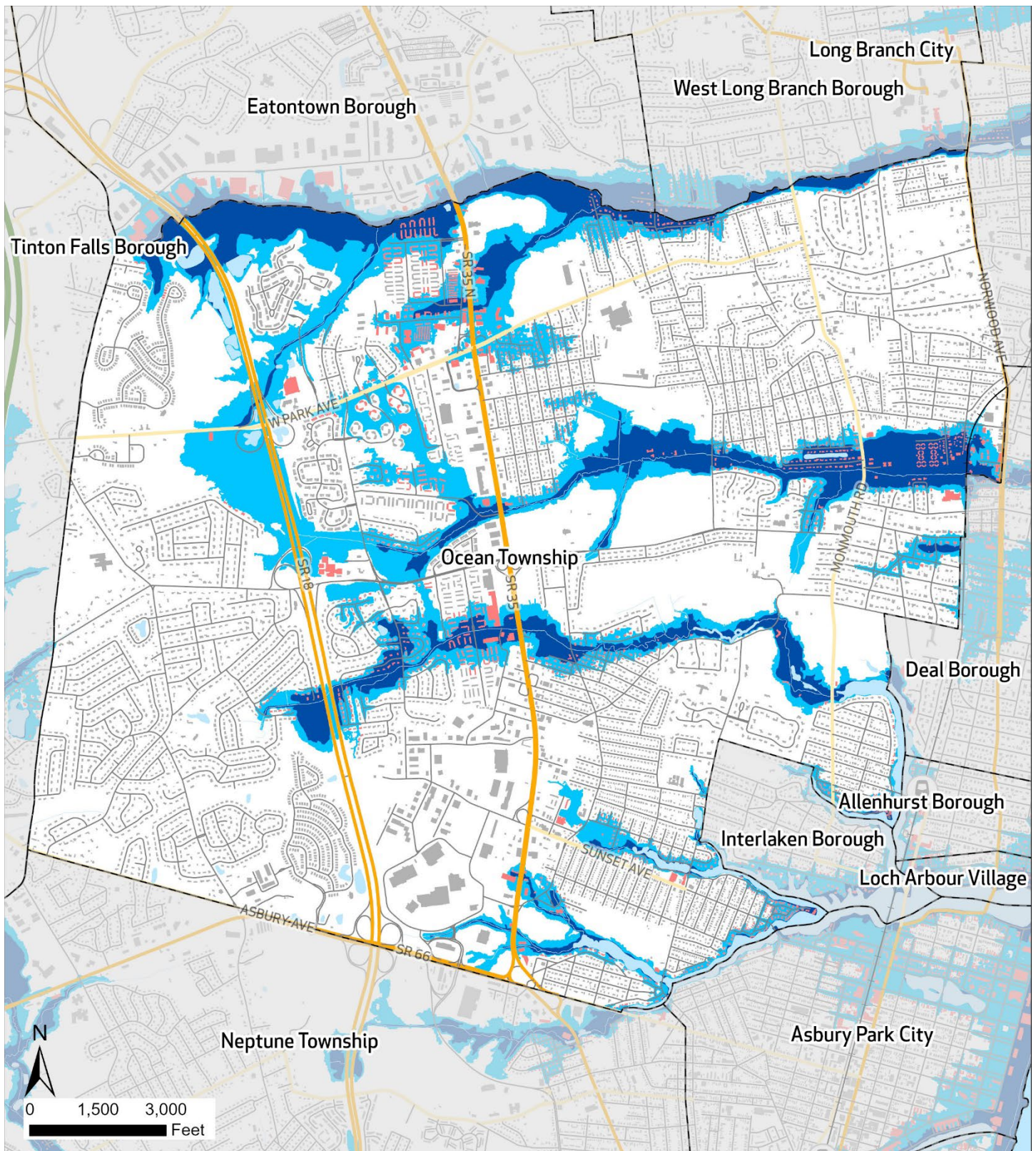
### FEMA Flood Zone

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

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

- Rail Lines
- Municipal Boundaries
- Building Footprints
- Building Footprints within Floodplain
- Water

Source: FEMA NJDEP, NJOIT, NJTransit



# NJ Inland Design Flood Elevation Ocean 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

State Hwy

Garden State Parkway

Railroad



NJ Transit Rail Station



Municipal Boundaries



Water

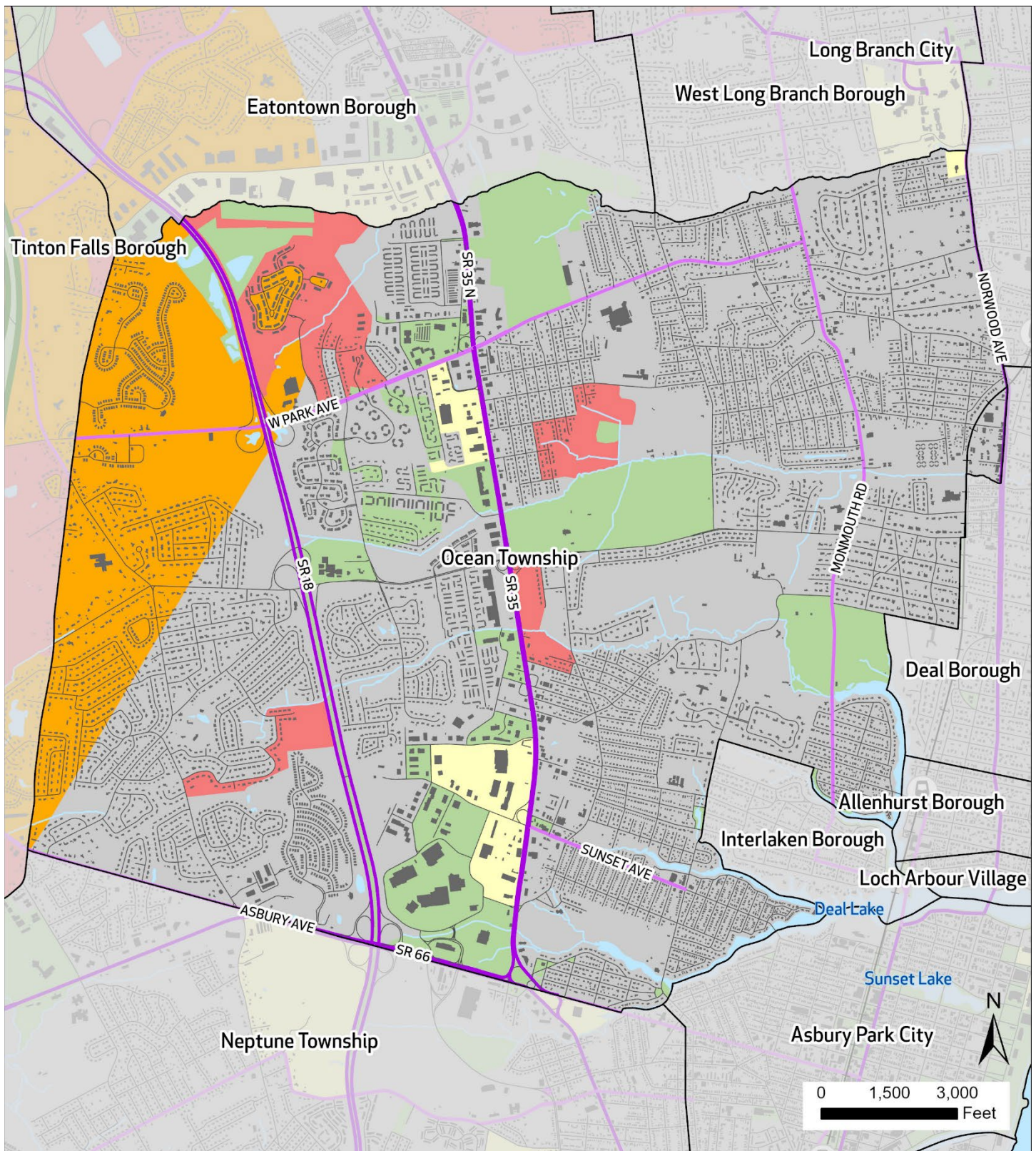


Building Footprints



Building Footprints within  
IDFE

Source: FEMA, Rutgers University, NJDEP, NJOIT, NJ Transit



# **Wildland Urban Interface (WUI) Classification** Ocean Township

- |   |   |
|---|---|
| <span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> Interface                       | <span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> Garden State Parkway |
| <span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Intermix                           | <span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> State Hwy           |
| <span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> High or Medium Density Housing    | <span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Interstate Highways   |
| <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Low or Very Low Density Housing | <span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> State Routes          |
| <span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> No Housing                       | <span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> County Routes         |
|   | <span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Local Roads           |

- |  |
|--|
| <span style="display:inline-block; width:15px; height:15px; border-top:1px solid black; border-bottom:1px solid black;"></span> Rail Lines |
| <span style="display:inline-block; width:15px; height:15px; border:1px solid black; border-radius:50%;"></span> NJ Transit Rail Station    |
| <span style="display:inline-block; width:15px; height:15px; border:1px solid black;"></span> Municipal Boundaries                          |
| <span style="display:inline-block; width:15px; height:15px; background-color:grey;"></span> Building Footprint                             |
| <span style="display:inline-block; width:15px; height:15px; background-color:blue;"></span> Water  |

Source: USFS, NJDEP, NJOIT, NJ Transit

## CAPABILITY ASSESSMENT

### Planning & Regulatory Capabilities

Ocean 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		2023	The Twp of Ocean Master plan does contain a section entitled "Climate Change-released Hazard Vulnerability Assessment" on pages 87 and 88.
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	
Floodplain Development Ordinance	X		2022	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	Adopted higher standards
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Twp Engineer manages this
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Twp keeps hard copies in the Construction office
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		Community is experiencing development/redevelopment in both housing and commercial. This area does not have known exposure to natural hazards.
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards	X			The Township is currently implementing a 5-year plan to clean the existing stream corridors as well as working with the Borough of Deal in an attempt to alleviate flooding in the community.

### Administrative and Technical Capabilities

Ocean Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Twp Engineer from Avakian Engineering. In addition, he is supported by a person in his office who is a CFM.
Grant Writer	X		
Staff trained to support mitigation	X		Building Department, Community Development Department, Twp Engineer, Public Works
Existing mutual aid or technical assistance agreements to support hazard mitigation projects		X	
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations		X	

## Education and Outreach Capabilities

Ocean Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Social media, website, Reverse 911, NIXLE, Community Events
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		Class 6

## Financial Capabilities

Within the last five years, Ocean 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:

- Ocean Township is a Forerunner community. Forerunner has dynamic tools to better manage flood risk and increase resilience by enforcing floodplain compliance and increasing disaster response by documenting damages in the field and providing timely information to residents. Forerunner's public features give residents access to relevant property-level flood risk details that help inform key decisions and minimize the number of assistance requests. Forerunner is also designed to make CRS participation easier for the Township.
- **Community Rating System (CRS) Classification:** 6
- **Sustainable Jersey Participation Status:** Bronze

## MITIGATION STRATEGY

### Overview and Progress Since Last Plan Update

The Township of Ocean (Monmouth County) is a sustainable community that actively integrates scientific evidence into proactive policymaking. Its objective is to enhance the Township's resilience to natural disasters and adapt to evolving climate concerns. Since 2020, the Township has been actively engaged in cleaning primary brooks and streams within its jurisdiction to improve stormwater runoff. Furthermore, various projects are currently in various stages of planning and implementation to further enhance stormwater management. As the frequency and severity of storms and other events continue to increase, the Township will prioritize projects that contribute to life safety, property conservation, and other essential objectives.

### Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-1	Create a Detention Pond near Joe Palaia Park	An area needs to be created large enough to hold stormwater runoff during and after a severe storm and then the stormwater be released at a slower pace not to cause any flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	N/A	N/A	N/A	N/A	N/A	Withdrawn	We were working with the Army Corp on this, and they withdrew from the project because they said it would not reduce flooding.
38-2	Create a Detention Pond for Whalepond Brook	An area needs to be created that is large enough to hold stormwater after a heavy storm and slowly release back into the proper detention system.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Medium	Monmouth County officials, OT Township Manager, DPW, and Engineer	Municipal budget	\$3M	1 year	Withdrawn	
38-3	Purchase and Install Generators for Other Critical Facilities	Acquire emergency generators for critical facilities, including the gym, high school, recreation center, and elementary school.	Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Low	Township Manager, School administration, DPW, and Engineer	FEMA HMA	\$150,000	1 year	Completed	
38-4	Purchase Joanna Ct. Property for Detention Pond	Acquire Repetitive Loss Property, demolish the property, and create detention pond to alleviate flooding along Poplar Brook.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Township	FEMA HMA	\$700,000	2 years	Withdrawn	Deemed no longer necessary.

## New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-5	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Acquire 28 Repetitive Loss Properties to purchase, demolition, and maintain as open space or elevate the structure.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Township Manager, Police, DPW, Green Acres, County Open Space office and Engineer	FEMA HMA	\$12,600,000.00	1 year	Ongoing	Some were bought for Blue Acres. 8 properties purchased from 1/2017 – 11/2020 – Total purchase Price, \$2.645 M  Keeping this action as ongoing in case new RL SRL properties get added to the list in the future.
38-6	Clean and Desnag Poplar Brook and Whalepond Brook	Dredge the length of both Poplar Brook and Whalepond Brook to remove all obstructions. Remove snagging and debris from floodway and dredging up to two feet of silt.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Township Manager, DPW, County Mosquito Commission and Engineer	Municipal budget	\$1M	5 years	Ongoing	A machine was purchased (\$100,866), but the Township needs easements. This is ongoing because of funding. This has been resolved and project now in progress.
38-7	Remove Sediment and Tree Debris Along the Arm of Deal Lake	Remove sediment and tree debris to create a clear channel for stormwater entering Deal Lake.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Low	Township Manager, DPW, NJDEP, Deal Lake Commission and Engineer	Municipal budget	\$5M	3 year	Ongoing	Working to identify funding.
38-8	Reconstruct Wetlands and Flood Attenuation Basins around Harvey Brook; Stabilize Stream Banks	Multi-phase project involving the construction of a regional wetland, flood attenuation basins, stabilization of stream bank, and coordinate with private property owner replacement of dam (new to this action).	Dam Failure, Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Medium	Township Manager, DPW, NJDEP, Deal Lake Commission and Engineer, Monmouth County	NJDEP Bureau of Dam Safety and Flood Control, EPA, NFWF, NOAA, NJCWRP, FWS	\$2.2M	3 year	Ongoing	Deal Lake Commission (DLC) has received funding from the State. Project is now progressing.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-9	Redesign the Existing Weir to Increase Storm Attenuation Capacity at Fireman Pond	Retrofit of existing weir so pond can function as a regional flood attenuation basin. Install MTD in road to control pollutant loading to lake.	Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Township Manager, DPW, NJDEP, Deal Lake Commission and Engineer	NFWF, FEMA HMA	\$400,000	1 year	Ongoing	Township has received necessary permits from the DEP. Project is now in progress.
38-10	Replace Existing Weir and Dredge and Reconfigure Existing Impoundment at Lollipop Pond	Replace existing weir, dredge, and reconfigure existing impoundment west of Chestnut Ave construct regional created wetland flood attenuation basin.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Township Manager, DPW, NJDEP, Deal Lake Commission and Engineer	NFWF grant application for planning/design submitted by DLC, may be possible to secure 319 grant	\$1M	1 year	Ongoing	Township has received necessary permits from the DEP. Project is now in progress.
38-11	Enlarge Culverts under Roadway and Railroad (Intersection of New Jersey Transit and Poplar Brook)	An area needs to be created large enough to hold stormwater runoff during and after a severe storm and then the stormwater be released at a slower pace not to cause any flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm	Low	Township Manager, DPW, County Roads/Bridge Depts. and Engineer	Municipal budget, FEMA HMA	\$4M	3 years	Ongoing	May get the DOT involved.
38-12	Construct a Flood Wall along Poplar Brook	Build a flood wall along the rear properties of the houses on Brookside Ave. along the banks of the Poplar Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Medium	Township Manager, Police, DPW, Green Acres, County Open Space office and Engineer	FEMA HMA	\$1.8M	2 years	Ongoing	Proposed by Twp Engineer. Funding not identified, and priority has been lowered.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-13	Enlarge Culverts under Roadway at Whalepond Road	An area needs to be created large enough to hold stormwater runoff during and after a severe storm and then the stormwater be released at a slower pace not to cause any flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Low	Township Manager, DPW, County Roads/Bridge Depts. and Engineer	Municipal budget	\$1M	3 years	Ongoing	Primarily for Property Protection. Have to work with at least West Long Branch to accomplish this.
38-14	Target Harden Municipal Complex and Schools by Installing Surveillance Cameras, Panic Buttons, Metal Detectors, and/or Bulletproof Glass	The Municipal Complex and Township schools should be more secure from the public. The Municipal Complex could use panic buttons, bulletproof glass for staff that interact with the public daily, a new secure office layout, and metal detectors. The school c	Terrorism	Low	Township Council	Homeland Security grants	TBD	2 years	Ongoing	The Township will wait to see if the town hall gets replaced.
38-15	Enlarge culvert under railroad at Washington Avenue	An area needs to be created large enough to hold stormwater runoff during and after a severe storm and then the stormwater be released at a slower pace not to cause any flooding.	Flood, Nor'easter, Hurricane, and Tropical Storm, Storm Surge, Winter Storm	High	Township Council	FEMA	\$300,000	4 years	New	
38-16	Construction of additional drain pipe on Runyan Ave to increase drainage capability	The current drainage capability has been found to be insufficient. This will increase the capability in the neighborhood.	Flood, Nor'easter, Hurricane, and Tropical Storm, Storm Surge, Winter Storm	High	Township Council	FEMA	\$225,000	4 years	New	This project is necessary to address flooding issues in the Deal Park area of the Township. Increase severity of storms due to climate change and over-development makes this necessary.
38-17	Reconstruction of culvert on Logan Road in the area of the English Manor.	An area needs to be created large enough to hold stormwater runoff during and after a severe storm and then the stormwater be released at	Flood, Nor'easter, Hurricane, and Tropical Storm, Storm Surge, Winter Storm	Medium	Township Council	FEMA	\$300,000	4 years	New	This project is necessary to address flooding issues in the Wanamassa area of the Township. Increase severity of storms due to climate change make this necessary.

Action	Name	Description	Hazards Addressed	Pri- ority	Responsible Party	Potential Funding	Cost Estimate	Time- line	Action Status	Notes
		a slower pace not to cause any flooding.								
38-18	Bank stabilization on Harvey Brook on Roseld Ave near Wickapecko Drive	An area along Roseld Ave needs to be addressed due to bank erosion that will soon cause issues with road stabilization.	Flood, Nor'easter, Hurricane, and Tropical Storm, Storm Surge,	High	Township Council	FEMA	\$500,000	4 years	New	