

52 – WALL TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Lieutenant Jack Gramlich	Deputy OEM Coordinator	Primary Point of Contact, Municipal Workshop #1, Municipal Workshop #2
Captain Mike Hurden	OEM Coordinator	Reviewed appendix
John Spinapont	DPW Superintendent	Reviewed appendix
Matt Zahorsky	Township Engineer	Reviewed appendix

COMMUNITY PROFILE

Overview

The Township of Wall is approximately 32 square miles. Generally, the eastern portion of the township is made up of single-family homes with commercial development around Route 35. The western portions of Wall are less developed due to the large size of Allaire State Park and Monmouth Jet Center, though there is some commercial and industrial development along Route 34.

The Edgar Felix Bikeway is a popular recreational amenity that follows an abandoned railroad right-of-way, connecting Allaire State Park to Manasquan as part of the Capital to Coast Trail. There is a trail extension north of the Edgar Felix Bikeway that is approximately two miles in length and ends at the Wall Municipal Complex.

In 2008, Wall adopted its Open Space and Recreation Plan, providing an inventory of existing environmental and recreational resources and identifying the current and future needs of the community. In 2019, the NJDEP Green Acres Program and Monmouth Conservation Foundation purchased 190 acres of forests and forested wetlands to be added to Allaire State Park. In 2020, the Township made improvements to many of the parks throughout the Township.

Land Use, Development, & Growth

Wall Township is home to substantial publicly owned and residential land, as well as several parcels of commercial land, farmland, and some industrial land. As a result, there is no predominant land use in the Borough; in 2020, urban or developed land constituted nearly 46 percent of its land base, while forested lands and wetlands made up 23 percent and 20 percent respectively of its total area.

From 2015 to 2020, the Township experienced evident changes in its land use composition; its barren land and forested land declined by 22 acres and 22 acres respectively, while its urban or developed land grew by 86 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1028.0	1020.9	-1%
Barren Land	497.3	446.2	-10%
Forest	4778.4	4756.1	>0%
Urban	9286.9	9373.1	1%
Water	694.9	694.7	>0%
Wetlands	4006.0	4000.5	>0%

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

Recent Major Development and Infrastructure from 2020 to Present

- Construction of the new Allenwood Terrace Apartments, an age-restricted affordable-housing complex, was completed in late 2020. The complex is located at the intersection of Allenwood Road and Highway 138 on the site of a former state police building.

- Construction of The Townes at Glen Oaks was completed in 2023, a 120 townhome and apartment community at the intersection of Allenwood Road and Route 138.
- Further east, the Highway 35 corridor has experienced sizable redevelopment of existing shopping plazas in recent years. In 2023 an Old Mill Plaza redevelopment plan was approved by the Wall Township Committee, allowing for up to 230 units of age restricted, affordable, and market rate apartment rentals. The plan also allows for small commercial development along Old Mill Road and Route 35.

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

In 2023 a 2,000,000+ square foot warehouse complex was proposed off of West Hurley Pond Road. The application is still under review by Wall and Monmouth County Planning Boards. Traditions at Walls with about 200 units that is coming in. These will need additional water storage to fight fires. Glen Oaks apartments will be approximately 100 townhomes in addition to a three-story apartment building. Additionally, the Allenwood Terrace Apartments.

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).

Wall Township has a total estimated population of 26,450. Of these residents, an estimated 4.1% are under age 5 and just over 23% are estimated to be over age 65. The Township experienced a moderate population growth over the periods between 2013-2017 and 2018-2022 ACS surveys, with the population increasing by an estimated 1.7%. With an aging population making up over twenty percent of their total community, Wall 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.

There are no areas of Wall which have been identified by CDRZ, CEJST, or OBC designation criteria.

Demographics Summary	
Total Population (2018-2022 ACS 5-year Estimates)	26,450
Population Change since 2017	1.7%
Percent of Population Age < 5	4.1%
Percent of Population > 65	23.2%

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

The Township ranked Landslide as N/A.

Hazard Ranking Explanation

Power Failure has escalated from a low-hazard risk in the last HMP update to a high hazard. This issue is significant due to the Township's infrastructure and its ability to exacerbate other potential hazards. For instance, power failures can worsen the effects of extreme temperatures, as not all heating and cooling centers within the Township are fully generator-operated.

Dam failure has also increased from a low to a medium risk. The Township has several dams that pose potential risks, including the high-hazard Manasquan Reservoir Dam and Glendola Reservoir Dam, as well as the class two Hurley Pond Dam. Cyber-attacks are ranked as a medium risk. In 2021, the Township experienced a cyber-attack that affected all departments except the police department. Flooding remains a medium-ranked risk. Any storm event that results in a large amount of rainfall in a short period causes significant flooding along Route 18. Landslides are not applicable as the Township is relatively flat.

Significant Hazard Events Since Last Plan Update

In 2021, the Township experienced a cyber-attack that affected all departments except the police department. The most significant hazard has been straight-line windstorms. In Spring 2022, a plane went down at Monmouth Executive Airport within the Township due to significant winds. Additionally, periodic significant flooding occurs on Route 18 during storm events that result in a large amount of rainfall in a short period.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Wall Township. The Township's vulnerability to natural hazards such as flooding, extreme temperatures, and severe storms is likely to increase. With climate change, the frequency and intensity of such storm events are expected to rise, exacerbating the flooding risk. Additionally, the Township's infrastructure, including critical facilities and developed parcels, is at risk, with approximately 6.5% of the total area and 5.9% of developed parcels lying within the 1% annual chance flood zone. The increased frequency of extreme weather events, such as hurricanes and nor'easters, will likely lead to more power failures, which have already been identified as a high hazard due to their ability to worsen the effects of other hazards.

From an online perspective, climate change adaptation plans and hazard mitigation plans are essential strategies to foster community resilience. These plans aim to reduce the long-term impacts of a changing climate by addressing extreme flood

events and other climate-driven hazards. The climate mapping for resilience and adaptation portal's assessment tool helps communities understand climate risk and develop a roadmap to resiliency. For Wall Township, integrating these plans and tools will be crucial in mitigating the increased risks and hazards posed by climate change, ensuring the safety and well-being of its residents.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Wall Township	
Initial FIRM	2/16/77
Effective FIRM	6/15/2022
Number of Policies In-Force:	137
Total Losses:	82
Total Payments:	\$2,248,185.48
Number of RL Properties:	5
Number of Mitigated RL Properties:	0
RL – Total Losses:	12
RL – Total Paid:	\$90,818.61
Number of SRL Properties:	0
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	0
SRL – Total Paid:	\$0

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

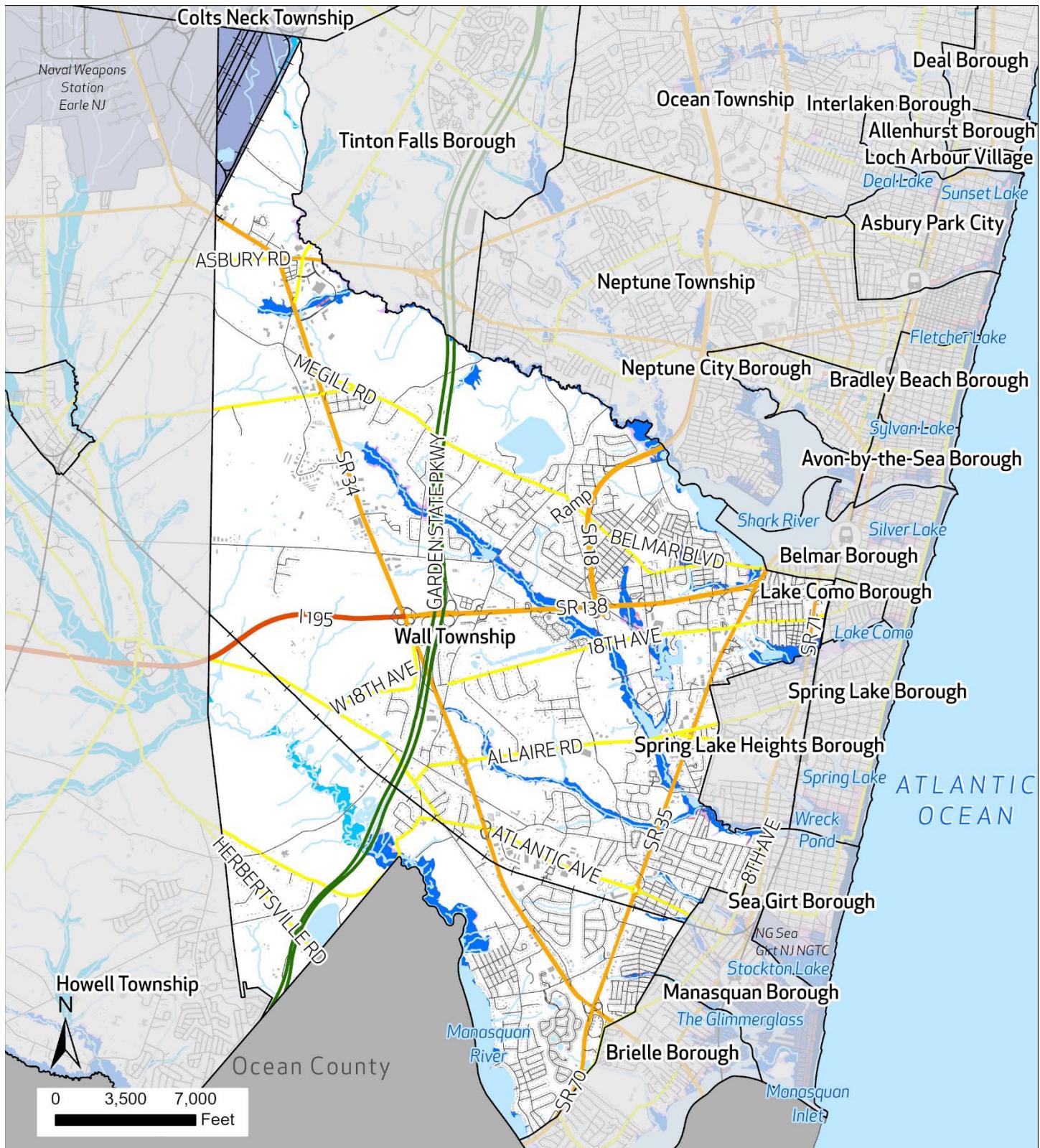
The Special Flood Hazard Area (SFHA) in the Township of Wall is primarily located adjacent to the many streams which flow through town including the Manasquan and Shark Rivers. Approximately 6.5 percent of the total area of Wall lies within the 1% annual chance flood zone as defined by FEMA. An additional 0.5 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 60.7 percent of Wall is considered developed. Of the developed parcels of the town, 5.9 percent fall within the 1% annual chance flood zone and 0.4 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	5.9%	0.4%	1.5%
Exposed Land Area	6.5%	0.5%	2.7%

During the planning process, Wall 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 63 total facilities. Of these facilities, six are located within the 1% floodplain as summarized in the table below.

Community Lifeline type	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number within 5 feet of Sea Level Rise
Safety and Security	1	-	-
Water Systems	5	-	-

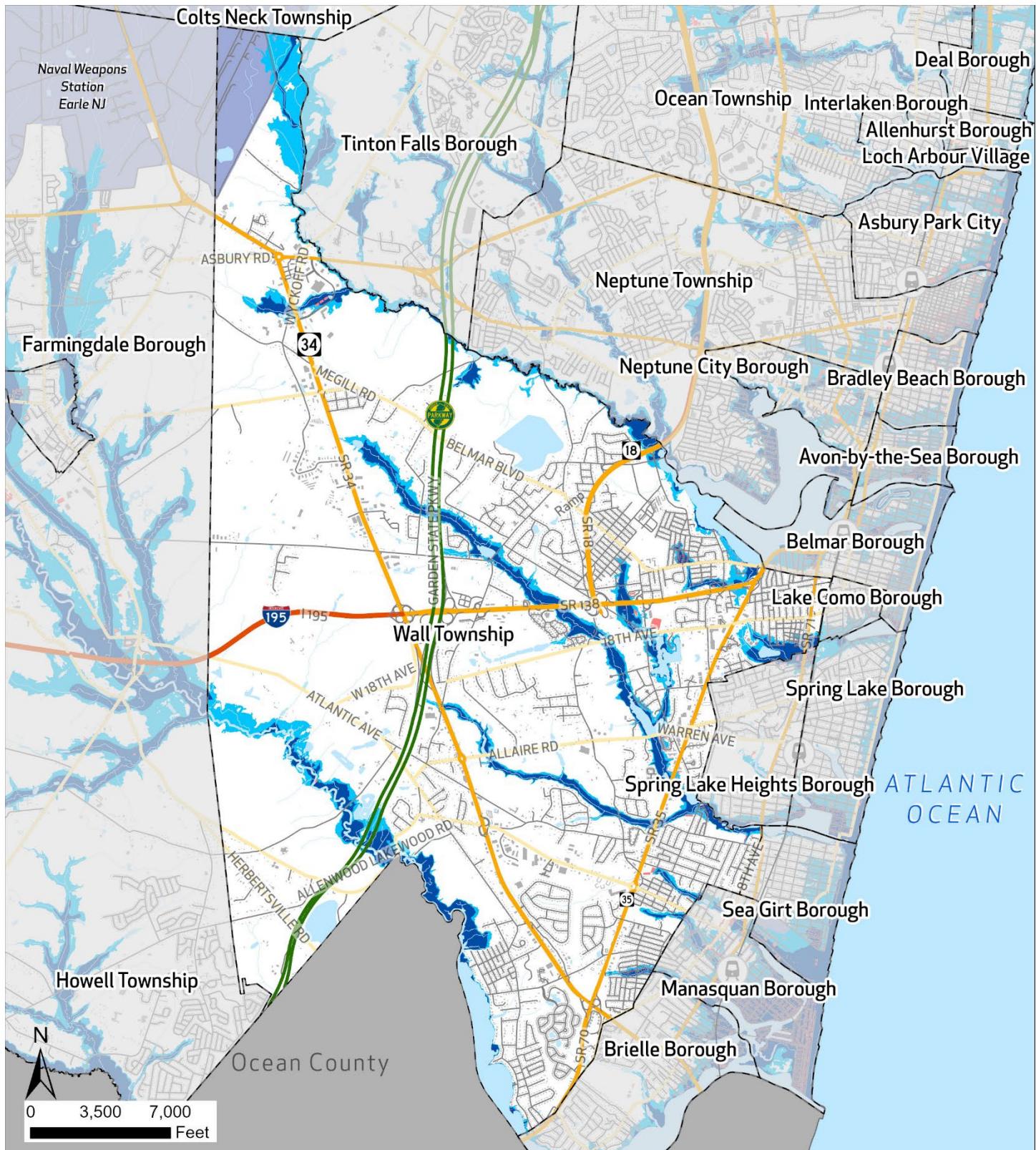


Flood Risk Wall Township

FEMA Flood Zone	
0.2% Annual Chance	Garden State Parkway
A (1%)	State Hwy
AE (1%)	Interstate Highways
VE (1%)	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 Wall Township

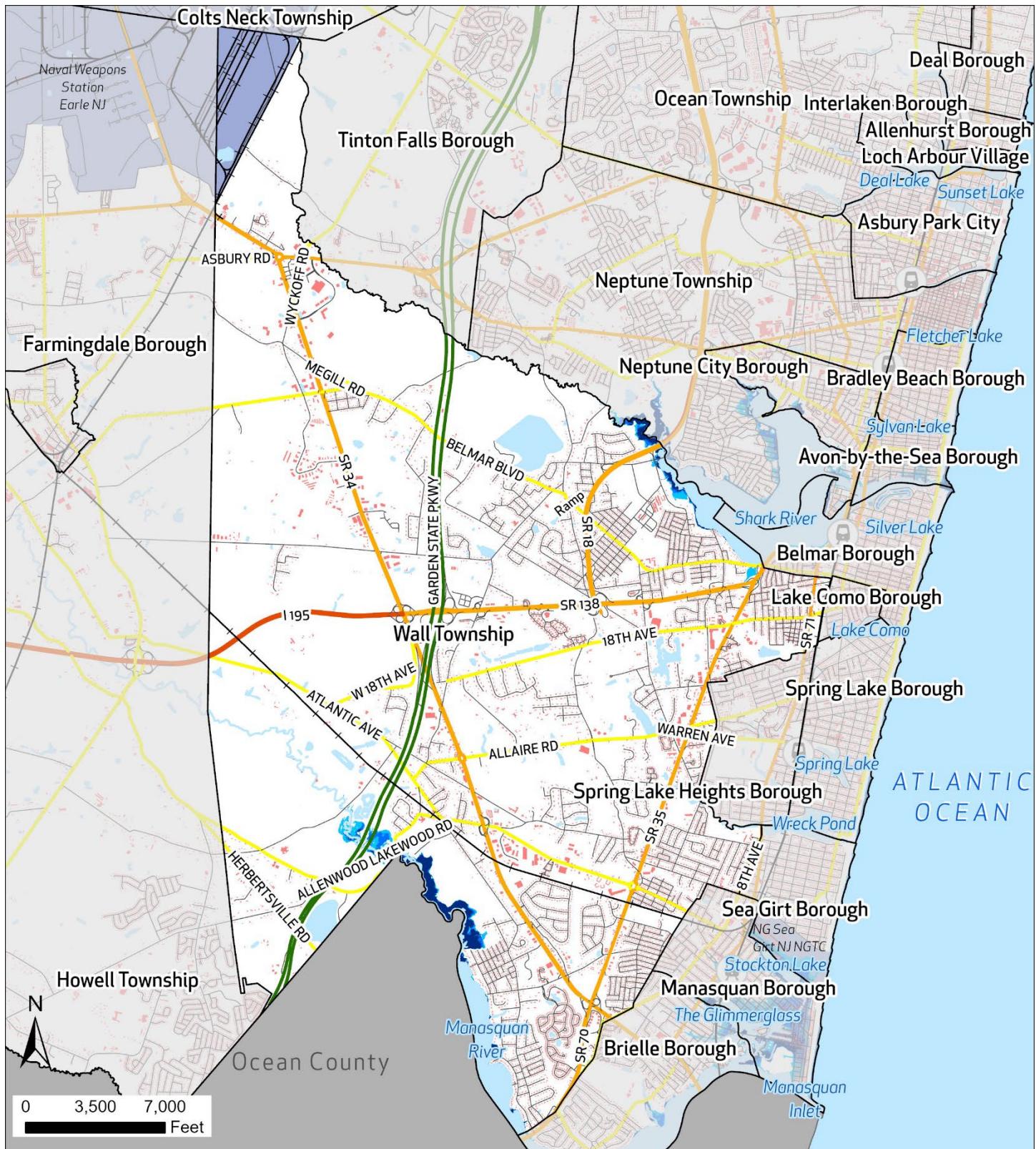
FEMA Flood Zone
 Current Base Flood Elevation (1%)
 NJ Inland Design Flood Elevation
 FEMA BFE (1%) plus 3 Feet

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

— Municipal Boundaries
 Water
 Department of Defense Land
 Building Footprints
■ Building Footprints within IDFE



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



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

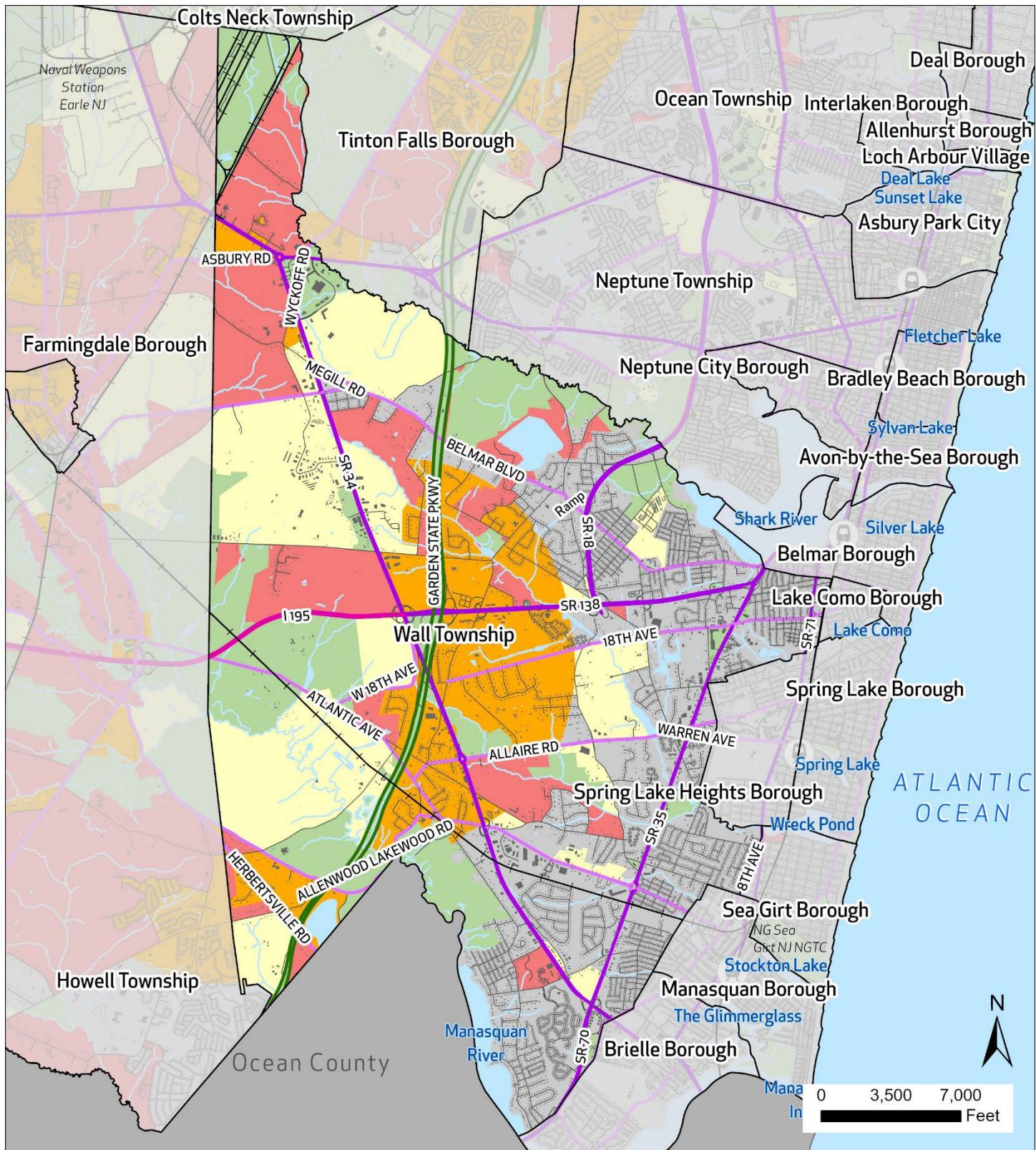
Wall Township

- 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
- Rail Lines

- Municipal Boundaries
- Building Footprint
- Water
- Department of Defense Land

Source: NOAA, NJDEP, NJOIT, NJTransit



Wildland Urban Interface (WUI) Classification Wall Township

- Interface
- Intermix
- High or Medium Density Housing
- Low or Very Low Density Housing
- No Housing
- Garden State Parkway
- State Hwy
- Interstate Highways
- State Routes
- County Routes
- Local Roads
- Rail Lines

- Municipal Boundaries
- Building Footprint
- Water

Source: USFS, NJDEP, NJOIT, NJTransit

CAPABILITY ASSESSMENT

Planning & Regulatory Capabilities

Wall 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		9/2005	The Township's master plan has a section on flood hazards.
Capital Improvement Plan	X		1/25	
Local Emergency Operations Plan/Continuity of Operations Plan	X		8/24	
Floodplain Development Ordinance	X		10/24	
Floodplain Management Plan	X		10/24	
Stormwater Management Ordinance	X		10/24	
Stormwater Management Plan	X		10/24	
Watershed Management Plan	X		10/24	
Sheltering Plan	X		8/24	
Evacuation Plan	X		9/18	
Substantial Damage/Improved Structures Response	X		10/24	
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		8/24	
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X		8/24	
Current/recent redevelopment plans or studies	X		10/24	
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discusses hazard mitigation	X			Next Steps to Compatibility Planning Study, Monmouth County, New Jersey (2022) encourages compatible development within the NWS Earle's Military Influence Area. Among the environmental constraints are natural hazards including wildfire, flooding, and storm surge.
Other ordinance and regulation that mitigate the impacts of natural hazards	X		10/24	

Administrative and Technical Capabilities

Wall Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		
Grant Writer		X	
Staff trained to support mitigation		X	
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

Wall Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		
StormReady	X		
Firewise USA	X		
Severe Weather Awareness Week	X		
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Wall 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:

- Sustainable Jersey Participation Status: Bronze

MITIGATION STRATEGY

Overview and Progress Since Last Plan Update

Wall Township's mitigation action strategy focuses on enhancing community resilience by addressing key vulnerabilities to critical infrastructure. Priority initiatives include the removal of dead and hazardous trees around essential power grid components to reduce storm-related outages and the deployment of stationary license plate readers to support homeland security and crime reduction efforts. Additionally, the installation of natural gas generators at all water treatment plants and wastewater pump stations has been completed, with plans to expand generator coverage to all critical Township infrastructure to ensure continuity of operations during emergencies.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-1	Purchase and Install Natural Gas Generators at Critical Facilities	Aim to equip all critical facilities used by Township in hazard events (for resources, staging, emergency response, shelter) with natural gas generators.	All Hazards	N/A	Municipal	Municipal Budget, FEMA HMA	\$1M	N/A	Completed	Funded by municipal budget
52-2	Purchase and Install Emergency Power to Critical Facilities	Upgrade and install emergency power to the Wall Township Police Department, Wall Township Office of Emergency Management Emergency Operation Center, Wall Township Municipal Building, Water Treatment Plants, and Wastewater Pump Stations.	Extreme Temperatures, Flood, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge	N/A	Municipal	FEMA Hazard Mitigation Grant, Township funding, Capital Improvement Project	\$1M	N/A	Completed	Funded by municipal budget

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-3	Maintain the Removal of Dead and Hazardous Trees along Township Roads	Maintain the removal of dead and hazardous trees along Township roads.	Extreme Wind, Wildfire, Power Failure, Nor'easter, Hurricane and Tropical Storm	Medium	Township Administrator / Township Tree Crews	Municipal budget	\$30,000	1 year	Ongoing	Ongoing maintenance completed (annually). This is funded every year by the municipality to mitigate power loss potential.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-4	Dredge or Pump Siltation from the Shark River Basin to Confined Disposal Facility (CDF)	Dredge or pump siltation from entire Shark River Basin to Confined Disposal Facility (CDF).	Flood, Hurricane and Tropical Storm, Storm Surge	Low	Wall Township, Neptune City, NJDEP, Neptune, Belmar, NJDOT	Municipal budget	\$300,000	1 year	Ongoing	Moved to 'Low' priority - Township doesn't have authority for this and it is largely a Neptune City/NJDEP/Neptune Township/Belmar/NJDOT exploration.
52-5	Purchase Stationary License Plate Readers, place strategically throughout municipality.	Purchase a device that allows law enforcement agencies to compare plate numbers against those of stolen cars or cars driven by people suspected of being involved in criminal or terrorist activities.	Terrorism	Medium	Wall Township	Wall Township, Homeland Security grant	\$5,000	2 years	Ongoing	Capital improvement funding approved for 2025. State DOT and Monmouth County each use different software and forbid other software from their roadways. Difficulty finding vendor to accommodate.
52-6	Repair, Remove, or Rehabilitate the Glendola Reservoir Dam	Repair, remove, or rehabilitate the Glendola Reservoir Dam, a High-Hazard Potential Dam, located on the Robins Swamp Brook.	Dam Failure	Medium	New Jersey-American Water Company	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	TBD	3 years	Ongoing	Owner is New Jersey American Water Company. Emergency Action Plan was last revised in December 2022.
52-7	Increase HAZMAT response capability	Improve HAZMAT response capabilities throughout Wall Township.	All Hazards	Medium	Monmouth County	Fire Districts	Staff time	5 years	Ongoing	Fire Districts responsible for response and mutual aid planning.
52-8	Wall Dispatch Update GIS	Updated GIS capabilities and resources can improve dispatch outcomes, times, and clarity for response in all hazard types. Currently using tax maps with minimal knowledge of new development.	All Hazards	Medium	Wall Dispatch, Township	Wall Township	\$50,000	3 years	Ongoing	Phase 1 complete, ongoing

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-9	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	There was a project that rebuilt the Old Mill Dam in the that has since alleviated the flooding of the RL properties. However, if additional properties become RL or SRL, prioritize the mitigation of those properties.	Flood, Hurricane and Tropical Storm, Storm Surge, Winter Storm	Low	Township	HMA	TBD	5 years	New	