1 – ALLENDALE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Dillon	**Police Chief / EM Coordinator**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Anthony Hackett	Construction Code Official / Floodplain Administrator	Review of Plan
Alison Altano	Borough Administrator / CFO	Review of Plan

COMMUNITY PROFILE

Overview

Allendale Borough has a total area of 2.8 square miles and is in northwest Bergen County, New Jersey. The borough borders the Bergen County municipalities of Mahwah, Ramsey, Saddle River, Waldwick, and Wyckoff. Allendale is home to the Celery Farm, which consists of over 107 acres of preserve and is one of the most unique bird sanctuaries in the state, and Crestwood Park, which covers 71 acres and includes a man-made lake and beaches. The Franklin Turnpike and NJ Transit Main Line traverse north-to-south near the center of the borough. New Jersey Route 17 runs along the eastern side of the borough with an exit at East Allendale Road. The borough is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Allendale is primarily a residential community, with the MOD-IV dataset showing Residential land use accounted for 69% of the total land area in 2022. Civic/public (tax exempt) land use also made up a significant portion, comprising 20% of the total land area in the same year. The borough saw a decrease in commercial property of almost 14 acres, or 31%.

Additionally, according to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, barren land increased from 0.9 acres in 2015 to 12.9 acres in 2020. The urban land use category occupied the largest share of land use, making up 77% of the area in 2020. Forest and wetlands followed, occupying 11% and 9% of the land, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	5.6	5.6	0%
Barren Land	0.9	12.9	1333%
Forest	225.5	214.2	-5%
Urban	1533	1539.4	<1%
Water	44.5	37.8	-15%
Wetlands	184.9	184.7	-<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

220 West Crescent Ave (front portion of former Black Millwork) was built to comprise 70 luxury residential rentals and a municipal community center. This was a previously dormant industrial site.

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

Mandatory affordable housing obligations.

Demographics & Vulnerable Populations

Allendale Borough has a total population estimated at 6,817, experiencing consistent population (an estimated -0.044%) in the survey periods between 2013-2017 and 2018-2022. Of this population, 5.7% is estimated to be under age 5, and 17.5% (an estimated 1,192 residents) are over age 65. With an aging population making up nearly eighteen percent of the

borough population, Allendale may focus hazard mitigation efforts toward populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	6,817
Population Change since 2017	-0.04%
Percent of Population Age < 5	5.7%
Percent of Population > 65	17.5%

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

Hazard Ranking Explanation

Dams sit at a medium level of concern; the Crystal Dam Lake, while in another municipality, would affect Allendale Borough if it broke. Flooding presents a high level of concern for the borough. Because of overbuilding and erosion of banks, brooks overflow into the roadway. Additionally, underpasses at West Orchard Street and West Crescent Avenue flood, which poses challenges for emergency services' passage. They had to cross through private property to bypass the underpass. Power failure is also at a high level of concern. There is a power generator plant in the borough, but most wells are not generator-controlled. It affects the water supply and special needs housing when power goes out.

Significant Hazard Events Since Last Plan Update

Hurricane Ida affected the borough in September 2021. On December 17-18, 2023, a rainstorm brought four inches of rain that caused significant flooding around the borough.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Allendale Borough	
Number of Policies In-Force:	38
Total Losses:	48
Total Payments:	$664,605.43
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	9
RL – Total Paid:	$62,898.00
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	5
SRL – Total Paid:	$87,445.85

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

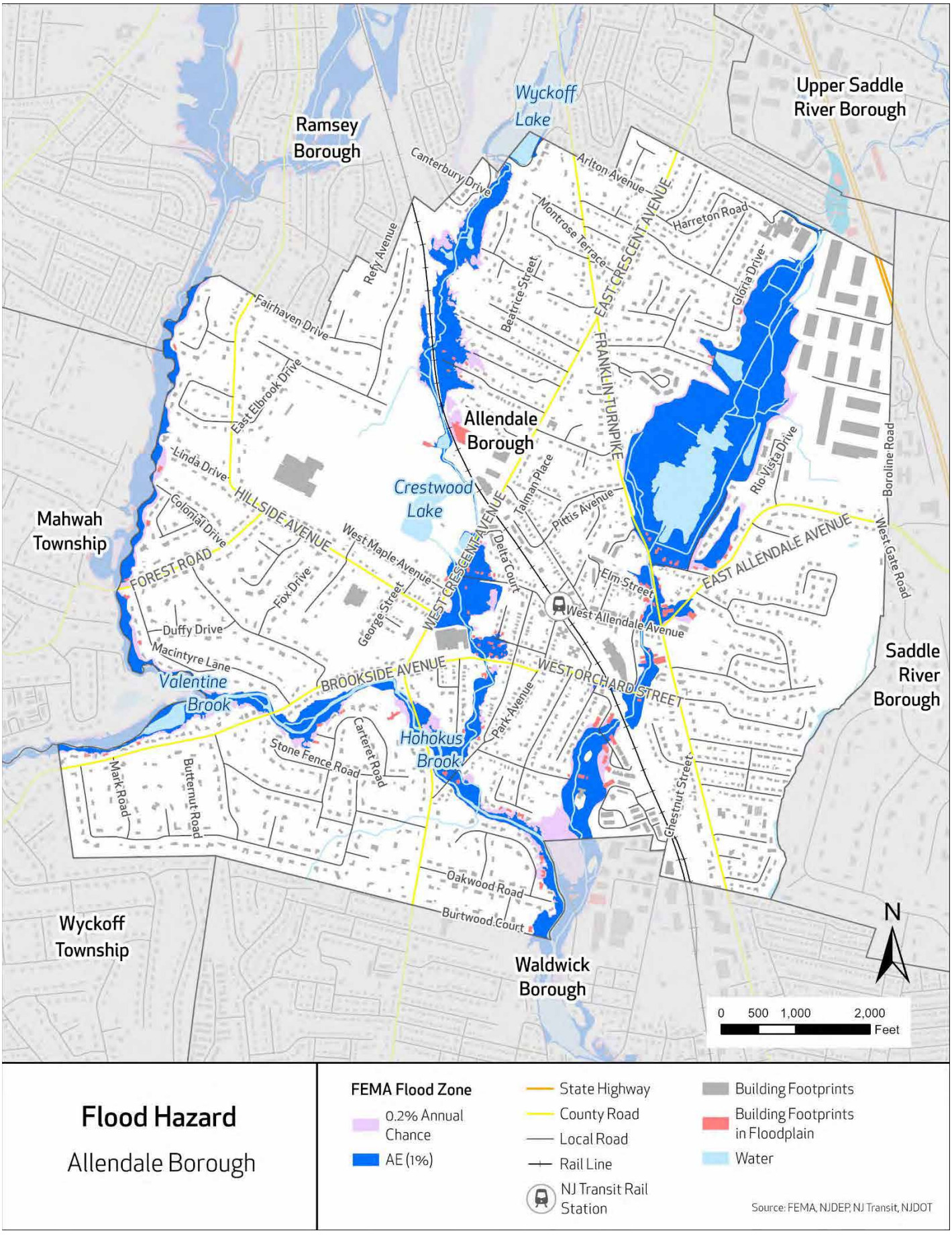
The Special Flood Hazard Area (SFHA) in the Borough of Allendale is primarily located adjacent to the main waterbodies of the borough: Allendale Brook and Lake Appert, Ho-Ho-Kus Brook, Ramsey Brook, and Valentine Brook. Approximately 11.5 percent of the total area of Allendale lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 78.2 percent of Allendale is considered developed. Of the developed parcels of the borough, 13.1 percent fall at least partially within the 1% annual chance floodplain and 12.6 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	13.1	12.6
Exposed Land Area	11.5	2.1

During the planning process, Allendale Borough 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 16 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are located within the 1% annual chance floodplain, and one is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	1	1
Health and Medical	1	0



Flood Hazard

Allendale Borough

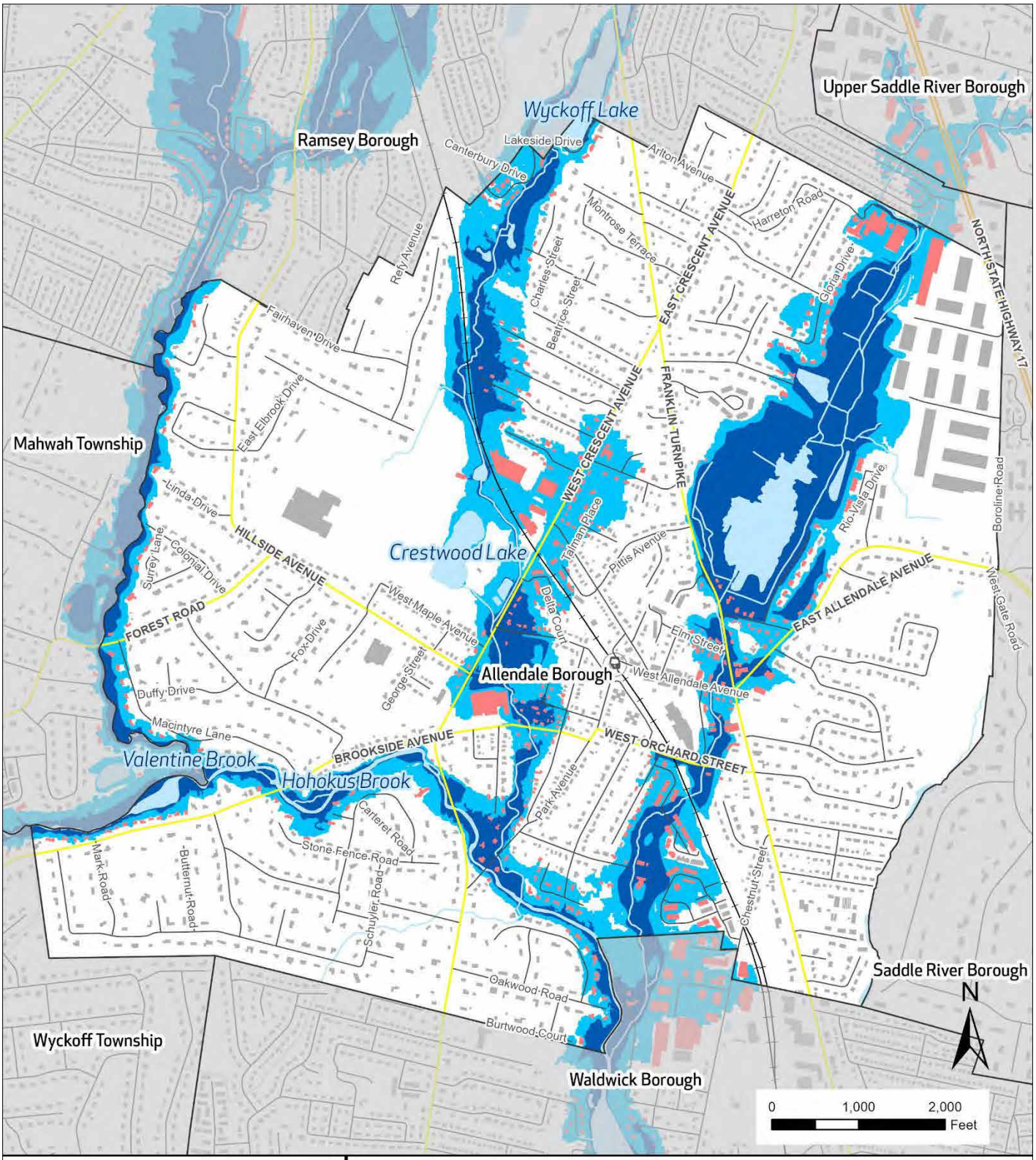
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

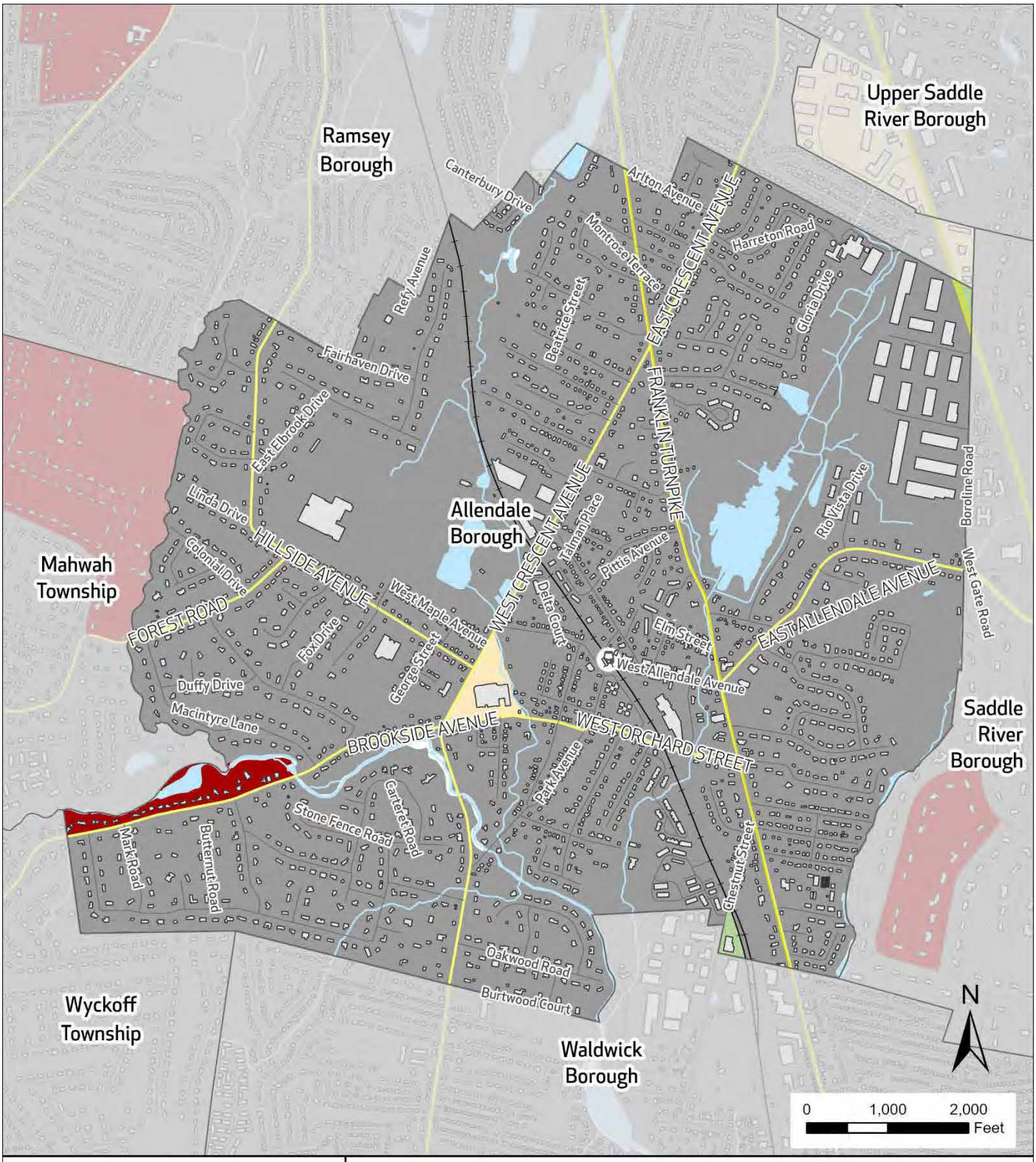


NJ Inland Design Flood Elevation

Allendale Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Upper Saddle River Borough
Ramsey Borough
Canterbury Drive
Arlton Avenue
Harreton Road
Montrose Terrace
Beatrice Street
Gloria Drive
Rely Avenue
EAST CRESCENT AVENUE
Fairhaven Drive
East Elbrook Drive
FRANKLIN TURNPIKE
Boroline Road
Linda Drive
HILL SIDE AVENUE
Allendale Borough
WEST CRESCENT AVENUE
Talmar Place
Pitts Avenue
Rio Vista Drive
Colonial Drive
Mahwah Township
FOREST ROAD
West Maple Avenue
Delta Court
Elm Street
West Gate Road
EAST ALLENDALE AVENUE
Fox Drive
George Street
West Allendale Avenue
Duffy Drive
Macintyre Lane
BROOKSIDE AVENUE
WEST ORCHARD STREET
Saddle River Borough
Park Avenue
Garter Road
Stone Fence Road
Mark Road
Butternut Road
Chestnut Street
Oakwood Road
Burtwood Court
Wyckoff Township
Waldwick Borough
N
0
1,000
2,000
Feet
Wildland Urban Interface (WUI) Classification
Allendale Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
State Routes
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Allendale Borough 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		2017	
Capital Improvement Plan		X		Capital accounts are in existence but none currently address flooding.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2019	Last amendment seen online was 7-11-2019
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		12-2-2021	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Through the code official/construction office
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Through the code official/construction office
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			Hazard Vulnerability Assessment Study (HVAS) underway
Other ordinance and regulation that mitigate the impacts of natural hazards	X			Steep slopes noted in Stormwater Management regulations in Ch 231 of the borough code

Administrative and Technical Capabilities

Allendale Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Construction Code Official (not a CFM)
Grant Writer	X		Consultant
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		Allendale Board of Education
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Allendale Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The Land Use Board has conducted meetings regarding the ongoing Hazard Vulnerability Assessment Study including a public work session.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Allendale Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Allendale has focused on cleaning and repair of stormwater drainage infrastructure, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include installation of three (3) emergency power generators, improving drainage systems, and installation of drainage in a borough park, a flood prone area. Over the next five years, Allendale aims to prioritize projects that address emerging climate challenges, such as increased rainfall and wind, by expanding mitigation strategies like updated flood mapping, flooding mitigation strategies, and installation of emergency generators for critical infrastructure. These efforts underscore the Borough of Allendale's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Borough has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
01-01	Purchase and Install Emergency Backup Generators	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough of Allendale OEM Director, Director of D.P.W. and Fire Chief	FEMA HMA	$100,000.00	1 year	Ongoing	The Department of Public Works, community center/shelter, and firehouse have received emergency backup generators. Borough Hall is the only facility that has yet to obtain one.
01-02	Conduct a Hydrologic and Hydraulic Study of the Allendale and Ho-Ho-Kus Brooks	Conduct a study of the hydrologic and a hydraulic study of the brooks and their drainage areas to increase the flow capacity.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Allendale Planning and DPW	Municipal budget	TBD	1 year	Ongoing	
01-03	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough and Property Owners	FEMA HMA	TBD	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
01-04	Construct Flood Reduction Projects along the Allendale and Ho-Ho-Kus Brooks	Use the results from the hydrologic/hydraulic study to drainage areas to increase the flow capacity.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough	FEMA HMA	TBD	2 years	Ongoing	

2 – ALPINE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Charles Hoffman	**OEM Coordinator**	**Primary Contact, Reviewed Appendix**
Brian Bourke	Police Department Patrolman/Deputy OEM Coordinator	Municipal Meeting, Reviewed Appendix

COMMUNITY PROFILE

Overview

Alpine is a borough in northeastern Bergen County, New Jersey, and is the easternmost town within the state. It spans approximately 9.22 square miles. The Palisades Parkway and US Route 9 both run north to south along Alpine's eastern border, topping the steep cliffs of the New Jersey Palisades. County Route 502 also runs east to west across Alpine as Closter Dock Road, coming to its terminus at U.S. 9 W in the borough. NJ Transit provides no rail or bus service within Alpine. The Hudson River forms the eastern edge of Alpine, along with the bordering Palisades Interstate Park, a 2,500-acre riverside park which includes a nature sanctuary and hiking and skiing trails. While the borough lies adjacent to the Hudson River, it is not typically considered a coastal community. Much of the northern portion of Alpine is open or recreational space, continuing to the New York border with Palisades hamlet in Rockland County, New York. Alpine has a population of approximately 1,449 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, new jersey's property tax data. In Alpine, civic/public (tax exempt) use is the predominant land use, accounting for 67% of its total area, covering over 2,557 acres of land in 2022. In the same year, other significant land uses included residential (including apartment), commercial and vacant land uses, that made up 26%, 5%, and 2% respectively of the borough. Between 2016 and 2022, vacant land diminished by 8 acres, while residential land increased by 5 acres.

NJDEP's Land Use/Land Cover data reflects the significant share of civic/public (tax exempt) land; in 2020, forest land accounted for nearly 63% of the borough's area. The palisades interstate park accounts for much of this civic/public tax-exempt land from the MOD-IV data, and the forest land category from the land/land cover data. Urban/developed land made up 32% of the borough's total area in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1.9	1.9	<1%
Barren Land	33.2	43.5	31%
Forest	2598.6	2591.6	<1%
Urban	1330.2	1327.3	<1%
Water	12.0	12.0	<1%
Wetlands	120.1	119.7	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

None identified at this time by the borough.

Demographics & Vulnerable Populations

Alpine Borough has an estimated total population of 1,449, with 4.7% of these residents estimated to be under 5 years of age, and an estimated 31.9% over age 65. The borough experienced an estimated -2.2% population loss between 2013-2017 and 2018-2022, a total loss of around 32 residents. With an aging population making up nearly one-third of the

borough population, though the population may be small, Alpine may focus hazard mitigation efforts toward populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

Alpine has two block groups designated as potentially socially vulnerable under New Jersey's overburden (OBC) criteria, due to indicators of population *Minority* status. These two block groups make up the entirety of Alpine Borough's area, making the municipality as a whole potentially vulnerable. No areas of Alpine Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	1,449
Population Change since 2017	-2.2%
Percent of Population Age < 5	4.7%
Percent of Population > 65	31.9%

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 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	
Wildfire	Winter Storm	Hurricane/Tropical Storm
	Drought	Lightning
		Nor'easter
		Extreme Temperatures
		Extreme Wind
		Landslide
		Flood
		Earthquake
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Terrorism
	Power Failure	Economic Disruption

Dam failure, storm surge, tornado, coastal erosion and wave action as N/A.

Hazard Ranking Explanation

The borough is home to substantial forested land, making it vulnerable to wildfire. As a result, it ranked wildfire as a hazard of high concern. However, notably, brush fires experienced within the borough's jurisdiction have been completely mitigated and stopped from spreading further.

The borough ranked drought as a hazard of medium concern due to its experience with drought in the fall of 2024, when a red flag warning was issued. However, the drought did not impact the borough's water supply at the time. Among human-made hazards, the borough ranked cyber attack as medium owing to its previous experience with a malware attack in 2022. As a result of the attack, the borough installed firewalls on its systems and instituted a cyber attack awareness program for its employees. Power failure was also ranked medium due to incidents of short-term outages caused by fallen trees on overhead wires.

Notably, unlike other towns in Bergen County, Alpine is not very vulnerable to flooding because it is situated in an elevated location.

Significant Hazard Events Since Last Plan Update

The borough experienced short-term flooding in isolated areas during Hurricane Ida in 2021. It did not experience any significant hazard events since Ida.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Alpine. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, further straining the borough's infrastructure and leading to more power outages. Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 32% population over 65. Alpine may also experience increased wildfires, as the vegetation becomes drier due to warmer and drier climate conditions. This may also increase the Borough's vulnerability to drought.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Alpine Borough	
Number of Policies In-Force:	0
Total Losses:	0
Total Payments:	0
Number of RL Properties:	0
Number of Mitigated RL Properties:	0
RL – Total Losses:	0
RL – Total Paid:	0
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 Borough of Alpine is primarily located adjacent to the Hudson River below the Palisades. Approximately 1.3% of the total area of Alpine lies within the 1% annual chance floodplain as defined by FEMA. Alpine contains no 0.2% annual chance floodplain.

About 32% of Alpine is considered developed. Of the developed parcels of the town, zero percent fall within the floodplain. 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
Developed Parcels	0.0	0.0
Exposed Land Area	1.3	0.0

During the planning process, Alpine Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	-	-



Flood Hazard

Alpine Borough

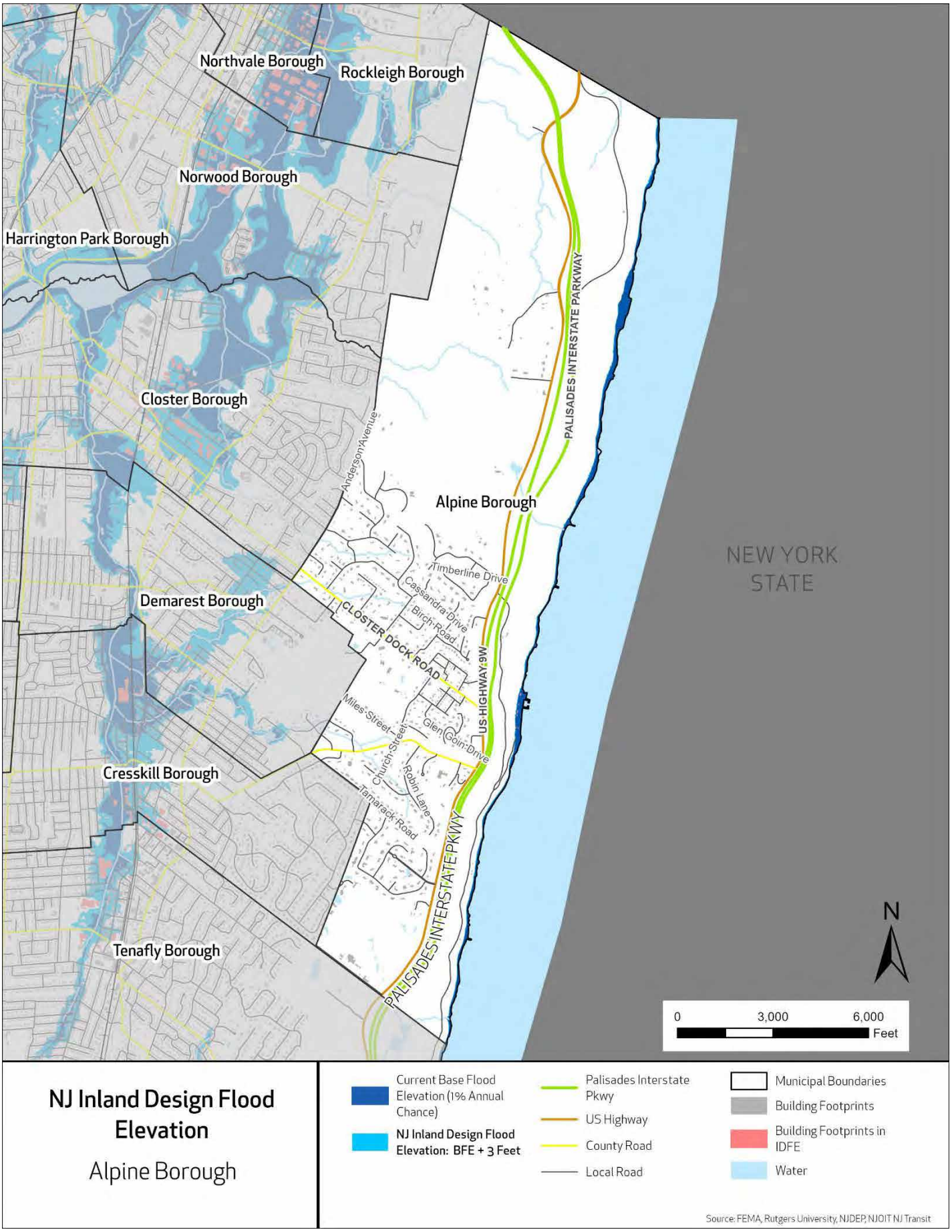
FEMA Flood Zone

- AE (1%)
- VE (1%)

- Palisades Interstate Pkwy
- US Highway
- County Road
- Local Road

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

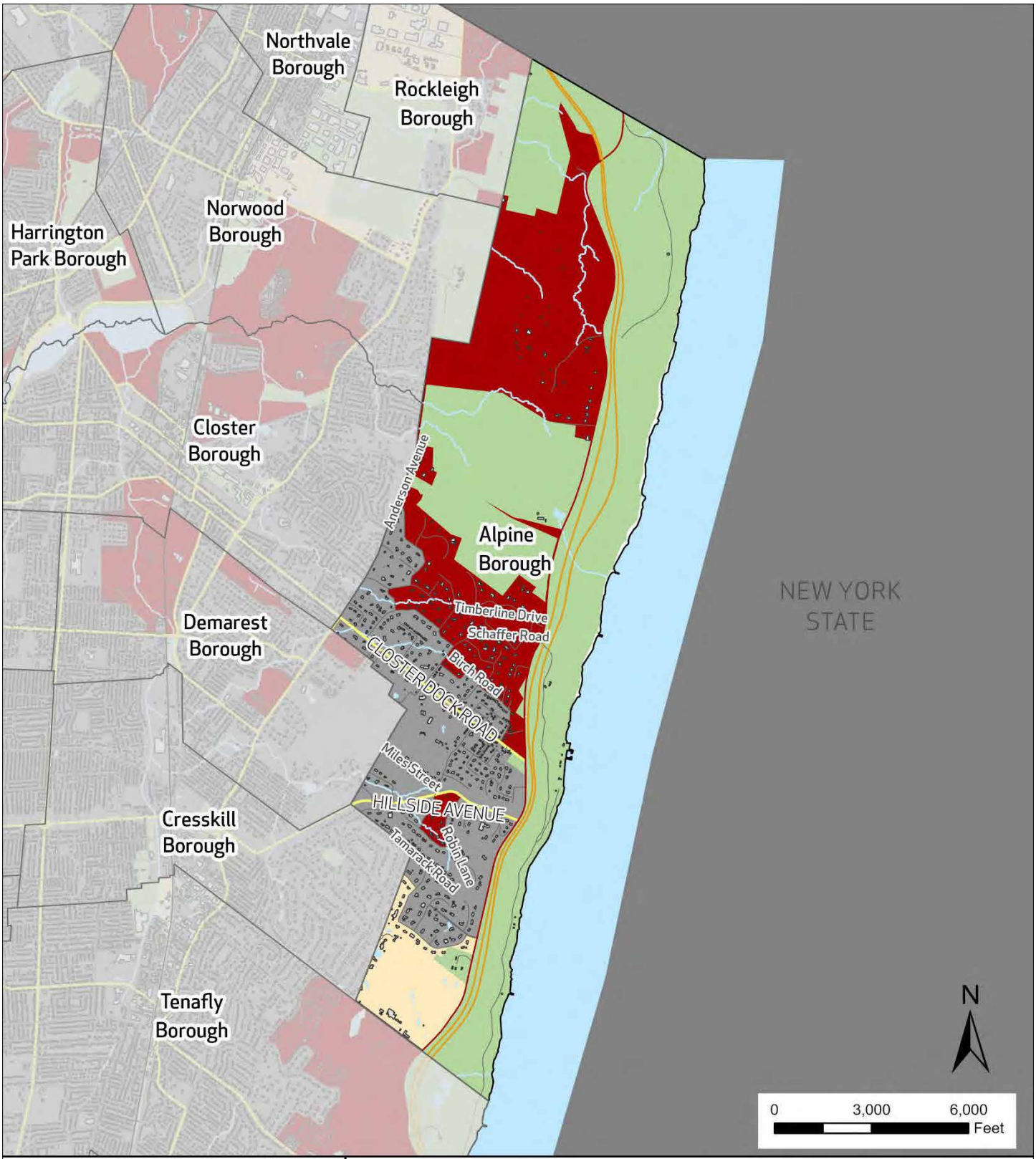


NJ Inland Design Flood Elevation

Alpine Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Palisades Interstate Pkwy
- US Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Wildland Urban Interface (WUI) Classification

Alpine Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- Palisades Interstate Pkwy
- US Highways
- County Roads
- Local Roads

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Alpine Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	
Floodplain Development Ordinance		X		
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			

Administrative and Technical Capabilities

Alpine Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Borough engineer is in charge of storm water management plan
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

Alpine Borough 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, Alpine Borough 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			
Other state municipal assistance or grant programs	X		CARES Act
Evaluation process on the prioritization of risk reduction projects against other local activities		X	
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Alpine has no plans within the next 5 years for any hazard mitigation improvement due to its extremely tight budget and no significant hazards to the borough.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
02-01	Wind-proof Cellular Infrastructure to Enhance Continuity of Emergency Communications	Wind proofing cellular infrastructure to enhance continuity of emergency communications.	Severe Weather	Low	Cellular provider with borough approval	Cellular Provider	$200,000.00	2 years	Completed	
02-02	Purchase and Install a Quick Connect Emergency Generator to Allow Traffic Signal to Operate Without Power	Purchase and Install a quick connect emergency generator to allow traffic signal to operate without power.	Severe Weather	Medium	Borough, County & State	FEMA HMA	$20,000.00	2 years	Completed	
02-03	Purchase and Install a Generator for Alpine Public School	Back-Up Power for the Primary Shelter (Alpine Public School). Provide primary shelter (Alpine Public School, 500 Hillside Avenue) with emergency electrical back-up power.	All Hazards	Low	Alpine BOE, Alpine Building Department	FEMA HMA, borough budget	$150,000.00	1 year	Completed	
02-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Currently, there are no RL/SRL properties in the Borough. However, if that changes within the next five years, coordinate with residents to elevate RL/SRL properties or buy out RL/SRL properties and convert to open space.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Hazard Mitigation Plan	FEMA HMA	TBD	5 + years	Completed	
02-05	Apply Soil Stabilization Measures, such as Planting Soil Stabilizing Vegetation, on Steep, Publicly-owned Slopes	Apply soil stabilization measures, such as planting soil stabilizing vegetation, on steep, publicly-owned slopes.	Geological Hazards	High	Borough of Alpine and Palisades Interstate Park Commission.	FEMA HMA	TBD	3 years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
02-06	Develop a Multi-disciplinary All Hazard Working Group	Develop a multi-disciplinary all hazard working group.	All Hazards	Medium	Alpine Borough	Municipal budget	TBD	1 year	Ongoing	
02-07	Install a Public Notification System for Emergencies	Clearly convey emergency notifications via public address.	All Hazards	Medium	Borough Administration, OEM	Municipal budget	$100,000.00	2 years	Ongoing	RAVE installed, with a significant number of borough residents signing up.
02-08	Inspect Bridges, Culverts, and Basins to Ensure Fully Operational	Ongoing inspections is needed to ensure bridges, culverts, retention basins, and other stormwater control structures are fully operational and properly maintained.	Flood	Low	Alpine Engineering, DPW	Municipal budget	TBD	2 years	Ongoing	Inspection takes place on a yearly basis.

3 – BERGENFIELD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Ryan Shell	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
Corey Gallo	Borough Administrator	Attended Municipal Meeting
Rob Giacomelli	DPW Supervisor	Attended Municipal Meeting
Robert Keady Jr.	Borough Engineer	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

Bergenfield Borough has a total area of 2.9 square miles and is located in the northern valley of Bergen County, New Jersey. The borough borders the Bergen County municipalities of Cresskill, Dumont, Englewood, New Milford, Teaneck, and Tenafly. There are no major highways within the Bergenfield Borough, although the CSX freight rail line bisects the borough north-to-south. Small brooks traverse through the borough connecting the Oradell Reservoir in the north to the borough's Cooper's Pond and feeding into creeks that lead to the Hackensack River in the south. The population of the borough is about 28,000 residents. Bergenfield is not a coastal community, as it is situated inland and does not have direct access to the ocean or coastal waters.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Bergenfield is primarily a residential community, with the MOD-IV dataset showing residential land use accounted for 70% of the total land area in 2022. Commercial and civic/public (tax exempt) land uses also make up significant portions, comprising 16% and 13% of the total land area in the same year. Most land uses in the borough showed negligible change between 2016 and 2022.

Additionally, according to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the area categorized as urban occupied the largest share of land use making up nearly 79% of the area in 2020, followed by wetland and forest categories at 10% and 8.8% respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.0	2.7	-
Forest	40.5	40.9	1%
Urban	371.0	367.9	-1%
Water	5.9	5.9	0%
Wetlands	46.3	46.3	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Recent development in the borough includes a development of about 30 units on Home Place, as well as North Washington Square at Hickory, which completed construction in 2021 and contains about 60 units. Neither development is located within the floodplain.

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

Several areas in the borough have been designated as redevelopment areas. Including two areas with redevelopment plans, Washington Avenue and Main Street as well as West Church Street. The plans include the construction of multi-family residential mixed-use buildings, with ground-floor retail and a mandatory 20% set aside for affordable housing,

totaling a maximum of 220 units. In addition to these two areas with redevelopment plans, there are several designated areas in need of redevelopment in Bergenfield, one of which (Area G) is located within the floodplain.

Demographics & Vulnerable Populations

Bergenfield Borough's total population is estimated at 28,223, with 6.3% under 5 years of age, and 17.2% over age 65. The borough saw modest population growth (an estimated 1.9%) between 2013-2017 ACS survey and 2018-2022 survey periods.

Bergenfield has twenty-one block groups meeting *Minority* (twenty block groups) and *Low Income and Minority* (one block group) criteria to be classified as potentially socially vulnerable due to overburden (OBC). These block groups make up the majority of Bergenfield's total area, with the exception of one block group to the borough's southwest. One tract within the borough meets CEJST criteria for potential vulnerability based on *Workforce Development* indicators. No areas of Bergenfield Borough meet designation criteria for CDRZ identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	28,223
Population Change since 2017	1.9%
Percent of Population Age < 5	6.3%
Percent of Population > 65	17.2%

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

Coastal Erosion, Storm Surge, and Wave Action are ranked as N/A.

Hazard Ranking Explanation

Coastal Erosion, Storm Surge, and Wave Action are ranked as N/A (not applicable) as Bergenfield is an inland community without any tidally influenced waters.

Lightning is ranked low. Recently, a lightning strike hit a cell tower causing some issues; however, the borough has detection systems around town. Dam failure is ranked as low—the only dam Spillway at Coopers Pond; failure would cause it to drain into Hirschfield Brook, which could have impacts in the borough. Power failure is also ranked as low. The power utility in the area has made recent improvements to the power grid but still has some isolated issues. Winter storms are ranked medium due to frequency. The planning team estimates that significant winter storms occur about once a year.

Significant Hazard Events Since Last Plan Update

Hurricane Ida was the most significant hazard event since the last plan update. During and following the storm, Bergenfield experienced roadway flooding, as well as flooding of homes and properties, it was reported that a couple houses moved off the foundation. The planning team reports that during the event, areas which do not typically flood experienced flooding. Typically flooding in the borough is not catastrophic and is usually confined to basements and some minor roadway flooding in areas including Deerfield Street, Grove Street near John L O'Kane Park, Washington Ave where the brook goes under the Avenue.

In addition to Ida, the borough has experienced occasional flooding from cloudburst events resulting in homes and properties flooded. Officials report that these types of events have increased in frequency.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Bergenfield. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. Although the borough currently reports that flood impacts are less catastrophic than other areas in Bergen County, flooding has the potential to worsen, exacerbating existing vulnerabilities, particularly in areas prone to flooding. Additionally, potential future development identified by the borough (such as in designated Redevelopment Zone G, which is located within the existing floodplain) or development upstream within the watershed, could increase the amount of runoff entering the borough's streams. Actions identified by the borough's mitigation strategy such as drainage improvements (action 03-06 and 03-07) should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Bergenfield Borough	
Number of Policies In-Force:	78
Total Losses:	171
Total Payments:	$1,204,325.25
Number of RL Properties:	7
Number of Mitigated RL Properties:	0
RL – Total Losses:	16
RL – Total Paid:	$218,452.50
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 Borough of Bergenfield is primarily located adjacent to the main waterbodies in the borough: Hirshfield Brook, Cooper Pond, and Metzler Brook. Approximately 4.7 percent of the total area of

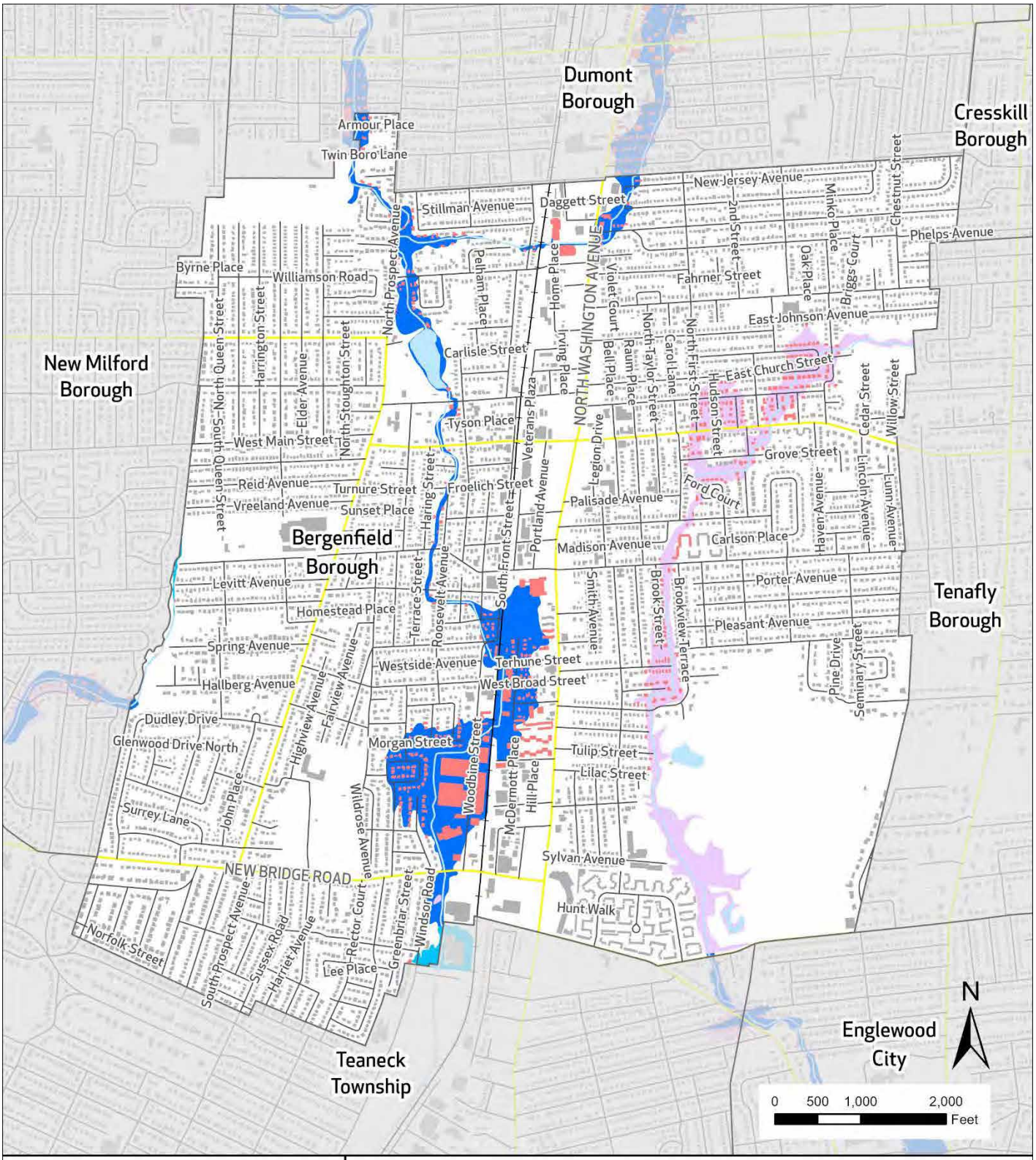
Bergenfield lies within the 1% annual chance floodplain as defined by FEMA. An additional 3.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 75.5 percent of Bergenfield is considered developed. Of the developed parcels of the town, 5.2 percent fall at least partially within the 1% annual chance floodplain and 4.4 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	5.2%	4.4%
Exposed Land Area	4.7%	3.1%

During the planning process, Bergenfield Borough 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 13 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



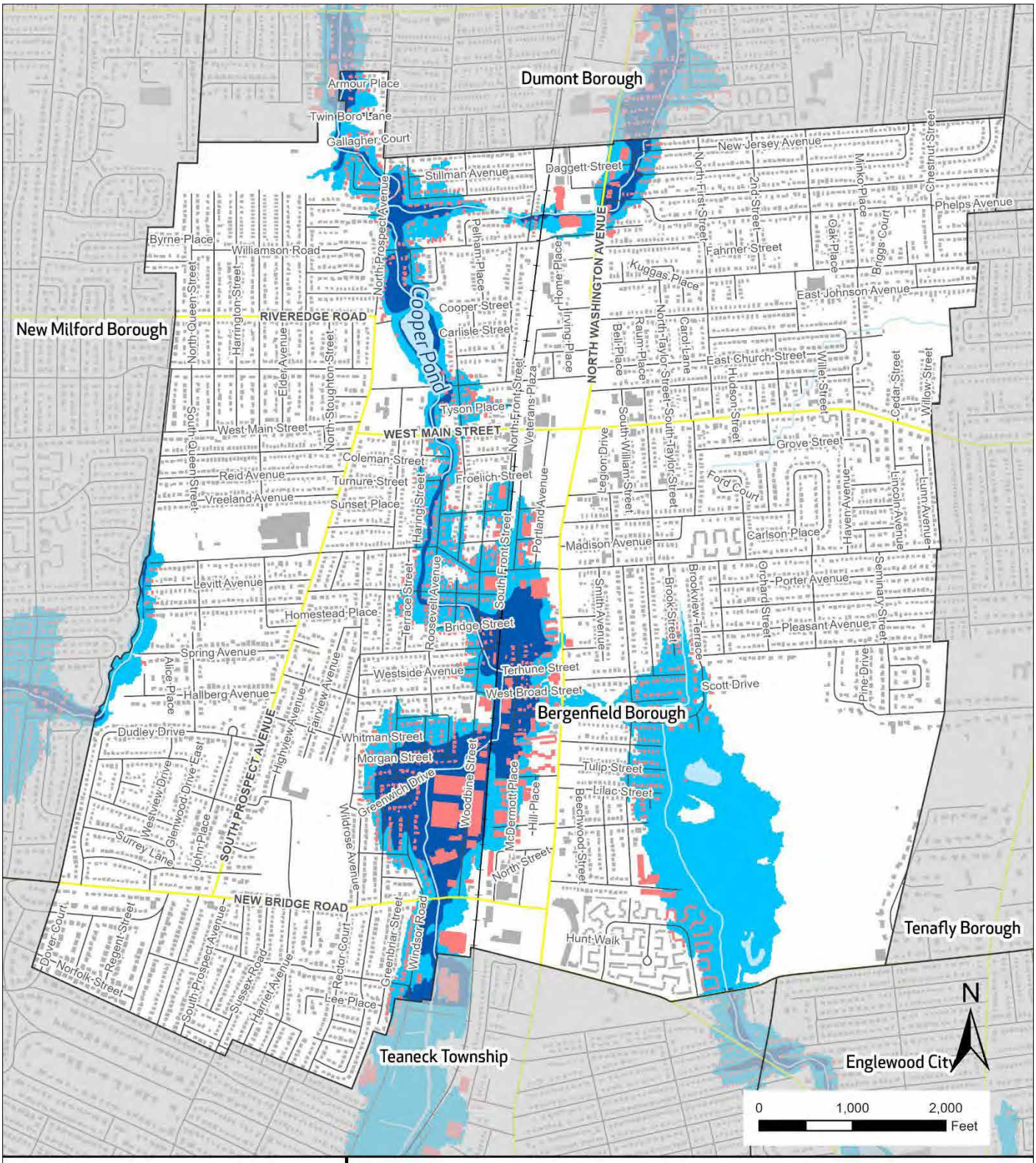
Flood Hazard

Bergenfield Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- County Road
- Local Road
- Rail Line
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Dumont Borough
New Milford Borough
Bergenfield Borough
Tenafly Borough
Teaneck Township
Englewood City
Armour Place
Twin Boro Lane
Gallagher Court
Stillman Avenue
Daggett Street
New Jersey Avenue
North First Street
2nd Street
Minko Place
Chestnut Street
Phelps Avenue
Byrne Place
Williamson Road
North Prospect Avenue
Pelham Place
Fahrner Street
Oak Place
Briggs Court
Kuggas Place
East Johnson Avenue
Cooper Pond
Cooper Street
Carlisle Street
RIVEREDGE ROAD
North Queen Street
Harrington Street
Elder Avenue
Irving Place
Home Place
NORTH WASHINGTON AVENUE
Bell Place
Raum Place
North Taylor Street
Carol Lane
East Church Street
Willet Street
Cedar Street
Willow Street
Tyson Place
North Front Street
Veterans Plaza
South Queens Street
West Main Street
North Stoughton Street
WEST MAIN STREET
Coleman Street
Reid Avenue
Turnure Street
Froelich Street
Vreeland Avenue
Sunset Place
Haring Street
Portland Avenue
South Front Street
Legion Drive
South William Street
South Taylor Street
Hudson Street
Grove Street
Ford Court
Lincoln Avenue
Lunn Avenue
Haven Avenue
Carlson Place
Madison Avenue
Levitt Avenue
Homestead Place
Terrace Street
Roosevelt Avenue
Bridge Street
Smith Avenue
Brook Street
Brookview Terrace
Orchard Street
Porter Avenue
Pleasant Avenue
Seminary Street
Pine Drive
Spring Avenue
Alice Place
Hallberg Avenue
Fairview Avenue
Westside Avenue
Terhune Street
West Broad Street
Scott Drive
Dudley Drive
Highview Avenue
SOUTH PROSPECT AVENUE
Whitman Street
Morgan Street
Woodbine Street
Tulip Street
Lilac Street
Beechwood Street
Hill Place
McDermott Place
Greenwich Drive
Wildrose Avenue
Westview Drive
Glenwood Drive East
John Place
Surrey Lane
North Street
NEW BRIDGE ROAD
Windsor Road
Hunt Walk
Dover Court
Regent Street
Norfolk Street
South Prospect Avenue
Sussex Road
Harriet Avenue
Rector Court
Greenbriar Street
Lee Place
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Bergenfield Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Bergenfield Borough 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		2024	
Capital Improvement Plan				
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance	X		2025	
Floodplain Management Plan	X		2025	
Stormwater Management Ordinance	X		2023	
Stormwater Management Plan	X		2023	
Watershed Management Plan				
Sheltering Plan	X		2024	
Evacuation Plan	X		2024	
Substantial Damage/Improved Structures Response	X		2023	
Repetitive Loss Plan	X		2025	Repetitive loss information in the area of Metzlers Brook
Disaster Debris Management Plan				
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			Hazard mitigation information in the area of Metzlers Brook
Other ordinance and regulation that mitigate the impacts of natural hazards	X		2025	Adoption of new floodplain ordinance

Administrative and Technical Capabilities

Bergenfield Borough 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

Bergenfield Borough 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, Bergenfield Borough has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC	X		The Borough has been working with a BRIC grant to identify means of flood mitigation
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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, Bergenfield Borough has focused its mitigation strategy on improving stormwater management and enhancing emergency response capabilities. Over the next five years, the borough plans to complete target hardening, improve drainage infrastructure, and mitigate potential flooding caused by blockages at Metzler's Brook.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
03-01	Purchase and Install an Emergency Generators for Critical Facilities Used as Shelters	Purchase and Install an Emergency Generators for Critical Facilities.	All Hazards	Medium	Bergenfield Borough	Municipal budget	$200,000	1 year	Complete	New Borough Hall has new backup generator, portable generator for old building can be used in any facility that needs power e.g. DPW. Fire houses, EMS, communications buildings all have generators.
03-02	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Personnel, and/or Bulletproof Glass	Obtain additional surveillance equipment, such as cameras, bollards, and fencing for Municipally owned Critical Facilities	Terrorism	Medium	Borough	Homeland Security grants	TBD	1 year	Complete	New Borough Hall has implemented security measures such as those outlined including bulletproof glass.
03-03	Purchase and Install Redundant Communication Systems for Emergency Response to Support Continuity of Operation	Purchase and install redundant communication systems for emergency response to support continuity of operations.	All Hazards	Medium	Borough	Municipal Budget	$10,000	1 year	Complete	
03-04	Purchase and Install an Outdoor Warning System That Can be Used as a PA System	Purchase and Install an Outdoor Warning System that can be used as a PA System.	All Hazards	Medium	Bergenfield Borough	Municipal budget	TBD	4 years	Withdrawn	The borough does not believe that an outdoor warning system is necessary as it has other warning systems in place which it believes are adequate.
03-05	Purchase Emergency Repair Equipment to	Purchase equipment to support continuity of operations and removal of debris, including trash pumps,	All Hazards	Medium	Bergenfield Borough	Municipal budget	TBD	4 years	Complete	Borough has tub grinder, trash pump and loaders

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Support Continuity of Operations	tub grinders, Tink roll-out buckets, and loaders.								

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
03-06	Repair Catch Basins, Storm Sewers, and Drainage System in Conjunction with the Borough's Annual Roadway Improvement Projects	To improve stormwater control in the borough, catch basins, storm sewers, and drainage needs to be repaired and/or improved as necessary in conjunction with the borough's annual roadway improvement projects. Stormwater control on country roads needs to improve. Funding issues have delayed completion of action.	Flood	Medium	Bergenfield Borough and Bergen County	Municipal budget, County budget	TBD	1 year	Ongoing	Continuously ongoing
03-07	Construct Drainage Improvements at Veterans Memorial Park	Three underground retention chambers were installed at Veterans Memorial Park, but the drainage system has not been connected to the borough's storm sewer system to date. Flooding persists on Wildrose Avenue. Need to dig a trench from street to the parking	Flood	Medium	Bergenfield Borough	Capital Improve-ments Budget	$450,000	1 year	Ongoing	This is a 2025 project, will likely be complete before Fall.
03-08	Construct Storm Sewer Improvements for New Bridge Road and Windsor Road	Hydrologic and hydraulic analysis of the drainage area and storm sewer has been performed, however additional funding is needed to complete the project. Coordinate with	Flood	High	Bergenfield Borough, Bergen County	FEMA HMA, Borough funds, County budget	TBD	2 years	Ongoing	No progress

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		the county on county roads.								
03-09	Coordinate with the county on Dredging and Desnagging Waterways	Dredge and desnag streams, brooks, and canals located throughout the borough to mitigate potential flooding cause by blockages and loss of capacity.	Flood	Low	Bergenfield Borough	Municipal budget	$1M	1 year	New	Many meetings have occurred regarding this action. Five towns in the region have joined to advocate for desnagging of Metzler's Brook. Working with DEP to get permitting
03-10	Purchase Light Towers, Movable Barriers (Yodock), and Variable Messaging Signs to Assist Pre-and Post-disaster	Purchase the necessary equipment in the event of flooding or other emergency events such as light towers, backup batteries, generators, and moveable barriers.	All Hazards	Medium	Bergenfield Borough	Homeland Security grants, municipal budget	TBD	1 year	Ongoing	No progress
03-11	Purchase and Install Extra Storage Tanks for Fuel Used for Generators and Continuity of Operations	Purchase and install emergency generators for critical facilities, including the borough library, three fire houses, police station(s), schools, and borough Hall. If generator is diesel, look into storage for fuel.	All Hazards	Low	Bergenfield Borough	Municipal budget	TBD	1 year	Ongoing	No progress
03-12	Target Harden Places of Worship by Installing Surveillance Cameras and Offer Active Shooter Training	Increase security and surveillance equipment and offer active shooter training for all places of worship located in the Borough.	Terrorism	Medium	Bergenfield Borough	Homeland Security grants	TBD	1 year	Ongoing	No progress
03-13	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe	Mitigate repetitive loss and severe repetitive loss properties by acquiring the properties through the Blue Acres program, demolishing the property, elevating the property, or if the homeowner does	Flood	High	Bergenfield Borough	FEMA HMA, Borough Funds	$1M	2 years	Ongoing	The Borough does not have a significant amount of RL and SRL properties, but this remains a priority.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Repetitive Loss (SRL) Properties	not wish to vacate the property or elevate								
03-14	Coordinate with County to Improving Drainage Infrastructure Along County Routes within the Municipality	Coordinate with County on improving drainage infrastructure for stormwater along County Routes within the Municipality.	Flood	Medium	Bergen County	FEMA HMA, County budget, municipal budget, DOT, NJTPA	$1M	5 + years	Ongoing	No Progress
03-15	Coordinate with the County to Purchase and Install Battery Backup/Mobile Generator Hookups for Traffic Signals	Purchase and Install Battery Backups/mobile generator hookups for Traffic Signals. Coordinate with County for any county-controlled traffic Signals.	All Hazards	Medium	Bergenfield Borough, Bergen County	Homeland Security grants	TBD	3 years	Ongoing	No Progress
03-16	Target Harden Communication Towers with Fencing and Surveillance Systems	Target Harden Communication Towers with fencing and surveillance systems.	Terrorism	Medium	Bergenfield Borough	Homeland Security grants	$300,000	5 + years	Ongoing	In progress and should be completed in 2025.
03-17	Purchase Drones to Mitigate Losses during a Hazardous Event Related to a CSX-line Explosion	Purchase drones to help mitigate losses during a hazardous event related to a CSX line explosion.	Terrorism	Low	Bergenfield Borough	Homeland Security grants, municipal budget	TBD	5 + years	Ongoing	No progress

4 – BOGOTA BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Robert Foster	**OEM Coordinator, Rescue Chief**	**Primary Contact. Municipal Meeting**
Geoffrey Cole	Police Department Lieutenant	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Bogota has a total area of 0.76 square miles and is located in central Bergen County, New Jersey. It borders the Bergen County municipalities of Hackensack, Ridgefield Park, and Teaneck, with the Hackensack River forming the borough's western border. The NYSW Railway runs along Bogota's western edge near the river, while the CSX railway divides it into eastern and western portions. Bogota is largely developed. It is not considered a coastal community, as it does not have direct access to the ocean. It has a population of roughly 8,778 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Bogota is a predominantly residential community with residential (including apartment) use accounting for 68% of its area, covering nearly 252 acres of land in 2022. In the same year, civic/public (tax exempt), commercial, industrial, and railroad property were the other significant land uses, making up 11%, 7%, 6%, and 6%, respectively. Between 2016 and 2022, there was a 9-acre increase in industrial land, along with a miniscule increase in vacant land, which accounted for 1% of its total area in 2022.

The substantial share of residential land use followed by civic/public (tax exempt), commercial, industrial, and railroad property use is reflected in NJDEP's land use/land cover data as well; in 2020, urban/developed land constituted nearly 90% of the Bogota's total area. Water, barren land, and forest land followed, accounting for 5%, 3%, and 2% respectively of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	6.9	14.0	103%
Forest	9.4	9.1	-3%
Urban	467.3	460.5	-1%
Water	28.1	28.1	<1%
Wetlands	0.0	0.0	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Two large residential developments have come up in the borough since the last plan, 'The Atwater' and 'The Gabriel'. Among these, The Atwater, a 430-unit residential complex was built at 1000 W Fort Lee Road, in a regulatory floodplain. However, it was elevated by three feet to mitigate flooding. Meanwhile, the Gabriel, a recently built 220-unit apartment complex located at 51 Queen Anne Road, is not in a floodplain.

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

No major development in the next five years is anticipated by the borough. Four townhome projects on Fort Lee Road have been approved but these are not large developments. These townhomes will not be located in a flood zone.

Demographics & Vulnerable Populations

Bogota Borough's total population is an estimated 8,940, 5.5% of which is estimated to be under age 5, and 16.7% of which is over age 65. The borough experienced a nearly 6% (an estimated 5.96%) population growth in the periods

between 2013-2017 and 2018-2022. A population growth rate of nearly six percent can indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

The entirety of Bogota Borough, six census block groups, meet overburden (OBC) criteria for *Minority* population indicators. No areas of Bogota meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	8,940
Population Change since 2017	6.0%
Percent of Population Age < 5	5.5%
Percent of Population > 65	16.7%

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

Landslide and wave action were ranked as N/A.

Hazard Ranking Explanation

The entire southeastern part of the borough frequently floods during heavy rainfall. As a result, Bogota ranked flood as a hazard of high concern.

The borough ranked hurricanes and nor'easters as hazards of medium concern; while Hurricane Ida was damaging for the borough, it did not experience any recent hurricanes or nor'easters. Apart from flooding, the borough is impacted by extreme wind during storm events which causes old trees to fall, along with lightning strikes. As a result, the borough ranked both extreme wind and lightning as hazards of medium concern. Additionally, since 2021, the borough has experienced extreme temperatures leading to the opening of cooling and heating centers for seniors twice since 2021. Consequently, extreme temperatures has also been ranked as a hazard of medium concern.

Out of the human-made hazards, cyber-attack is a hazard of medium concern because of Bogota's previous experiences with hacking and phishing attacks; two years ago, the computer systems of the borough were hacked, giving rise to several

software issues. Terrorism was also ranked medium because of the borough's proximity to New York City and the presence of several key bridges within its jurisdiction.

Significant Hazard Events Since Last Plan Update

Hurricane Ida in 2021 was the last significant hazard to impact the borough; the entire southeastern part of the town was flooded, with properties on Fairview Avenue and Fisher Avenue being particularly impacted. A senior housing complex on Leonia Avenue experienced flooding during Hurricane Ida.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Bogota. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This is likely to exacerbate existing vulnerabilities, particularly flooding in the western part of the borough. This part lies in the 1% floodplain.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 17% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Bogota Borough	
Number of Policies In-Force:	9
Total Losses:	29
Total Payments:	$533,409.13
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	4
RL – Total Paid:	$51,272.73
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	7
SRL – Total Paid:	$187,702.17

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

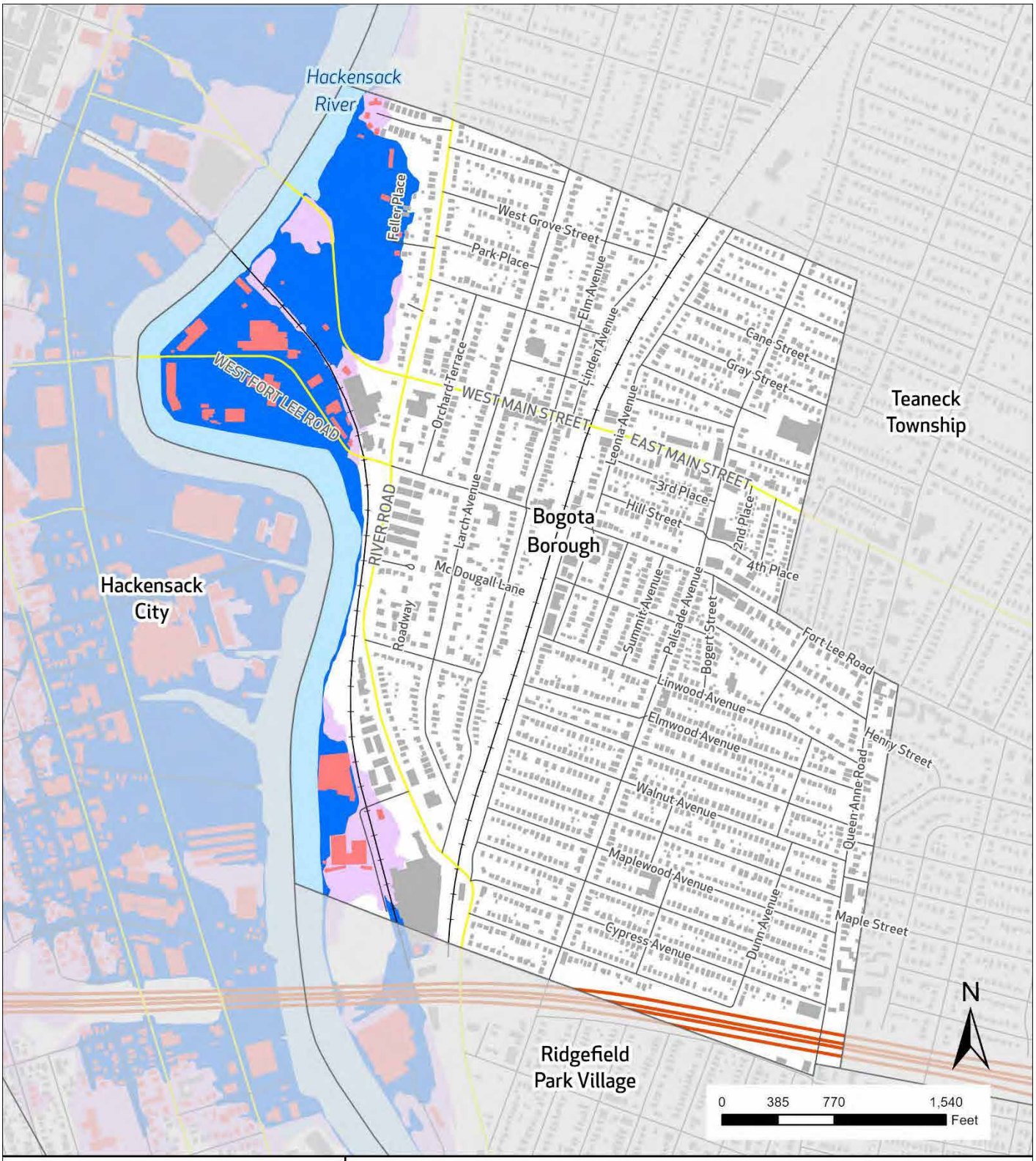
The Special Flood Hazard Area (SFHA) in the Borough of Bogota is primarily located adjacent to the Hackensack River. Approximately 15.7 percent of the total area of Bogota lies within the 1% annual chance floodplain as defined by FEMA. An additional 3.2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 69.7 percent of Bogota is considered developed. Of the developed parcels of the town, 2 percent fall at least partially within the 1% annual chance floodplain and 1.4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	2.0	1.4
Exposed Land Area	15.7	3.2

During the planning process, Bogota Borough 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 14 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is located within the 1% floodplain. This facility is also within the area at risk from sea level rise. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	1	-



Flood Hazard

Bogota Borough

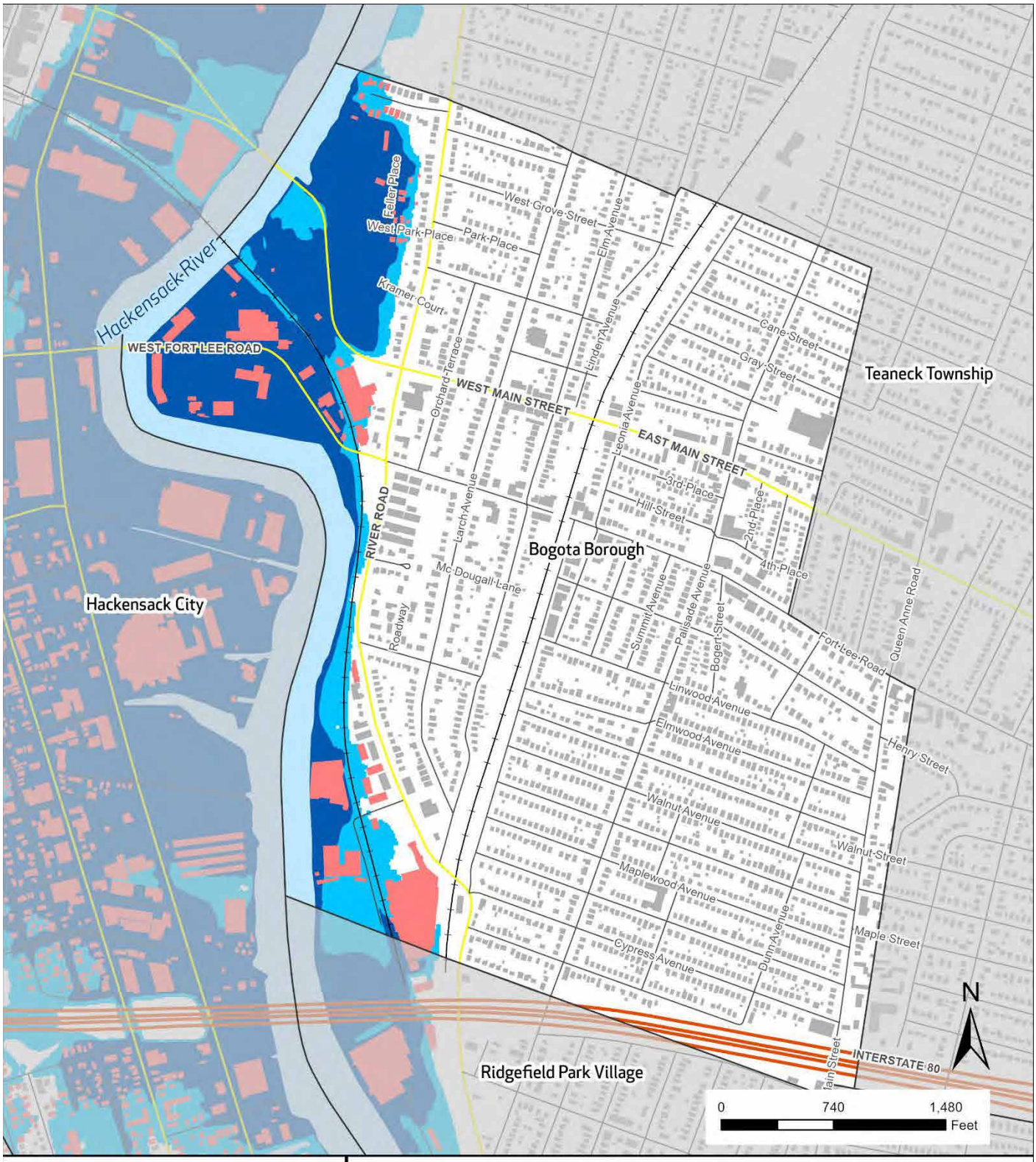
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- Interstate Route
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Bogota Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Interstate Route
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Bogota Borough 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	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan		X		
Stormwater Management Ordinance		X	3/21/2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Building Department or Planning & Zoning Board is responsible for response
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Tracked by Mayor, Council, Zoning Board, and Building Department
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Ordinance 851 provides the basis for establishing areas of special flood hazard.

Administrative and Technical Capabilities

Bogota Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Based on Muni Code 20-6.3, the Construction Official is responsible for reviewing proposed development for floodplain concerns.
Grant Writer	X		
Staff trained to support mitigation			
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

Bogota Borough 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, Bogota Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Bogota has been working with Bergen County over the past few years to mitigate the storm water issue at Elm Ave and River Rd. No progress has been made yet.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
04-01	Coordinate with the County to Construct Olsen Park Ditch Drainage Enhancements and Construct a Retaining Wall Along Railroad and Creek	Rehabilitation to the adjacent embankments to prevent undermining and reduce or eliminate erosion and construct a retaining wall along the railroad and creek. Need a discussion with Bergen County Engineers Office as to future inspection of roadway and embankment request.	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm	Mediu m	Borough of Bogota/Berg en County, Borough Engineering	FEMA HMA, Borough Funds, County budget	TBD	2 years	Withdrawn	A football field was recently built in the area.
04-02	Construct a Retaining Wall Along Railroad and Creek	Construct a retaining wall along the railroad and creek.	Flood, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering	FEMA HMA. Homeland Security Grants, Borough Funds, County Budget	TBD	1 year	Withdrawn	Combined with Mitigation Action 14-03
04-03	Target Harden Critical Facilities by Installing or Upgrading Surveillance Camera Systems	Upgrade camera system at the schools. Purchase and install cameras along the railroad/roadway intersections and at the EOC.	Terrorism	Mediu m	Borough Administrati on	Homeland Security grants, municipal budget	TBD	1 year	Complete	School cameras have been upgraded.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
04-04	Replace Elm Avenue Culverts	Bogota conducted outreach to affected homeowners and area businesses and is ready to repair culverts that cause the most flooding damage.	Flood	Medium	Borough of Bogota/Bergen County	FEMA HMA, Homeland Security Grants, Borough Funds, County Budget	$4,000,000.00 - $5,000,000.00	2 years	Ongoing	No progress. The authorities responsible for replacing the culverts have not yet been identified, because the culverts run through Borough, County and Federal land.
04-05	Purchase and Install Offsite Data Storage for Backup of Critical Municipal Electronic Information Systems	Acquire off site data storage and complete digitization of critical records.	Cyber Attack	Medium	Borough of Bogota	Homeland Security grants, municipal budget	$41,000 - $48,000	2 years	Ongoing	No update
04-06	Purchase and Install Backup Generators for Traffic Signals	Purchase and install generators for traffic lights, such as the intersections of E. Main & Larch Ave.; W. Main & Elm; River Rd. & W. Main St.; River Rd. & Fort Lee Rd.; Palisade Ave & E. Main St.; and Palisade Ave & Fort Lee Rd. Coordinate with County on	All Hazards	Medium	Bergen County and Borough of Bogota	FEMA HMA	$41,000 - $48,000	3 years	Ongoing	Traffic signals are located at County intersections; County will be responsible for purchasing and installing the backup generators.
04-07	Purchase and Install a Flood Warning Alert System for Elm Ave. and River Rd.	Purchase and install an alarm system at Elm Ave. and River Rd to alert drivers of flooded streets.	Flood, Hurricane and Tropical Storm, Severe Weather	Medium	Borough	Municipal budget	$80,000.00	1 year	Ongoing	River Road is a county road.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
04-08	Dredge Hackensack River	Dredge Hackensack River to mitigate county-wide flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	NJDEP	Superfund funding, Municipal budget	TBD	10 years	Ongoing	No progress.
04-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough and its residents	FEMA HMA	TBD	5 + years	Ongoing	No progress. Homeowners have not expressed interest so far to acquire, elevate or flood-proof their properties.
04-10	Floodproof, Elevate, or Relocate the DPW Garage Out of SFHA	The DPW Yard needs to be protected against flooding from the Hackensack River.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Bogota	FEMA HMA, Municipal budget	TBD	2 years	Ongoing	No progress. DPW Yard is located on a wetland.

5 – CARLSTADT BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Hernan Lopez	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
Robert Healey	OEM Deputy	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Carlstadt spans approximately 4.2 square miles and is located in southern Bergen County, New Jersey. It lies near the Hackensack River, providing a scenic waterbody close to the borough. Carlstadt is bordered by the Meadowlands Sports Complex, which hosts MetLife Stadium and the Meadowlands Racetrack. Key transportation routes include the New Jersey Turnpike (I-95) and Route 17, facilitating easy access to and from the area. Carlstadt is a small but vibrant community with a population of 6,341 residents. Carlstadt is not considered a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Carlstadt is primarily a residential community, with the MOD-IV dataset showing residential (including apartment) land use accounted for 61% of the total land area in 2022. Industrial and commercial land uses also make up significant portions, comprising 16% and 10% of the total land area in the same year. From 2016 to 2022, the land use composition remained roughly the same.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	-	-	-
Barren Land	43.7	23	-47%
Forest	53.1	51.5	-3%
Urban	1356.7	1379.5	2%
Water	486.5	388.3	-20%
Wetlands	750.5	848.3	13%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

At 333 Washington Ave., a 100,000-square-foot industrial building for modern logistics is being developed by Goodman. The two-acre parcel was home to an aging 40,000-square-foot building. This parcel is in the floodplain.

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

None identified

Demographics & Vulnerable Populations

Carlstadt Borough has an estimated total population of 6,341. Of these residents, an estimated 4.5% are under age 5, and 16.2% are estimated to be over age 65. The borough saw a modest growth between recent ACS periods, with a population gain of an estimated 1.2%. With an aging population making up over sixteen percent of the borough population, Carlstadt may focus hazard mitigation efforts toward populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

Carlstadt has two block groups which meet criteria for overburden (OBC) due to *Minority* indicators. These block groups are in Carlstadt's far western portion. No areas of Carlstadt meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	6,341
Population Change since 2017	1.2%
Percent of Population Age < 5	4.5%
Percent of Population > 65	16.2%

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

Coastal erosion and dam failure were ranked as N/A.

Hazard Ranking Explanation

Extreme temperatures are a concern for the borough because of its high senior population. There may be a need for cooling/warming facilities. Extreme winds is ranked low because the borough conducts tree maintenance to mitigate risk. Winter storm risk is ranked as medium because snow removal is difficult to do with on street parking. Terrorism is also ranked as medium due to potential targets located in Carlstadt.

Significant Hazard Events Since Last Plan Update

A retaining wall failed during rainfall caused by Ida in 2021. Heavy rainfall in December 2023 led to flooding in the borough.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Carlstadt Borough	
Number of Policies In-Force:	9
Total Losses:	79
Total Payments:	$6,103,670.70
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	15
RL – Total Paid:	$418,824.87
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	30
SRL – Total Paid:	$642,337.50

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

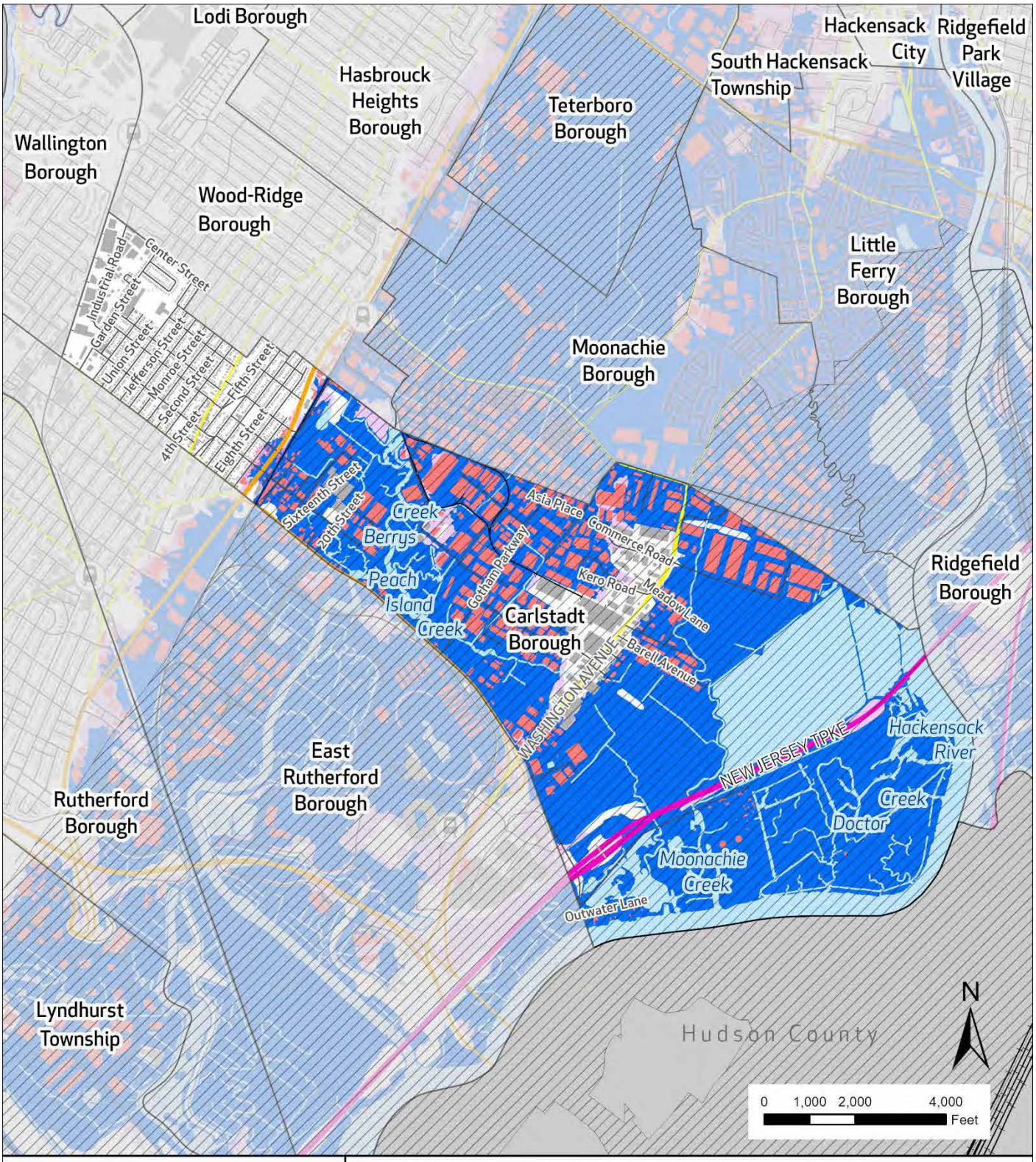
The Special Flood Hazard Area (SFHA) in the Borough of Carlstadt is primarily located within the wetlands in the eastern portion of the borough within the Meadowlands District. Approximately 77.4 percent of the total area of Carlstadt lies within the 1% annual chance floodplain as defined by FEMA. An additional 3.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 59.4 percent of Carlstadt is considered developed. Of the developed parcels of the borough, 24.1 percent fall at least partially within the 1% annual chance floodplain and 6.2 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	24.1	6.2
Exposed Land Area	77.4	3.6

During the planning process, Carlstadt Borough 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 five total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is located within the 1% floodplain. This facility is also within the area at risk from sea level rise. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Safety and Security	1	-	1



Flood Hazard

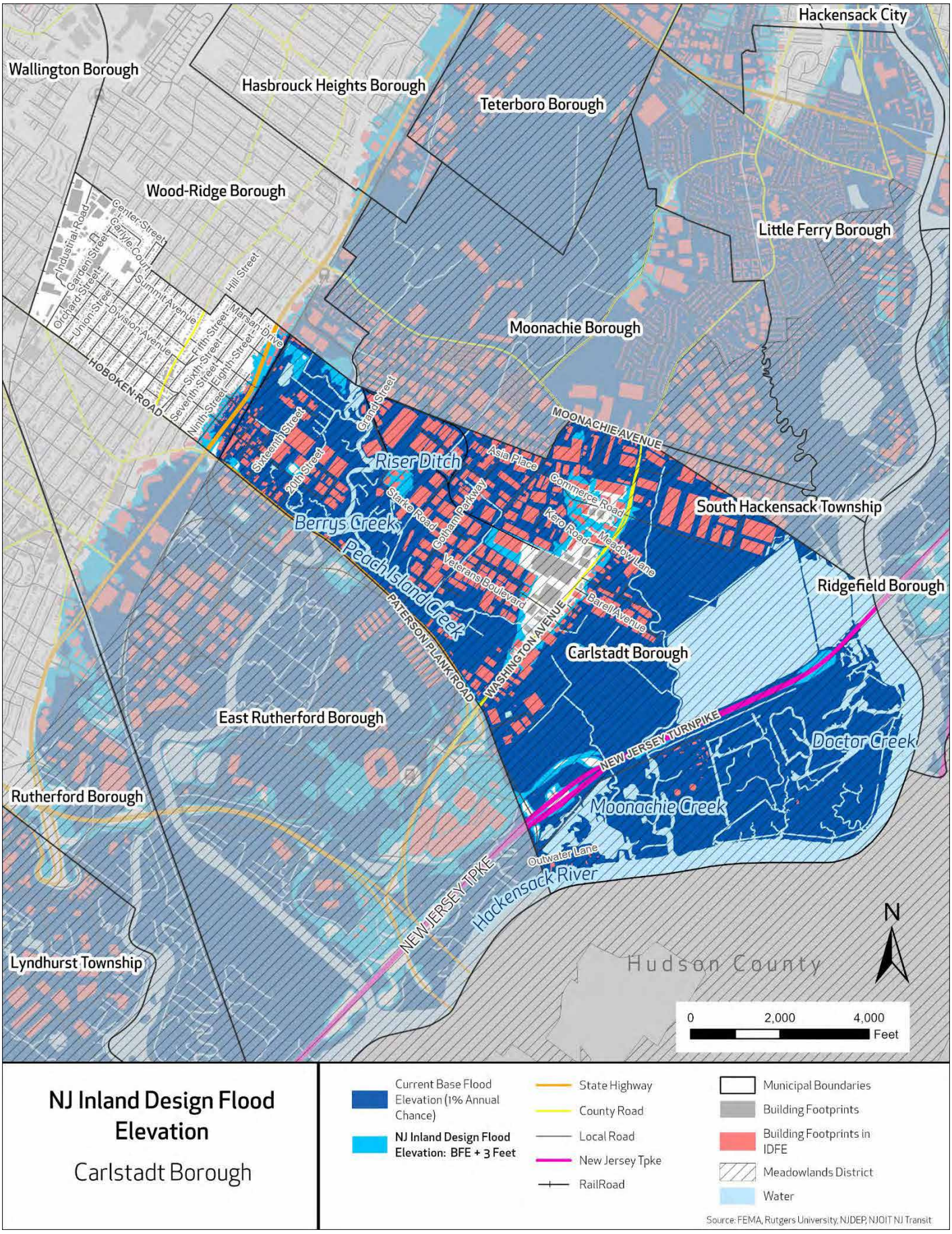
Carlstadt Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- New Jersey Tpke
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

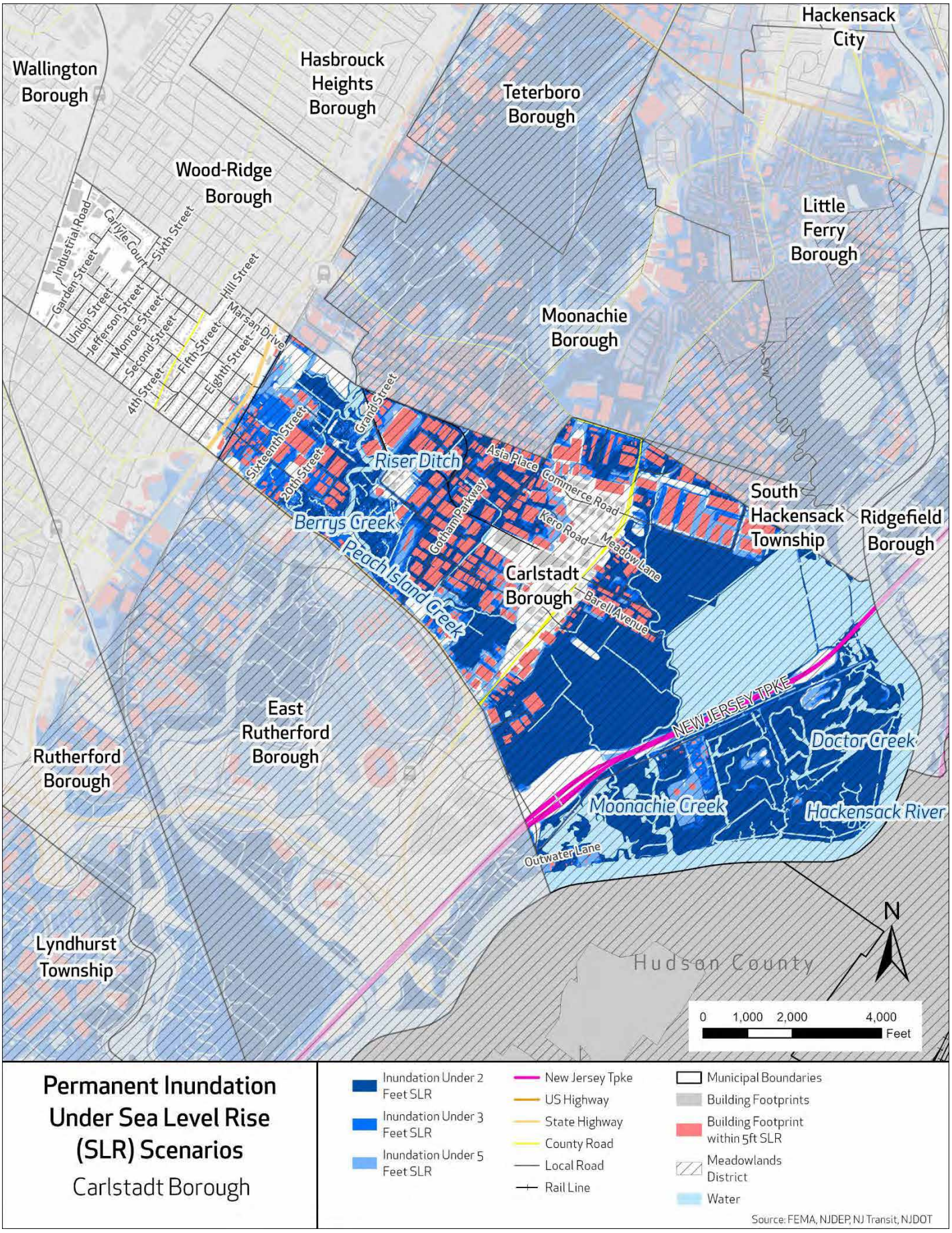


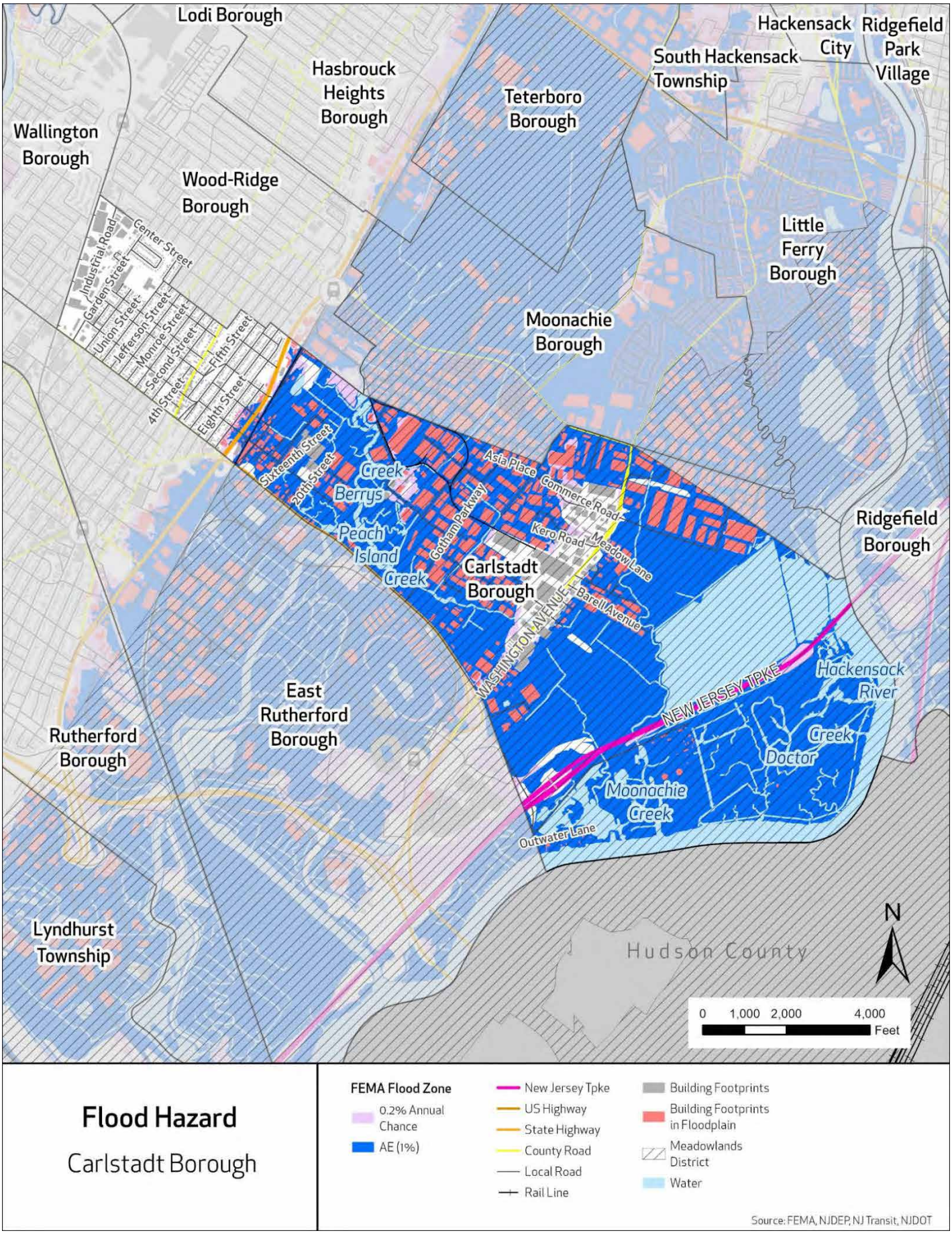
NJ Inland Design Flood Elevation

Carlstadt Borough

- Current Base Flood Elevation (1% Annual Chance)
- **NJ Inland Design Flood Elevation: BFE + 3 Feet**
- State Highway
- County Road
- Local Road
- New Jersey Tpke
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Hackensack City
Wallington Borough
Hasbrouck Heights Borough
Teterboro Borough
Wood-Ridge Borough
Little Ferry Borough
Moonachie Borough
Industrial Road
Carlyle Court
Sixth Street
Garden Street
Union Street
Jefferson Street
Monroe Street
Second Street
Hill Street
Marsan Drive
Fifth Street
Eighth Street
4th Street
Grand Street
Sixteenth Street
20th Street
Riser Ditch
Asta Place
Commerce Road
Kero Road
Meadowlane
Gotham Parkway
Berrys Creek
Peach Island Creek
South Hackensack Township
Ridgefield Borough
Carlstadt Borough
Barell Avenue
NEW JERSEY TPKE
East Rutherford Borough
Rutherford Borough
Doctor Creek
Moonachie Creek
Hackensack River
Outwater Lane
Lyndhurst Township
Hudson County
N
0 1,000 2,000 4,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Carlstadt Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



Flood Hazard

Carlstadt Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- New Jersey Tpke
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Carlstadt Borough 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		6/2025	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		6/2025	
Floodplain Management Plan	X		2019	
Stormwater Management Ordinance	X		2019	
Stormwater Management Plan	X		2024	
Watershed Management Plan	X			
Sheltering Plan	X		2024	
Evacuation Plan	X		2024	
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		2024	
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X		2024	
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Carlstadt Borough 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

Carlstadt Borough 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, Carlstadt Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Carlstadt intends to prioritize flood mitigation through capital improvements to reduce the incidents of flooding in the borough's industrial zone from Tenth Street east to the Hackensack River. The borough also intends on improving its communication abilities with residents both prior to and during emergency situations as well as is disaster response capabilities to reduce the need for mitigation.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
05-01	Convert borough-wide Communication System	Conversion of borough-wide Communication System	All Hazards	Medium	Carlstadt Police Department				Completed	
05-02	Acquire Property Adjacent to Borough Hall	Property next to the Borough Hall, 507 Jefferson was purchased to be used for public parking, however environmental issues prevented the Borough to move forward on its plans. Property was bought by private user.	All Hazards	Medium	Borough of Carlstadt				Withdrawn	
05-03	Purchase Equipment to Strengthen Emergency Response Time for Carlstadt	Ambulance Vehicle for Carlstadt. Ambulance was purchased	All Hazards	Medium	Borough of Carlstadt				Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
05-04	Upgrade Wastewater and Stormwater Lines and Conduct Route 17 Roadway Improvements	Drainage and roadway improvements, including upgrading size of the line and topography for sanitary and storm sewers.	Flood	High	Borough of Carlstadt, DOT, Carlstadt Sewerage Authority	FEMA HMA, DOT, NJTPA, County budget, Municipal budget	$1,000,000.00	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
05-05	Purchase and Install an Emergency Warning System	The lack of funds has prevented the purchase and installation of the Emergency Warning System.	All Hazards	Low	Carlstadt OEM	Municipal budget	$150,000.00	2 years	Ongoing	
05-06	Purchase 10 Radios to Improve Communications Between the Eastern and Western Sections of the Borough	Acquire at least 10 radios with strong enough signal to reach east-west up the cliffs.	All Hazards	Low	Carlstadt OEM	Municipal budget	$20,000.00	1 year	New	
05-07	Purchase Equipment to Strengthen Ability to Travel Through Floodwaters During and After Hazards	Acquire these vehicles for Carlstadt for emergency response.	All Hazards	Low	Carlstadt OEM	Municipal budget	$50,000.00	1 year	New	
05-08	Acquire ATVs and Brush Trucks to Transport Manpower Through Brush Fires	Acquire ATVs (gators) to transport manpower in and out of brush fires. Acquire brush trucks (military truck with added pump) to fight brush fires from the inside out.	Wildfire	Medium	Carlstadt OEM	Municipal budget	$50,000	1 year	New	
05-09	Purchase Drones for Fire Surveillance	Use drones for fire surveillance, swamp/flood rescue, etc. Either purchase a couple or hire professional drone operators on contract.	Dam and Levee Failure, Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm, Geological Hazards,	Medium	Carlstadt OEM	Homeland Security grants, municipal budget	$50,000	1 year	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
			Earthquake, Severe Weather							
05-10	Coordinate with County for Enhanced Mapping of Topography and Watersheds	Develop mapping to visualize where water management interventions overlap across jurisdictional boundaries.	Dam and Levee Failure, Flood, Coastal Erosion	Medium	Carlstadt OEM	Municipal budget, EPA	$100,000	1 year	New	
05-11	Purchase Portable Generators and Portable Pumps	Acquire small portable generators and small portable pumps for Carlstadt.	All Hazards	Medium	Carlstadt OEM	FEMA HMA, Borough Funds	$100,000	1 year	New	
05-12	Construct Roadway Elevations to Assist with Continuity of Operations	Need road elevations in targeted locations including Paterson Plank Rd from the overpass to the Econo Lodge; Washington Ave at the new mall; and the area bounded by Paterson Plank Rd, 14th St, Broad St, and 20th St.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Borough of Carlstadt	FEMA HMA, Borough Funds	$10,000,000.00	5 + years	New	
05-13	Implement Flood-proofing and Retrofits in the North Gate Area to Allow the BCUA to Continue to Power the Gate and Expedite Emergency Repairs	Implement flood-proofing and retrofits in the North Gate area of the borough.	Flood	High	BCUA	FEMA HMA	$250,000	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
05-14	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough OEM and Homeowners	FEMA HMA	$50,000	5 + years	New	
05-15	Construct a Berm System with Flood Gates at Berrys Creek	Implement the recommendations from the Rebuild by Design Meadowlands (Pilot Area #1). The proposal is to build a berm system with associated gates in Little Ferry /Moonachie /Carlstadt (with a sliver of South Hackensack and Teterboro) that will extend oce	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering/ Planning	FEMA HMA, HUD	$2,000,000.00	5 + years	New	

6 – CLIFFSIDE PARK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Sercan Zoklu	**Municipal Clerk**	**Primary Contact, Municipal Meeting**
Eileen Boland	Borough Engineer	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Cliffside Park has a total area of just under one square mile (0.96 mi^2) and is located in southeastern Bergen County, New Jersey. The borough is situated atop the Hudson Palisades and just to the west of riverside Edgewater Borough, providing views of the Hudson River and New York City skyline. The borough was founded in 1895 from portions of Ridgefield Township, now to the west of Cliffside Park, and was named for its geography as a "Park by the Cliffs".

The borough is located between the George Washington Bridge and the Lincoln Tunnel, providing direct access across the Hudson River to New York City and, due to this location, is a residential community home to many New York City commuters. The main thoroughfare in Cliffside Park is Anderson Avenue, "The Avenue", a north-to-south route which is home to a density of commercial uses for residents of the borough. Gorge Road and Palisade Avenue provide additional north-to-south access to neighboring townships. To the west of Cliffside Park borough is route 9, a main north-south route connecting drivers, ultimately, to US Interstate 95 in Ridgefield Park Borough.

Atop the Hudson Palisades, Cliffside Park residents can view the Hudson River below the Palisade Cliffs and New York City to the east. The borough is accessible to the large James J. Braddock North Hudson County Park, just south of the borough borders, and is accessible to other community green space along the Palisades. Other portions of Cliffside Park are largely built out with dense residential, commercial, and mixed-use development.

Land Use, Development, & Growth

This paragraph describes the key land use types and land use changes based on MOD-IV, New Jersey's property tax data. In Cliffside Park, predominantly residential land use makes up 78% of the borough's total area (over 326 acres). Civic/public (tax exempt) land uses make up an additional 10% of the borough (42.1 acres). Land use within Cliffside Park had negligible changes between MOD-IV releases in 2016 and 2022.

Additionally, according to NJDEP's Land Use/Land Cover (LULC) data, land composition in Cliffside Park remained roughly the same over the 2015 and 2020 time periods. As of 2020, urban (developed) land use accounted for 99% of the land area of Cliffside Park, with land classified as forest cover making up the remaining 1%.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	3	0	-100%
Forest	7.9	7.7	-3%
Urban	601	604.2	1%
Water	0	0	-
Wetlands	0	0	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough is largely built out, and recent years have seen no recent large-scale development or redevelopment of residential or commercial parcels throughout Cliffside Park.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
The borough has been strict in their requirements for upcoming new development. There is a notable (potential) residential redevelopment, currently proposed at under 30 units, that to date (2025) has not been approved by the borough. No existing redevelopments are in progress or have been recently approved in Cliffside Park.

Ongoing infrastructural improvements, particularly related to stormwater management, have been completed and are scheduled to continue in the borough. One project, addressing a low-point water collection at Oakdene Avenue, has been approved by DEP and is now going out for bid (in early 2025). The borough is utilizing approximately $10 million in grant funds to upgrade an aging sanitary sewer system and storm sewer system as well as increasing flow capacity.

Demographics & Vulnerable Populations

Cliffside Park Borough has a total population of an estimated 25,546 residents. Of this population, an estimated 4.7% are under age 5, and 19.0% are over age 65. The borough has seen an estimated 2.8% population growth in the periods between 2013-2017 and 2018-2022 ACS surveys. With an aging population making up nearly one in five of the borough's residents, Cliffside Park may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a nearly three percent growth rate over those survey periods may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

Fourteen block groups meet overburden designation (OBC) according to indicators of the local community including *Minority* (ten block groups), *Low Income and Minority* (three block groups), and *Low Income, Minority, and Limited English* (one block group) population criteria. These block groups make up the majority of Cliffside Park's area. The community also meets criteria for CEJST designation, with two tracts noted for *Workforce Development* specific vulnerabilities in Cliffside Park's southern portion. No parts of Cliffside Park meet criteria for CDRZ designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	25,546
Population Change since 2017	2.8%
Percent of Population Age < 5	4.7%
Percent of Population > 65	19.1%

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 their communities. This was done based on how often a hazard has occurred, how significant effects have been in the past, and the difficulty and cost of recovering from such events. Jurisdictions ranked Bergen County's list of hazards as high, medium, low, or of 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		
	Flood	Hurricanes, Tropical Storms
	Landslide	Nor'easter
		Winter Storms
		Wildfire
		Earthquake
		Drought
		Extreme Temperature
		Extreme Wind

High	Medium	Low
		Tornado
		Lightning
Human-made Hazards		
		Cyber Attack
		Terrorism
		Pandemic
		Economic Disruption
		Civil Unrest
		Power Failure

Storm surge, coastal erosion, wave action, sea level rise, and dam & levee failure listed as N/A due to inland location of Cliffside Park, and lack of upstream dam or levee.

Hazard Ranking Explanation

Cliffside Park Borough ranks most profiled hazards as low due to their low likelihood of incidence within the borough borders and lack of documented history with these hazards. Current Cliffside Park emergency management identified no known local experience with hazards including earthquake, drought, wildfire, extreme weather (in the form of winter storms, extreme temperatures, extreme wind, or hurricane, tropical storms, and nor'easters) which impacted property, residents, or quality of life in the borough.

Other hazards ranked low include power failure, which has been experienced by the borough impacting residents in recent years but has been handled quickly and effectively by existing emergency management operations. Similarly, the borough reports handling of the COVID-19 pandemic as effective, coordinated, and thorough, causing a low concern ranking for their handling of future pandemics that may impact the community.

Because of ongoing concerns and impacts of low-lying area flooding stemming from overflow drainage systems in high-rain events, the borough has ranked flood as a medium concern. Still, this hazard has notably not impacted traffic flow, caused flooded homes or businesses, or impacted infrastructure in Cliffside Park beyond standing water noted in locations of currently planned infrastructural improvements.

Similarly, the borough has identified landslide as a hazard of medium concern due to their location at the high point of the New Jersey Palisades Cliffs, on a steep slope leading to adjacent Edgewater Borough. Though no significant landslide activity has been documented in Cliffside Park, it is a general hazard of concern for the borough.

Significant Hazard Events Since Last Plan Update

Cliffside Park Borough notes no significant hazard events experienced locally since the last Bergen County HMP Update.

Two hazards in recent years have necessitated standalone projects for remediation – Hurricane Ida (2021) caused the downslope erosion of an outfall pipe which carried water over the cliff's edge to neighboring Edgewater Borough. Some damage occurred with this erosion and the pipe, although in Edgewater Borough, was replaced and upgraded as part of a FEMA grant post-Ida.

Standing water that regularly occurs at the public school on Oakdene Avenue in Cliffside Park is noted as the most significant water issue in the borough, currently being addressed through the aforementioned infrastructural projects in progress (Spring 2025).

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Cliffside Park. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly

in areas prone to flooding and coastal erosion. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events. Ongoing improvements to Cliffside Park's infrastructural capacity may help to mitigate these increasing outflows.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 20% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Cliffside Park Borough	
Number of Policies In-Force:	0
Total Losses:	0
Total Payments:	$0.00
Number of RL Properties:	0
Number of Mitigated RL Properties:	0
RL – Total Losses:	$0
RL – Total Paid:	$0
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

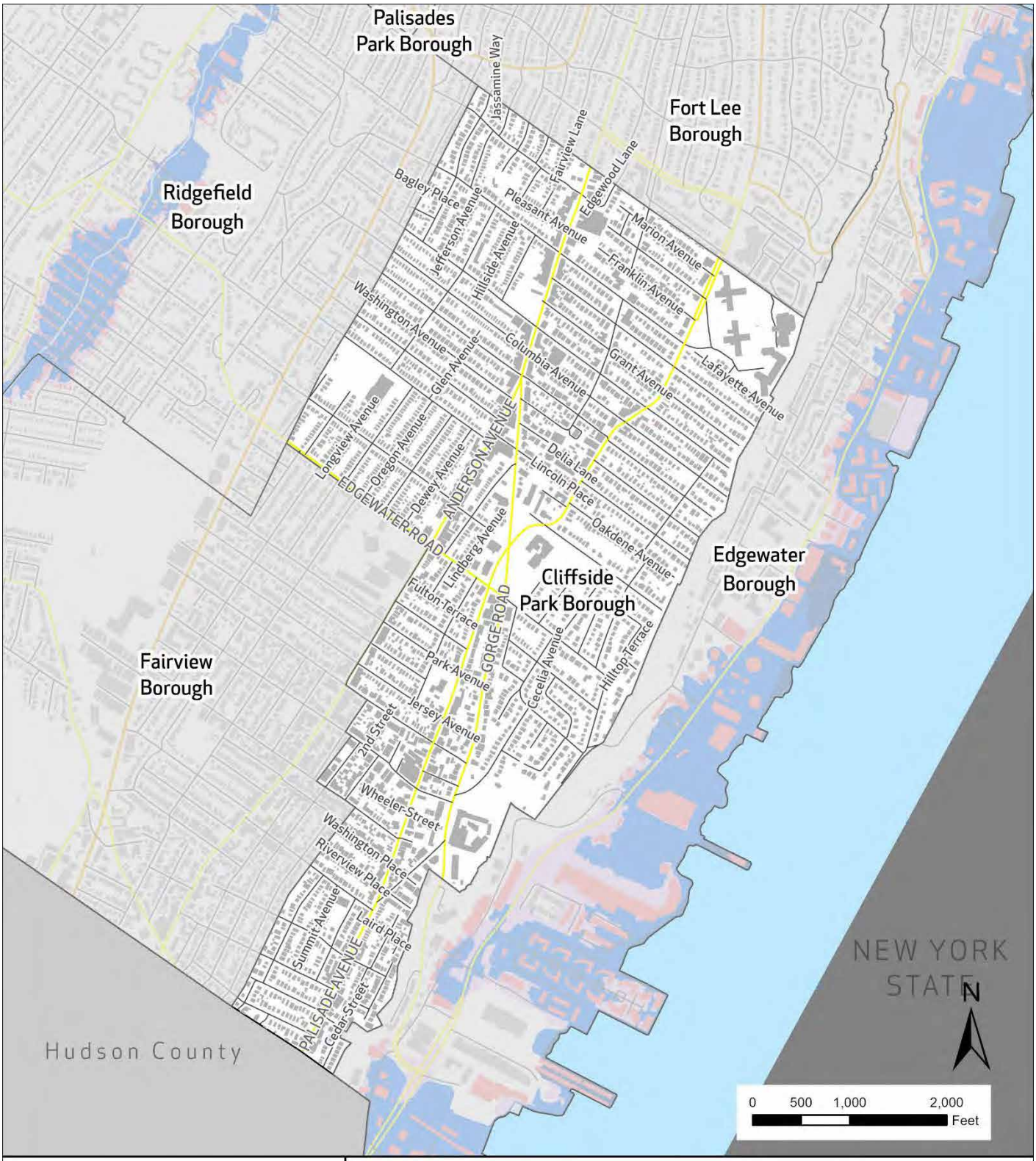
Cliffside Park Borough contains no floodplain identified as part of the Special Flood Hazard Area (SFHA). As such, zero percent of the total area of Cliffside Park lies within the 1% or 0.2% annual chance floodplain as defined by FEMA.

About 74.5 percent of Cliffside Park is considered developed. Of the developed parcels of the town, none fall within either the 1% or the 0.2% annual chance floodplain. This data illustrates that the municipality faces minimal flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	0.0	0.0
Exposed Land Area	0.0	0.0

During the planning process, Cliffside Park Borough 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 11 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, as there is no floodplain identified as part of the SFHA, there is no intersection with local floodplain risk.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Cliffside Park Borough

- State Highway
- County Road
- Local Road
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Fort Lee Borough
Ridgefield Borough
Cliffside Park Borough
Edgewater Borough
Fairview Borough
Hudson County
ANDERSON AVENUE
EDGEWATER ROAD
GORGE ROAD
PALISADE AVENUE
Fairview Lane
Edgewood Lane
Bagley Place
Jefferson Avenue
Pleasant Avenue
Hillside Avenue
Veterans Place
Marion Avenue
Franklin Avenue
Washington Avenue
Glen Avenue
Columbia Avenue
Grant Avenue
Winston Drive
Lafayette Avenue
Longview Avenue
Oregon Avenue
Dewey Avenue
Delia Lane
Lincoln Place
Oakdene Place
Oakdene Avenue
Lindberg Avenue
Fulton Terrace
Brandon Place
Hilltop Terrace
Park Avenue
Jersey Avenue
2nd Street
Cecelia Place
Cecelia Avenue
Oncrest Terrace
Wheeler Street
Washington Place
Riverview Place
Laird Avenue
Summit Avenue
Laird Place
Manhattan Place
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Cliffside Park Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Cliffside Park Borough 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		May 6, 2019	Flood Mitigation Strategy
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan		X		
Floodplain Development Ordinance	X		April 2025	Flood Damage Prevention. Provides standards to minimize the impact of flooding.
Floodplain Management Plan	X		Sept. 2013	Flood Damage Prevention
Stormwater Management Ordinance	X		Sept. 2021	Flood Control
Stormwater Management Plan	X		Aug. 2021	Goals to Reduce Flodd Damage
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X		Sept. 2013	Elevation requirements.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X		March 2023	Implementation of current NJDEP standards
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		Dec. 13, 2021	Stormwater Pollution Prevention Plan with flood mitigation measures

Administrative and Technical Capabilities

Cliffside Park Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
Grant Writer	X		Millennium Strategies
Staff trained to support mitigation	X		Members of the Department of 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	

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Cliffside Park Borough 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, Cliffside Park Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The borough plans to apply for additional grants to continue upgrading our aging wastewater and stormwater sewer systems to handle increased flow and prevent leaks. This includes adding new sewers, relining existing sewers, and replacing damaged sewers.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
06-01	Purchase and Install Backup Power for Shelters	Purchase and install generators for shelters.	All Hazards	Medium	Cliffside Park OEM	FEMA HMA	$200,000	1 Year	Completed	
06-02	Purchase and Install Generators for Critical Facilities	Purchase and install backup generators for high school, library, and pump stations. Pump stations serve sewer lines.	All Hazards	Medium	Cliffside Borough	FEMA HMA	$200,000	1 Year	Completed	
06-03	Purchase and Install Generators for Traffic Lights	Purchase and install backup batteries for traffic-controlled intersections when power is lost.	All Hazards	Medium	Cliffside Borough	DOT, Municipal Budget	$60,000	1 Year	Completed	This was completed in coordination with county for County Roads within the borough.
06-04	Purchase Variable Message Signs to Communicate with Residents During Hazard Events and Closures	Purchase variable message signage to use in an emergency event.	All Hazards	Medium	Cliffside Borough	Homeland Security Grants, Municipal Budget	$20,000	1 Year	Completed	
06-05	Upgrade High School Facility with AC to Function as Shelter	Install air conditioning in the High School cafeteria so the school can function as a shelter.	All Hazards	Low	Cliffside Borough	Municipal Budget	TBD	1 Year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
06-06	Update Communications in Borough Hall – Houses Emergency Response Services	Update Borough Hall communications room/system which houses police, fire, emergency medical, tax assessor, finance, municipal court, board of education, mayor's and administrative offices. Add a redundant system at the DPW annex.	All Hazards	Medium	Cliffside Borough	Municipal Budget	$100,000	1 Year	Ongoing	Have upgraded communications on roof; recently begun looking at completing in squad/radio room which houses 911 systems.
06-07	Upgrade Stormwater and Sewer Systems Near No. 6 School	Upgrade the stormwater system/sewer near No.6 School and recreation field to mitigate flooding during heavy rain.	Flood	High	Cliffside Borough	Municipal Budget	$6,200,000	2 Years	Ongoing	Will be bid out in Summer 2025.
06-08	Acquire, Elevate, Floodproof Structures in Flood Prone Areas with Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Acquire, elevate, and floodproof RL/SRL property within the borough. Currently no addressed RL/SRL Properties, however the municipality realizes that floodplains move over time and the risk is always present.	Flood	High	Cliffside Borough	FEMA HMA	TBD	1 Year	Ongoing	Lowered priority – single (1) RL property in town has been identified as flooding due to slope during high rain events (affecting driveway and exterior of property). There are no flood hazard areas identified in the Borough of Cliffside Park.

7 – CLOSTER BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
James B. Winters	**Borough Administrator/Emergency Management Coordinator**	**Primary Contact, Public Meeting 2, Municipal Meeting**
John C. Glidden, Jr.	Mayor	Plan Review
Nick DeNicola	Contract Engineer	Plan Review
William Dahle III	DPW Director	Plan Review
Kevin Whitney	IT Director	Plan Review
James Buccola	Police Chief	Plan Review
Alissa Latner	Public Safety Committee	Plan Review

COMMUNITY PROFILE

Overview

Closter Borough is a municipality in northeastern Bergen County, New Jersey, incorporated in 1904 from portions of Harrington Township. The borough has a total area of 3.3 square miles and borders other Bergen municipalities of Alpine, Demarest, Emerson, Harrington Park, Haworth, and Norwood. Major landmarks include the historic Closter Station and the Closter Plaza shopping center.

The borough is crossed by major regional routes, including County Route 501, County Route 502, and County Route 505. In adjacent municipalities, US Route 9 and the Palisades Interstate Parkway provide north-south connection. New Jersey Transit operates the 167 and 177 bus routes with service along Schraalenburgh Road to the Port Authority Bus Terminal in Manhattan.

The borough of Closter is bordered to the northwest by the Oradell Reservoir and Duck Pond and crisscrossed by Tenakill Brook and Anderson Brook. Green and recreational space within Closter Borough include the Closter Nature Center and MacBain Farm Park. To the east of Closter Borough is the 2,500-acre Palisades Interstate Park in Alpine. Closter is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Closter Borough is primarily a residential community, with the MOD-IV dataset showing residential land use (including apartments) accounted for nearly 61% of the total land area in 2022. Civic/public (tax exempt) also makes up a significant portion, accounting for 24% of the land use in the same year. From 2016 to 2022, civic/public (tax exempt) land use increased by about 30 acres, while all other land use types saw changes of fewer than two acres.

According to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the urban land use category occupied the largest share of land use, making up around 68% of the area in 2020. This was followed by wetlands and forest, which made up 13% and 12% of the land use in 2020, respectively. All land use types saw insignificant changes in acreage from 2015 to 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	23.8	23.8	0%
Barren Land	6.4	6.4	0%
Forest	247.9	247	-<1%
Urban	1442.1	1443	<1%
Water	125.3	125.3	0%
Wetlands	264.4	264.4	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present
None identified.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
None identified.

Demographics & Vulnerable Populations

Closter Borough has a total population estimated to be 8,555. This population is 6.4% under 5 years old, and 13.8% over age 65, estimated. The Borough saw a modest population decline between 2013-2017 and 2018-2022, losing an estimated -1.78% of its total population. With an aging population making up nearly fourteen percent of the borough's residents, Closter may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, population loss around two percent during these survey periods highlights potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

The community has five block groups which meet New Jersey's criteria for overburden (OBC) based on indicators of *Minority* population. These block groups make up the majority of Closter Borough along its eastern and western portions. No areas of Closter Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	8,555
Population Change since 2017	-1.8%
Percent of Population Age < 5	6.4%
Percent of Population > 65	13.8%

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 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	
	Drought	Extreme Temperatures
	Flood	Extreme Wind
		Hurricane/ Tropical Storm
		Lightning
		Nor'easter
		Tornado
		Winter Storm
		Dam Failure
		Landslide
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Power Failure	Economic Disruption

High	Medium	Low
Natural Hazards		
		Pandemic
		Terrorism

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough is moderately concerned about drought, which typically occurs during periods of extreme heat. Flooding is also a significant concern due to the borough's location within a basin.

The borough rated power failure as at a medium level of concern. The issue is improving, though. The borough is working with the power company to remove trees. They are also doing automatic switching to isolate outages. The power company buried feeder lines and circuits as well.

While not on the list of hazards covered in this plan, the borough noted hazardous materials response as an area of concern due to the trainline.

Significant Hazard Events Since Last Plan Update

Hurricane Ida in September 2021 affected the borough. The borough does not frequently experience flash floods, as it did from Hurricane Ida. Feeder brooks overflowed.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Closter Borough	
Number of Policies In-Force:	24
Total Losses:	46
Total Payments:	$681,653.55
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	14
RL – Total Paid:	$169,371.78
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	7
SRL – Total Paid:	$90,976.83

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

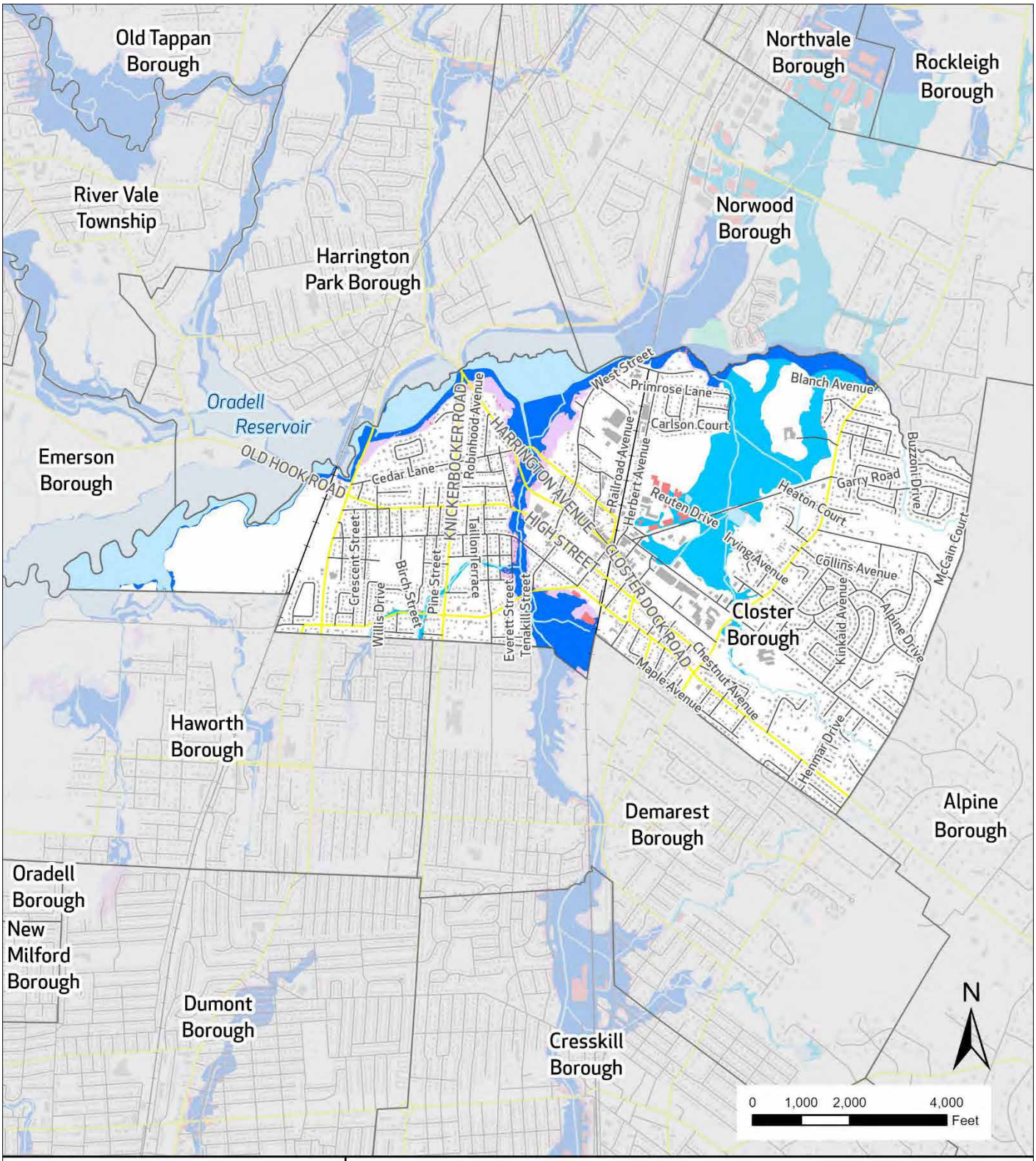
The Special Flood Hazard Area (SFHA) in the Borough of Closter is primarily located adjacent to the main waterbodies in the borough: Oradell Reservoir, Anderson Brook, Tenakill Brook, and Dwars Kill. Approximately 19.7 percent of the total area of Closter lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 73.2 percent of Closter is considered developed. Of the developed parcels of the town, 6.9 percent fall at least partially within the 1% annual chance floodplain and 5.3 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	6.9	5.3
Exposed Land Area	19.7	2.2

During the planning process, Closter Borough 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 six total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



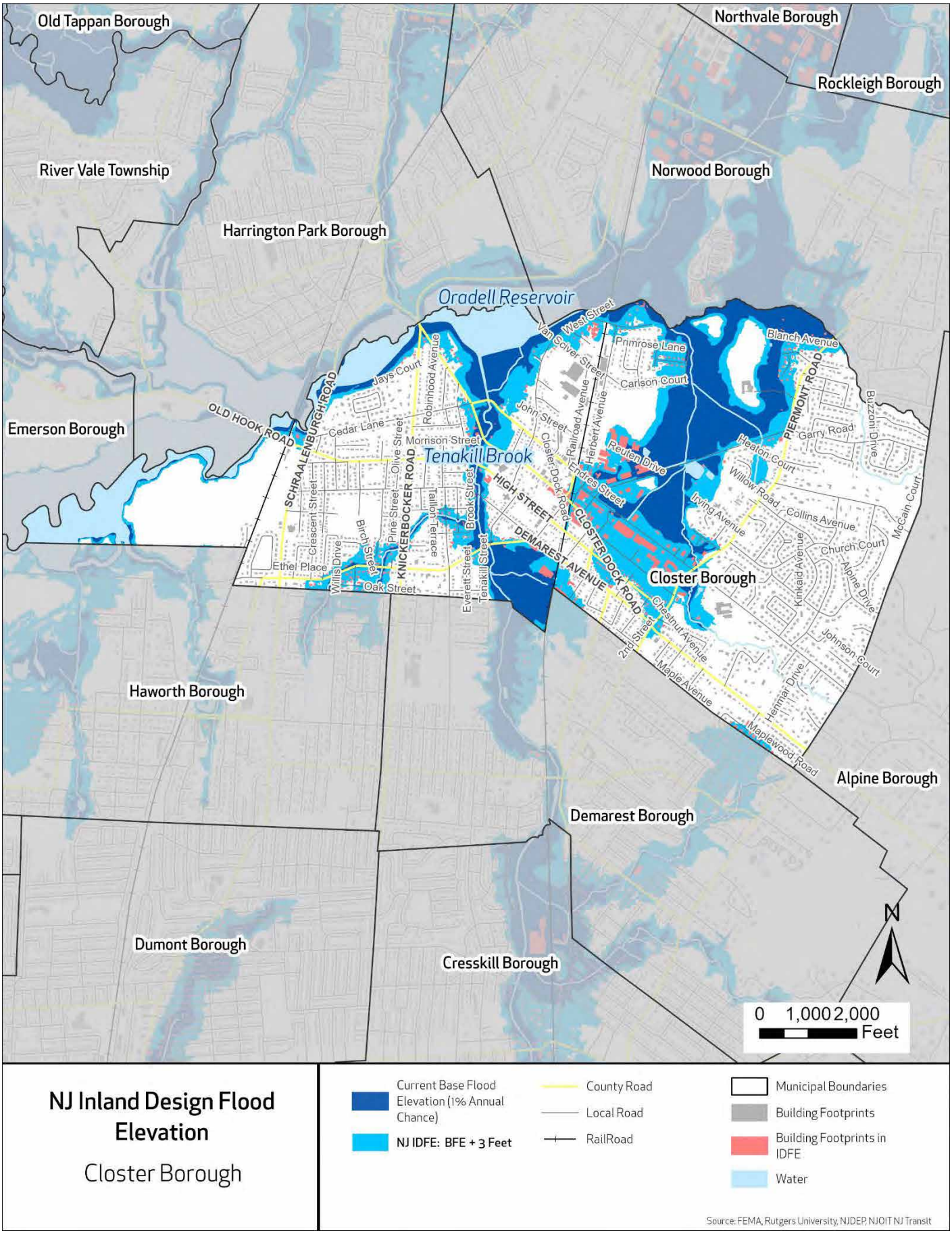
Flood Hazard

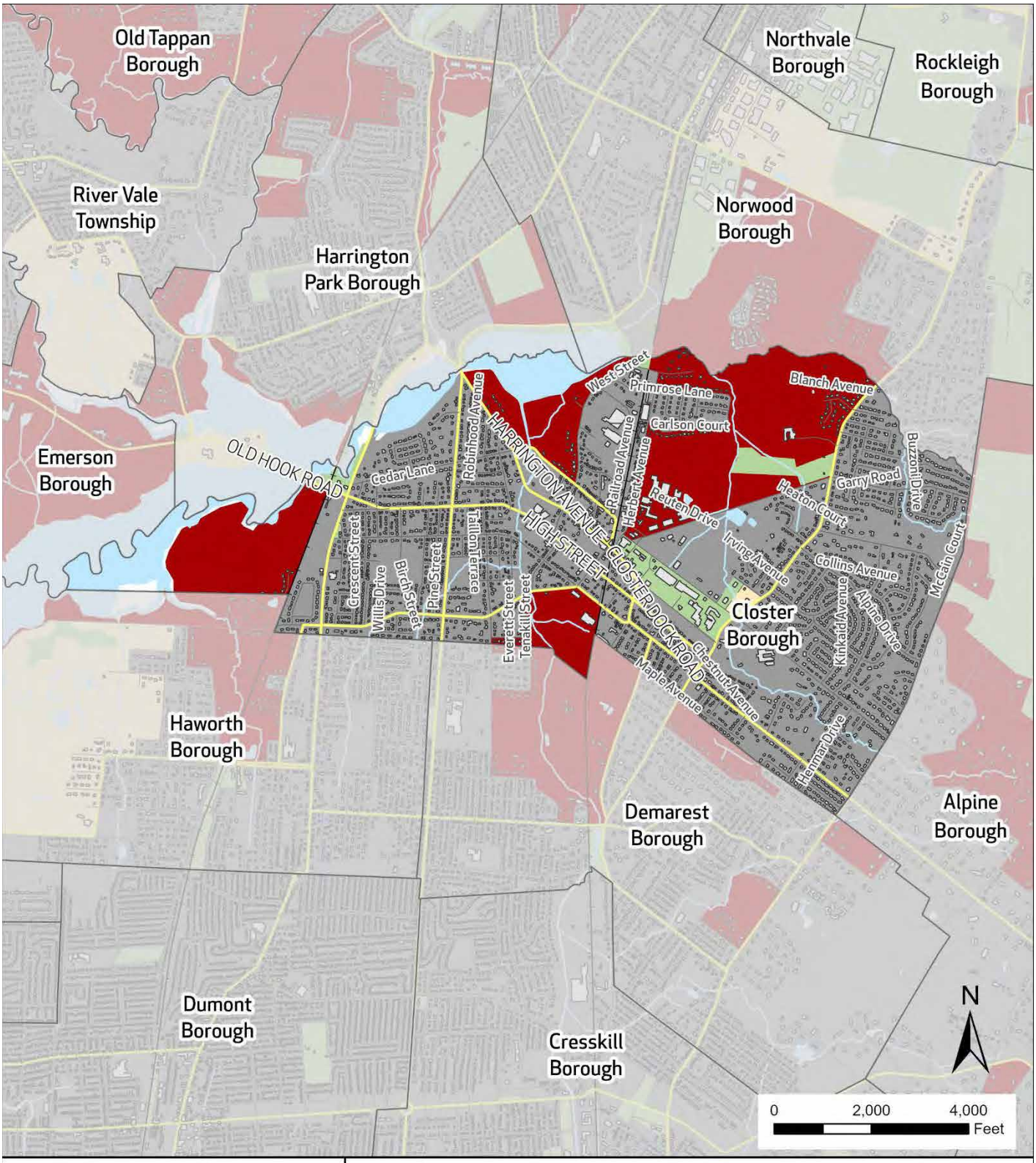
Closter Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- County Road
- Local Road
- Rail Line
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Old Tappan Borough
Northvale Borough
Rockleigh Borough
River Vale Township
Norwood Borough
Harrington Park Borough
Oradell Reservoir
Emerson Borough
Tenakill Brook
Closter Borough
Haworth Borough
Alpine Borough
Demarest Borough
Dumont Borough
Cresskill Borough
OLD HOOK ROAD
SCHRAALENBURGH ROAD
KNICKERBOCKER ROAD
HIGH STREET
DEMAREST AVENUE
CLOSTER DOCK ROAD
PIERMONT ROAD
West Street
Van Sciver Street
Primrose Lane
Carlson Court
Blanch Avenue
Jays Court
Robinhood Avenue
John Street
Railroad Avenue
Herbert Avenue
Buzzoni Drive
Garry Road
Cedar Lane
Morrison Street
Olive Street
Closter Dock Road
Reuten Drive
Heaton Court
Endres Street
Willow Road
Collins Avenue
Irving Avenue
McCain Court
Crescent Street
Pine Street
Brook Street
Talilon Terrace
Church Court
Ethel Place
Willis Drive
Birch Street
Everett Street
Tenakill Street
Oak Street
Kinkaid Avenue
Alpine Drive
Chestnut Avenue
2nd Street
Johnson Court
Maple Avenue
Henmar Drive
Maplewood Road
N
0 1,000 2,000 Feet
NJ Inland Design Flood Elevation
Closter Borough
Current Base Flood Elevation (1% Annual Chance)
NJ IDFE: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Wildland Urban Interface (WUI) Classification

Closter Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Closter Borough 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		2019	
Capital Improvement Plan	X		2024	Identifies projects that if implemented could prevent or reduce impacts of natural hazards
Local Emergency Operations Plan/Continuity of Operations Plan	X		2022	
Floodplain Development Ordinance	X		2024	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	Updated to new standards set by both FEMA and NJDEP.
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Through permitting building codes
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Tracked with Building Department
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			No details provided, but jurisdiction intends to undertake future studies.
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Closter Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Contract Engineer
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

Closter Borough 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 and other community-based outlets
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Closter Borough 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		Local budget committee looking at intimate hazards
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the adoption of our 2021 plan, the Borough of Closter has been actively addressing the increasing challenges of flash flooding, which has proven to be the most significant risk to our community. We are committed to improving the resilience of our feeder stream systems and will be collaborating with the State on these critical efforts. In response to the rise in cyber security threats since 2021, the Borough will also prioritize the enhancement of our cyber security measures and backup systems. Given our reliance on these systems for daily operations, this has become an essential area of focus. Furthermore, our partnership with our electric provider continues to yield positive results through ongoing storm-hardening projects. We have observed a notable decrease in power loss since 2021, demonstrating the effectiveness of these initiatives.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
07-01	Relocate Critical Equipment from Borough Hall Basement above the Design Flood Elevation	Remove critical equipment, infrastructure, and records from Borough Hall basement and acquire a new location for storage. Some records date back to the 1940s and must be digitized. Borough does plan to digitize all records.	All Hazards	High	Borough of Closter	Borough Capital Budget	$80,000.00	2 years	Completed	Building records were digitized and Others moved to more secure locations
07-02	Coordinate with County on Replacing, Elevating, and Widening the Bridge Between the Boroughs of Norwood and Closter	Coordinate with County on replacing the bridge between the boroughs of Norwood and Closter. The bridge needs to be widened and elevated.	All Hazards	High	Closter Borough/Bergen County	Borough of Closter, Borough of Norwood and NJ DOT Grant	$283,000.00	3 years	Completed	New Bridge installed by the two Borough's with 50% funding from NJ DOT

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
07-03	Purchase and Install Generators for Critical Facilities and Traffic Lights	Purchase and install backup generators or transfer switches/ hookups for a portable generator at both public schools and small generators for back-up power at intersections controlled by traffic lights. The backup power also helps to keep schools open in the event that there is an extended power outage.	All Hazards	Medium	Borough of Closter/Closter Board of Ed	FEMA HMA	$100,000.00 for a School transfer switch. $20,000 for back-up generators	3 years	Ongoing	
07-04	Complete a Drainage and Engineering Study on the East Side to Mitigate Flash Flooding	Complete a drainage and engineering study on the East Side flash flooding, in the Piermont & Clommons section to ensure that the flood problems are not transferred elsewhere. Piermont & Clommons is a tributary to the Dwars Kills (Anderson Brook). The next step would be to obtain funds to widen and clean the stream.	Flood	High	Borough of Closter	Municipal budget	$100,000.00	3 years	Ongoing	
07-05	Purchase and Install an Emergency Generator for Schools	Emergency generator for school. Acquire natural gas emergency generator for school building.	All Hazards	Medium	Borough of Closter	FEMA HMA, Borough Funds	$400,000.00	2 years	Ongoing	
07-06	Dredge and Desnag Streams to Protect Against Flash Flooding	Enlarge and clean waterway to protect against flash flooding event.	Flood	Medium	Closter OEM	Municipal budget	$1,000,000.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
07-07	Purchase and Install a Surveillance System at Department of Public Works (DPW) Complex	Security at the DPW complex and yards needs to be updated. Purchase and install new cameras and fencing at DPW complex/yards.	All Hazards	Medium	Closter Borough	Homeland Security grants	$90,000.00	2 years	Ongoing	
07-08	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate repetitive loss and severe repetitive loss properties by acquiring the properties through the Blue Acres program, demolishing the property, elevating the property, or if the homeowner does not wish to vacate the property or elevate educate them on the risk and the options open to them.	Flood	High	Closter Borough	FEMA HMA	$3,000,000.00	2 years	Ongoing	
07-09	Construct Flood Reduction Measures (e.g., floodwalls or small berms) along Tenakill Brook	Construct minor structural project (e.g., floodwalls or small berms) along Tenakill Brook.	Flood	High	Closter Borough	FEMA HMA	$1,000,000.00	3 years	Ongoing	
07-10	Improve Cyber Security by Purchasing and Installing a Secondary Server and Data Backups for the Police and the Municipal Building; Acquire Off-site Data Storage and Complete	Purchase and install a secondary server and data backups for the Police and Administrator. Acquire off-site data storage and complete digitization.	Cyber Attack	Medium	Closter Borough	Homeland Security grants	$200,000.00	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Digitization of Critical Records									
07-11	Conduct a Dam and Wildfire Risk Study	Conduct a study to understand mitigation strategies the borough can implement to reduce the risk of wildfire and flooding, due to dam failure. Also consider joining the FireWise USA program.	Dam and Levee Failure, Wildfire	Low	Borough	Municipal budget	$50,000.00	3 years	Ongoing	

8 – CRESSKILL BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Christopher Ulshoefer	**OEM Manager/Fire Chief**	**Primary Contact, Attended Local OEM Meeting, Attended Municipal Meeting**
Paul Azzulina	Borough Engineer	Attended Municipal Meeting
Jimmy Noseworthy	DPW Manager	Attended Municipal Meeting
Dianne Lavin	Borough Administrator/CFO	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Cresskill, spans approximately 2.07 square miles and is located in northeastern Bergen County, New Jersey. Cresskill borders the municipalities of Alpine, Bergenfield, Demarest, Dumont and Tenafly. It is bisected from north to south by Tenakill Brook and Piermont Road. Major landmarks include the Camp Merritt Memorial and several houses listed on the National Register of Historic Places. County Routes 501 and 505 travel through Cresskill and the borough is serviced by NJ Transit bus routes 166 and 753. The borough has a population of around 9,100 residents. Notably, Cresskill is not part of a coastal community, as it is situated inland.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Cresskill Borough is primarily a residential community, with the MOD-IV dataset showing residential land use accounted for about 80% of the total land area in 2022. Civic/public (tax exempt) and commercial land uses also make up significant portions, comprising 12% and 3.3% of the total land area in the same year. Changes from 2016 to 2022 was negligible in most categories, although industrial and vacant land changed by larger percentages (131% and -30% respectively), since these uses comprise a small percentage of total acreage, the actual change in acreage was minor.

According to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the urban land use category occupied the largest share of land use, making up nearly 86% of the area, while the forest category accounted for 8% in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	0%
Barren Land	9.0	1.1	-87%
Forest	48.3	49.7	3%
Urban	542.2	548.7	1%
Water	10.1	10.1	0%
Wetlands	26.4	26.4	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

There have been two townhouse developments in the town since the last plan update in 2021: Willow Run, located at County Road and Broadway and consisting of 38 units, and Grand Rose, at Legion Drive and Broadway townhouse development and consisting of 18 units. Neither of these developments are located within the floodplain

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

None identified.

Demographics & Vulnerable Populations

Cresskill Borough's total population is estimated at 9,105. This population is estimated to be 3.8% under 5 years old and 18.9% over age 65. The borough saw an estimated 3.3% population growth between the 2013-2017 and 2018-2022 ACS survey periods. With an aging population making up nearly nineteen percent of the borough's residents, Cresskill may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a growth rate over three percent may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

There are three block groups within Cresskill which meet criteria for overburden (OBC) according to the State of New Jersey, all for *Minority* population overburden. These block groups are in the central portion of Cresskill Borough. No areas of Cresskill Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9,105
Population Change since 2017	3.3%
Percent of Population Age < 5	3.8%
Percent of Population > 65	18.9%

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 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	
Dam Failure	Extreme Temperatures	Drought
Flood	Wildfire	Extreme Wind
Hurricane/Tropical Storm		Lightning
Nor'easter		Tornado
		Winter Storm
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Power Failure	Terrorism

Coastal Erosion, Landslide, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

Coastal erosion, storm surge, and wave action are all ranked as N/A (not applicable) due to the inland status of the borough and the fact that unlike some inland municipalities in Bergen County, Cresskill does not contain any tidally influenced water bodies. Landslide was also ranked as N/A, this is because the borough is largely flat without areas that may have landslide risk.

Dam failure is ranked high. Around the time of Ida, a small privately owned dam at Rionda's Pond which is a part of Cresskill Brook, broke in nearby Demarest and contributed to flooding in Cresskill, worsening the impacts. The dam was never fixed despite the borough alerting NJDEP and other relevant parties.

Extreme temperatures was ranked medium, Cresskill does activate cooling and heating centers during extreme heat or cold events. Extreme wind was ranked low, but the borough reported that a decent number of trees come down. The borough is actively running a shade tree program to do maintenance but is currently more responsive to complaints than conducting proactive maintenance. Flood is ranked high as the borough is at the confluence of Cresskill, Demarest, and Tenakill Brooks. Lightning is ranked low. The town has installed lightning detection services since the death of someone due to lightning strike in a nearby town years ago. Winter storm is ranked low, the town is well prepared to deal with snow and ice.

Power failure is ranked as medium, and the borough estimates that they occur roughly once a month. Orange and Rockland are the utility in Cresskill, which is the last town in the grid network, therefore issues in other towns impact Cresskill. Terrorism is ranked low as the town was unable to identify any potential soft targets within the jurisdiction. Cyber-attack was ranked medium. The borough has experienced issues with cyber security.

Significant Hazard Events Since Last Plan Update

Tropical Storm Ida resulted in significant impacts to Cresskill in September 2021. Municipal buildings impacted by flooding included the Department of Public Works and the High School which incurred $21 million in damages. The school has been repaired including a permanent temporary barrier installation which cost $76,000 of 406 mitigation funds. Additional municipal losses included the fire house which was damaged and required asbestos abatement costing nearly $100,000, and the municipal pool and fieldhouse which cost $25,000 to repair. The town road network was also impacted, on the west side of town, flooding reached Pierce Avenue, while on the east side of town, flooding made it to Legion Street. Flooding was worsened by the failure of a small privately owned dam in nearby Demarest as detailed in the above Hazard Ranking Explanation section.

Additional events include an intense rainstorm in July 2022 – which dumped 3 inches on the borough in an hour. The storm impacted an undersized culvert at Engle St and Lambs Lane, causing the banks to wash away and water to travel through roadway network on the eastern side of town.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the borough of Cresskill. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. Resulting flooding could exacerbate existing vulnerabilities, and create new issues, particularly in areas prone to flooding around the Tenakill Brook. Additionally, although no anticipated development was identified by the borough at this time, future development in the township or upstream within the watershed, could increase the amount of runoff entering the borough's streams. Actions identified by the borough's mitigation strategy such as drainage improvements (such as action 8-07) should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Cresskill Borough	
Number of Policies In-Force:	37
Total Losses:	88
Total Payments:	$2,609,610.37
Number of RL Properties:	5
Number of Mitigated RL Properties:	0
RL – Total Losses:	13
RL – Total Paid:	$223,354.88
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	8

Cresskill Borough	
SRL – Total Paid:	$206,708.71

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

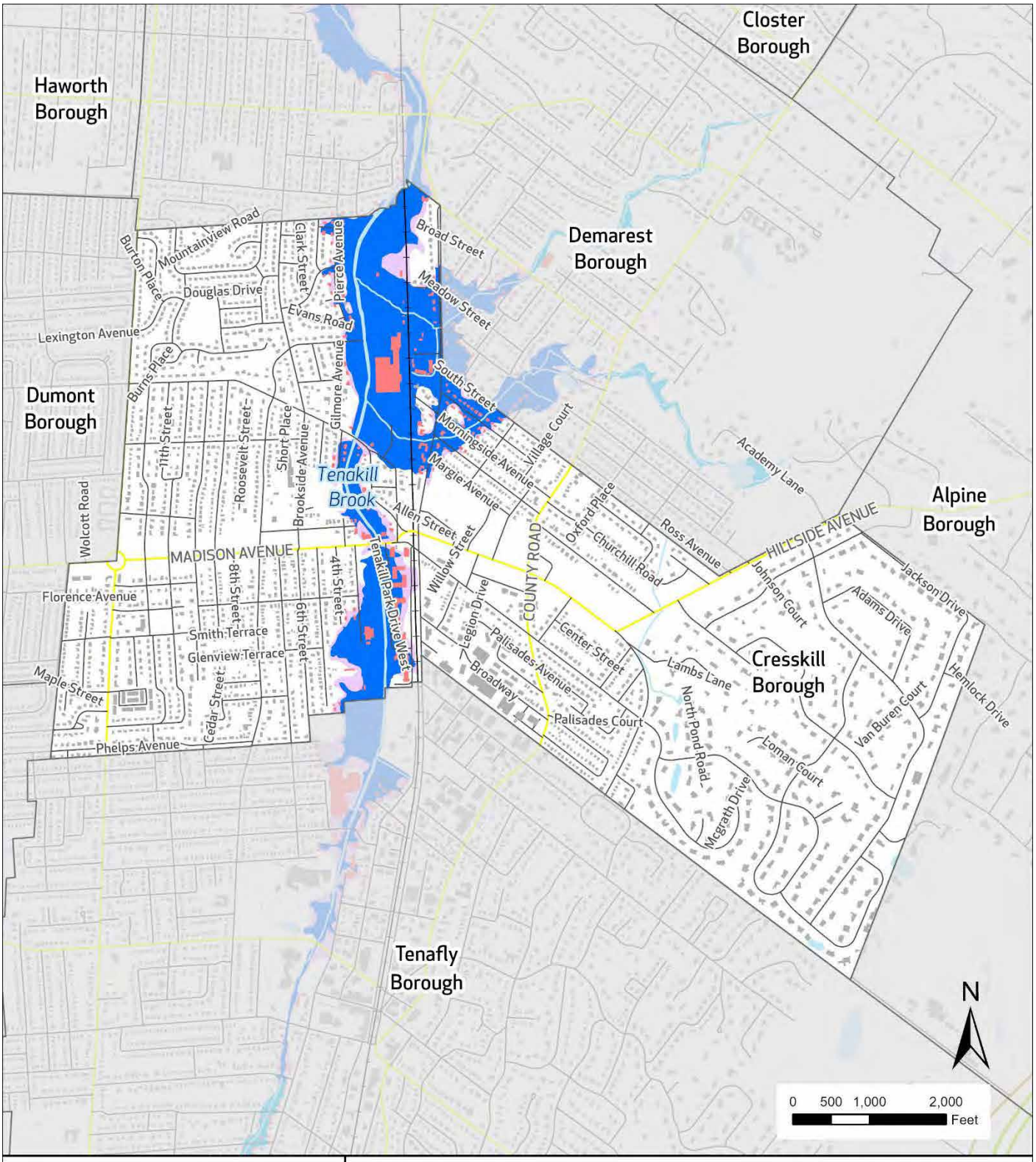
The Special Flood Hazard Area (SFHA) in the Borough of Cresskill is primarily located adjacent to the main waterbodies in the borough: Cresskill Brook, Demarest Brook, and Tenakill Brook. Approximately 9.6 percent of the total area of Cresskill lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

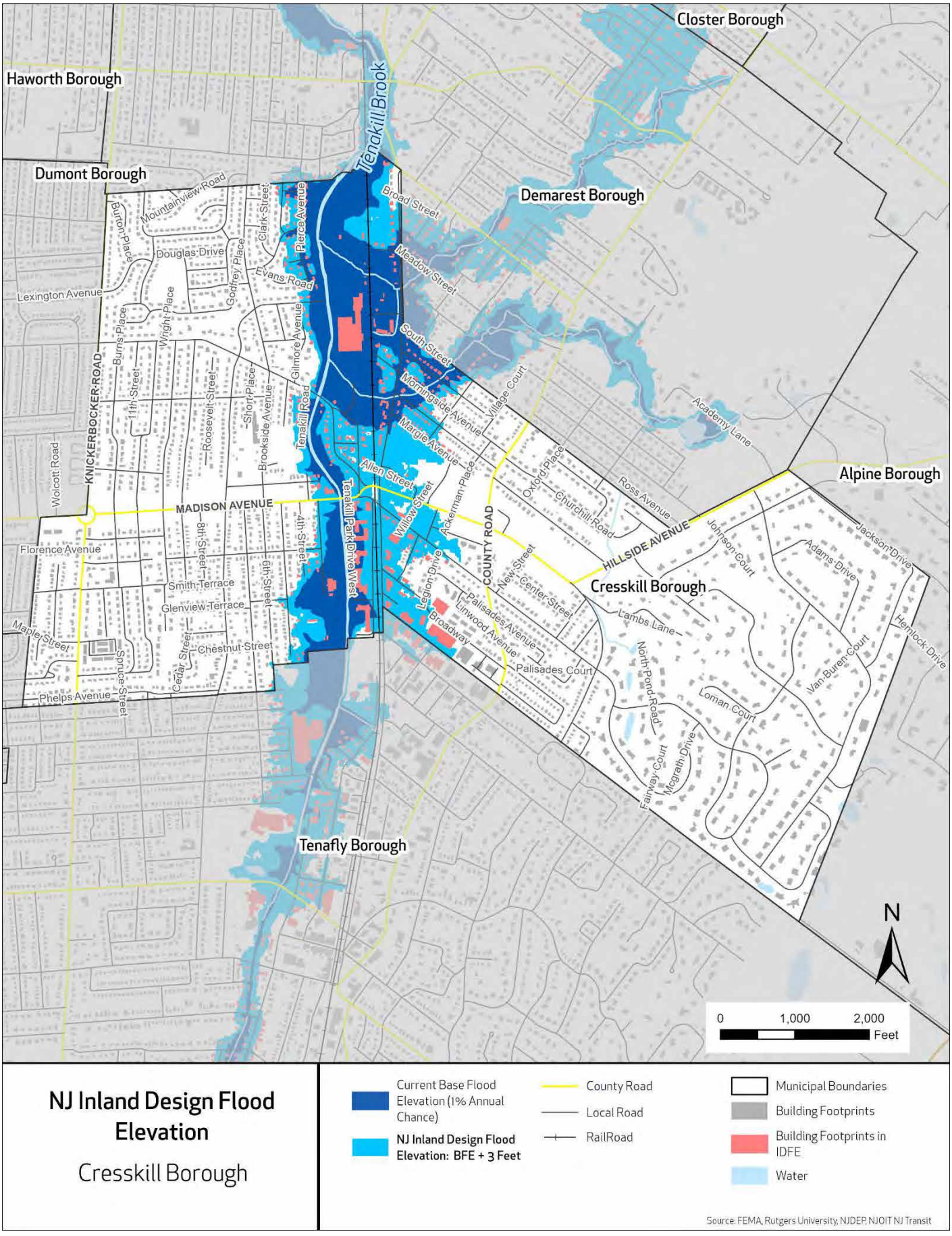
About 74.2 percent of Cresskill is considered developed. Of the developed parcels of the town, 5.1 percent fall at least partially within the 1% annual chance floodplain and 4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	5.1%	4.0%
Exposed Land Area	9.6%	1.7%

During the planning process, Cresskill Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, seven are within the 1% annual chance floodplain and one is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Energy	2	0
Health and Medical	1	0
Safety and Security	3	1
Water Systems	1	0


Haworth Borough
Closter Borough
Demarest Borough
Dumont Borough
Alpine Borough
Cresskill Borough
Tenafly Borough
Tenakill Brook
Broad Street
Meadow Street
South Street
Mountainview Road
Burton Place
Douglas Drive
Lexington Avenue
Burns Place
Clark Street
Pierce Avenue
Evans Road
Gilmore Avenue
Short Place
Brookside Avenue
Roosevelt Street
11th Street
Wolcott Road
MADISON AVENUE
Florence Avenue
8th Street
6th Street
4th Street
Smith Terrace
Glenview Terrace
Maple Street
Cedar Street
Phelps Avenue
Tenakill Park Drive West
Allen Street
Willow Street
Morningside Avenue
Margie Avenue
Village Court
Academy Lane
Oxford Place
Churchill Road
Ross Avenue
COUNTY ROAD
HILLSIDE AVENUE
Johnson Court
Jackson Drive
Adams Drive
Legion Drive
Palisades Avenue
Center Street
Broadway
Palisades Court
Lambs Lane
North Pond Road
Mcgrath Drive
Loman Court
Van Buren Court
Hemlock Drive
N
0 500 1,000 2,000
Feet
Flood Hazard
Cresskill Borough
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
US Highway
County Road
Local Road
Rail Line
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Cresskill Borough

Current Base Flood Elevation (1% Annual Chance)

NJ Inland Design Flood Elevation: BFE + 3 Feet

County Road

Local Road

RailRoad

Municipal Boundaries

Building Footprints

Building Footprints in IDFE

Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Cresskill Borough 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		10/20/2010	Provides guidelines for land use and infrastructure development
Capital Improvement Plan	X		01/15/2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance	X		06/18/2025	Restricts development in flood-prone areas to minimize risk of flood damage and property loss
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		06/26/2024	Regulates stormwater runoff and minimizes stormwater pollution for reduced flood risks and improved water quality
Stormwater Management Plan	X		2006	Provides guidelines for stormwater runoff and minimizes stormwater pollution for reduced flood risks and improved water quality
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			CAP 205 Study with the Army Corps of Engineers about flood hazards associated with the Tenakill Brook
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		03/03/2025	“Stormwater Pollution Prevention Plan” to provide guidelines to prevent the pollution of stormwater runoff for improved water quality

Administrative and Technical Capabilities

Cresskill Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		The Construction Code Official was formerly designated as the Floodplain Administrator. The new Floodplain Administrator shall be the Borough Engineer.
Grant Writer	X		Bruno Associates and the Borough Engineer are designated as the Grant Writers for all state/county-funded projects
Staff trained to support mitigation	X		Multiple staff members, including but not limited to, the Borough Engineer and OEM Coordinator are trained to support mitigation
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		CAP 205 Study by the Army Corps of Engineers about the flood hazards associated with the Tenakill Brook. Potentially join the Bergen County Stormwater Utility Program
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		The Borough of Cresskill Environmental Commission and the Rutgers Cooperative Extension Water Resources Program

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Cresskill Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Cresskill Borough 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:

Cresskill is currently working with the Army Corps of Engineers on a CAP 205 study to determine the feasibility of dredging Tenakill Brook.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Cresskill's overall mitigation action strategy puts a focus on preventing hazards before they begin, specifically with flood hazards as the Tenakill Brook traverses through the borough. As such, the borough has worked closely with the NJDEP in revising the "Flood Damage Prevention Ordinance", as well as updating the requirements within the "Stormwater Management Ordinance" of the borough in an attempt to restrict the intensity of flooding events and the requisite damages they cause. Multiple projects throughout the borough were completed to update the existing stormwater system and to provide the appropriate flow channels throughout the borough. As flooding has remained a major problem, the borough's priority over the next five years shall remain with upgrading the existing stormwater management system to provide flood mitigation and prevention.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
08-01	Purchase and Install Generators for Pump Houses	Replacement generators for pump houses on Grant Avenue and Fifth Street.	All Hazards	Medium	Cresskill DPW	FEMA HMA, municipal budget	$43,000	1 year	Complete	
08-02	Install a Deployable Flood Barrier to Prevent Water from Infiltrating the High School and DPW	Install a deployable flood barrier to stop water from infiltrating the high school and DPW.	Flood	High	Cresskill Borough	FEMA Public Assistance (4614-DR_NJ)	$76,000	1 year	Complete	The borough installed permanent temporary barrier surrounding the high school and DPW following damage to the properties from Remnants of Hurricane Ida.
08-03	Dredge and De-snag Tenakill Brook	Removal of silt from brook to address flooding	Flood	Low	Cresskill DPW	Municipal budget	Staff payroll	1 year	Complete	DPW de-snags the brook regularly. Recently completed using budget to pay for staff time and equipment

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
08-04	Replace Mobile Generators for Emergency Equipment	Portable light towers for rescues at night or during a power outage.	All Hazards	Medium	Cresskill Borough	Municipal budget	$60,000	1 year	Ongoing	Borough would like to procure four light towers.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
08-05	Elevate Manholes and Grant Ave Pump Station	Elevate two manholes at Piermont Road, 3rd Street, and Grant Avenue Pump Station. Elevate each side of the siphon to bring above flood elevation, about 3 to 4 feet.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Cresskill Borough	FEMA HMA	$10,000	1 year	Ongoing	Borough is unsure how feasible this action is. Would require much coordination with DEP because location is on the edge of the water body.
08-06	Conduct a Study of Homes with Illegal Sump Pump Connections	Conduct a study of homes with illegal sump pump connections.	Flood, Severe Weather	Medium	Cresskill Borough	New Jersey Infrastructure Bank, municipal budget	$200,000	1 year	Ongoing	No progress has been made on this action.
08-07	Construct Wider Culverts on Lincoln and Lambs Lane	Widen culverts on Lincoln and Lambs Lane.	Flood, Nor'easter, Severe Weather	High	Cresskill Borough	FEMA HMA	$2.5 million	1 year	Ongoing	This action remains a high priority for the borough. Would require an H&H study first (estimated at $25,000).
08-08	Acquire Deployable Flip-down Notification Signs to Direct Traffic and Reroute Cars during Flooding	Acquire deployable flip-down notification signs to direct traffic reroute cars during flooding.	Flood	Medium	Cresskill Borough	Municipal budget	$10,000	1 year	Ongoing	No progress, the town has some barricades that they use in the case of hazard events but drivers often ignore them and drive around them getting into hazardous situations.
08-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	borough OEM and Homeowners	FEMA HMA	$20 million	5 + years	Ongoing	No progress has been made on this action.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
08-10	Conduct a Dam and Wildfire Risk Study	Conduct a study to understand mitigation strategies the borough can implement to reduce the risk of wildfire and flooding due to dam failure. Also join the FireWise USA program.	Dam and Levee Failure, Wildfire	Low	borough	Municipal budget	$100,000	3 years	Ongoing	No progress has been made on this action.
08-11	Implement findings from CAP 205 Study	Borough is working with the USACE to dredge the Tenakill Brook. USACE is currently conducting a feasibility study on the action	Flood	High	Army Corps of Engineers	USACE, NJDEP, borough of Cresskill, Cresskill Board of Education	$15 million	5-10 years	New	

9 – DEMAREST BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
John McLoughlin	**OEM Coordinator**	**Primary Contact, Municipal Meeting**
Julie Falkenstern	Borough Administrator	Review Appendix

COMMUNITY PROFILE

Overview

The Borough of Demarest spans approximately 2.08 square miles and is located in northeastern Bergen County, New Jersey. The borough was formed on April 8, 1903, from portions of the now defunct townships of Harrington and Palisades. The borough borders the municipalities of Alpine, Closter, Cresskill, Dumont, and Haworth. It is bisected from north to south by Tenakill Brook. Cresskill and Demarest Brooks flow through the eastern side of town before flowing into the Tenakill in nearby Cresskill. Major landmarks include the Demarest Railroad Depot and several houses listed on the National Register of Historic Places. County Routes 501 and 505 travel through Demarest, and the borough is serviced by coach bus services to and from Manhattan. Passenger traffic on the rail line through Demarest stopped in 1966. The borough has a population of 4,930 residents. Demarest is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Demarest Borough is primarily a residential community, with the MOD-IV dataset showing residential land use accounted for 71% of the total land area, covering almost 675 acres in 2022. Civic/public (tax exempt) land use also makes up a significant portion, comprising 27% of the total land area in the same year. From 2016 to 2022, commercial and vacant land uses saw noticeable decreases in acreage.

Notably, according to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the urban land use category occupied the largest share of land use, making up nearly 77% of the area in 2020. Forest and wetlands also made up significant portions of the land use, 13% and 8%, respectively. No NJDEP land use type saw a change of more than four acres from 2015 to 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	0%
Barren Land	8	12.2	53%
Forest	177.8	177.4	-<1%
Urban	1028.6	1025	-<1%
Water	11.7	11.7	0%
Wetlands	104.3	104.3	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Major recent development includes a residential development at the end of Duane Lane near the Alpine Country Club consisting of 24 townhomes. The development does not include affordable housing units and is not located in the floodplain.

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

Upcoming development includes 12 townhouses at 95 County Road. Three-story affordable housing will be built on Hardenburgh Avenue.

Demographics & Vulnerable Populations

Demarest Borough's total population is an estimated 4,930. This is a -2.0% population decline estimated since the last survey period in 2013-2017. The borough has an estimated 5.6% of its population under age 5, and 17.5% over age 65. With an aging population making up nearly eighteen percent of the borough's population, Demarest may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a population decline of two percent over those survey periods may indicate potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

Demarest has one block group which meets criteria for State overburden designation (OBC) for *Minority* populations, in the northwestern portion of the borough. No areas of Demarest Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	4,930
Population Change since 2017	-2.0%
Percent of Population Age < 5	5.6%
Percent of Population > 65	17.5%

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

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked dam failure as at a medium level of concern; it would be affected if by failure of the dam in Alpine. The borough has a regional high school and thus ranks terrorism as at a medium level of concern. It is also proximate to New York City. Additionally, the borough is susceptible to flooding due to heavy rains and hurricanes, which have caused damage in the past. Coastal flooding and erosion are also potential hazards given its proximity to water bodies.

Significant Hazard Events Since Last Plan Update

Heavy rains in October 2021 caused partial collapse of a small dam at a private pond in the borough. No significant damage or injury occurred. The dam had been damaged by overtopping during the remnants of Hurricane Ida earlier in the year. The hurricane washed away a bridge in the borough.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Demarest Borough	
Number of Policies In-Force:	21
Total Losses:	30
Total Payments:	$319,970.18
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	7
RL – Total Paid:	$47,402.21
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$136,529.13

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

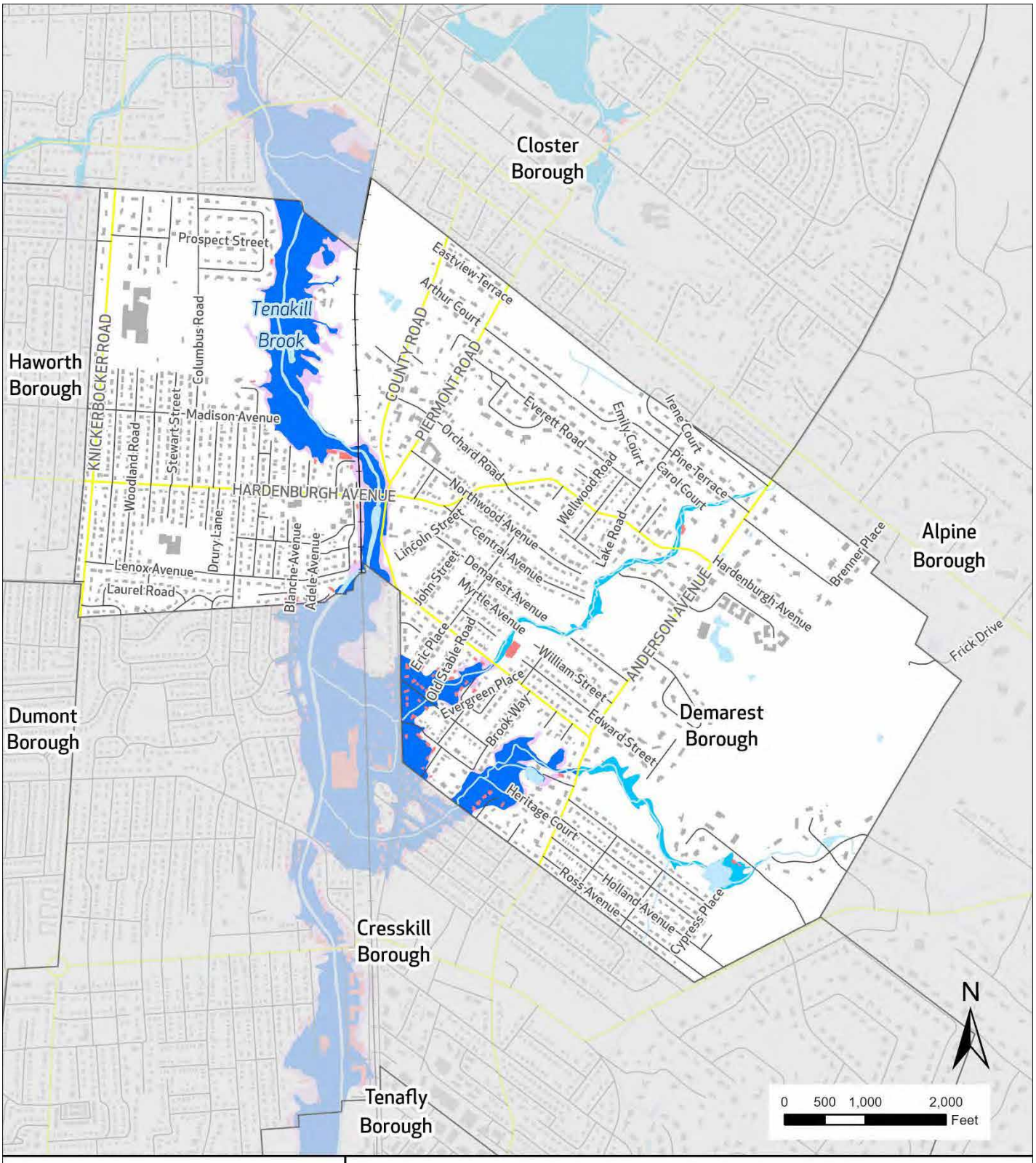
The Special Flood Hazard Area (SFHA) in the Borough of Demarest is primarily located adjacent to the main waterbodies in the borough: Cresskill Brook, Demarest Brook, and Tenakill Brook. Approximately 6.7 percent of the total area of Demarest lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.4 percent of the area of the municipality is in the 0.2% annual chance floodplain.

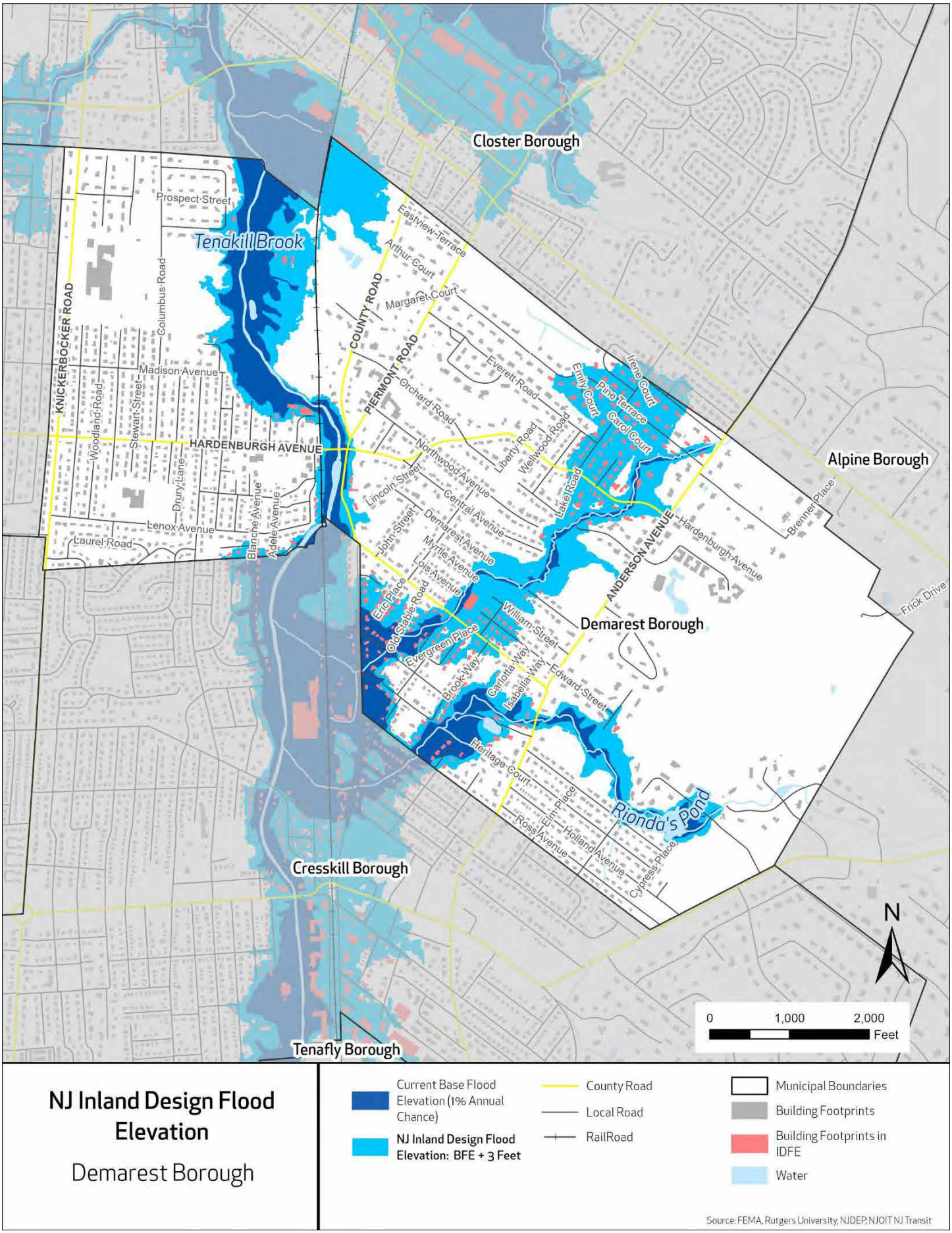
About 73.4 percent of Demarest is considered developed. Of the developed parcels of the town, 6.9 percent fall at least partially within the 1% annual chance floodplain and 5.3 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	6.9%	5.3%
Exposed Land Area	6.7%	1.4%

During the planning process, Demarest Borough 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 10 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


Closter Borough
Haworth Borough
Alpine Borough
Demarest Borough
Dumont Borough
Cresskill Borough
Tenafly Borough
Tenakill Brook
Prospect Street
KNICKERBOCKER ROAD
Columbus Road
Madison Avenue
Woodland Road
Stewart Street
HARDENBURGH AVENUE
Drury Lane
Lenox Avenue
Laurel Road
Blanche Avenue
Adele Avenue
Eastview Terrace
Arthur Court
COUNTY ROAD
PIERMONT ROAD
Orchard Road
Everett Road
Emily Court
Irene Court
Pine Terrace
Carol Court
Wellwood Road
Lake Road
Northwood Avenue
Central Avenue
Lincoln Street
John Street
Demarest Avenue
Myrtle Avenue
Eric Place
Old Stable Road
Evergreen Place
Brook Way
William Street
Edward Street
ANDERSON AVENUE
Hardenburgh Avenue
Brenner Place
Frick Drive
Heritage Court
Ross Avenue
Holland Avenue
Cypress Place
N
0 500 1,000 2,000
Feet
Flood Hazard
Demarest Borough
FEMA Flood Zone
0.2% Annual Chance
A (1%); AH (1%)
AE (1%)
County Road
Local Road
Rail Line
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


Closter Borough
Alpine Borough
Demarest Borough
Cresskill Borough
Tenafly Borough
Tenakill Brook
Rionda's Pond
Prospect Street
Columbus Road
KNICKERBOCKER ROAD
Woodland Road
Stewart Street
Madison Avenue
HARDENBURGH AVENUE
Drury Lane
Lenox Avenue
Laurel Road
Blanche Avenue
Adele Avenue
Eastview Terrace
Arthur Court
Margaret Court
COUNTY ROAD
PIERMONT ROAD
Orchard Road
Everett Road
Emily Court
Irene Court
Pine Terrace
Carol Court
Liberty Road
Wellwood Road
Lake Road
Northwood Avenue
Lincoln Street
Central Avenue
John Street
Demarest Avenue
Myrtle Avenue
Lois Avenue
Erich Place
Old Stable Road
Evergreen Place
William Street
ANDERSON AVENUE
Hardenburgh Avenue
Brenner Place
Frick Drive
Brook Way
Carlotta Way
Isabella Way
Edward Street
Heritage Court
Ross Avenue
Holland Avenue
Cypress Place
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Demarest Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Wildland Urban Interface (WUI) Classification

Demarest Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Demarest Borough 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		2022	
Capital Improvement Plan	X		2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	
Floodplain Development Ordinance	X		2025	
Floodplain Management Plan	X		2025	
Stormwater Management Ordinance	X		2025	
Stormwater Management Plan	X		2025	
Watershed Management Plan				
Sheltering Plan	X		2025	
Evacuation Plan	X		2025	
Substantial Damage/Improved Structures Response	X		2025	
Repetitive Loss Plan				
Disaster Debris Management Plan	X		2025	
Tracking elevation certificates and/or Letter of Map Change				
Post-Disaster Recovery Plan	X		2025	
Current/recent redevelopment plans or studies	X		2024	
Community Wildfire Protection Plan		X		Not in high-risk area
Climate Adaptation Plan				
Other Plans that discuss hazard mitigation				
Other ordinance and regulation that mitigate the impacts of natural hazards	X		2025	As of 2025 all required NJDEP ordinances have been adopted

Administrative and Technical Capabilities

Demarest Borough 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		Bergen County
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

Demarest Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Demarest Borough 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:

Demarest is a Sustainable Jersey participating community. Sustainable Jersey is a non-profit organization which provides tools, training, and financial incentives to support and reward communities as they pursue sustainability programs and efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough has adopted all NJDEP Stormwater management ordinances. The Borough has prioritized paving of unimproved roads to add drainage upgrades. The Borough has a five-year capital improvement plan that includes funding for infrastructure upgrades.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
09-01	Create an MOA with Borough of Alpine for Supporting Demarest DPW during Flood Events	Create an MOA with Borough of Alpine for supporting Demarest DPW during flood events.	Flood	Mediu m	County/Loca l	Municipal budget	$5,000.0 0	1 year	Withdrawn	
09-02	Purchase and Install Generators for Traffic Lights	Purchase and install generators for traffic lights, such as the Knickerbocker and Madison intersection. Coordinate with County on County-owned traffic lights.	All Hazards	Mediu m	Borough	Municipal budget, County funds	$10,000	1 year	Completed	This was completed for the two County lights.
09-03	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage	Obtain back up servers for municipal and police records and store offsite at a secondary data storage facility.	Cyber Attack	Mediu m	Demarest Borough	Homeland Security grants, municipal budget	$50,000	1 year	Completed	
09-04	Purchase Emergency Messaging Equipment	Purchase light towers, variable message signs for use in the event of a major storm event or evacuations.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Low	Demarest Borough	Municipal budget, Homeland Security grants	$25,000	1 year	Completed	Message board obtained

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
09-05	Construct a Secondary Railroad Track Crossing for Emergency Vehicle Access	Secondary railroad track crossing for emergency vehicle access.	Flood	Low	Demarest Borough	Municipal budget	$10,000	1 year	Ongoing	Waiting on NJDEP approval
09-06	Conduct a Study on Flood Risk Reduction on Tenakill Brook	Flood risk reduction on Tenakill Brook.	Flood	Medium	County/Borough	Municipal budget	$50,000	1 year	Ongoing	
09-07	Purchase and Install Generator for EOC at Wakelee Drive, Borough Hall, DPW, and Ambulance Core.	Purchase and install a generator for EOC at Wakelee Drive. The diesel generators at Borough Hall need to be upgraded. Also obtain mobile generators for DPW and ambulance core. Should be natural gas to avoid any potential diesel shortages. Funding has not been received for this project.	All Hazards	Medium	Demarest Police Department	FEMA HMA, Municipal Finances, CDBG-DR	$150,000	1 year	Ongoing	
09-08	Create an Emergency Access Road to Enable Use of Second Bridge	Create an emergency access road to enable use of second bridge to navigate around flood zone (Wakelee Drive) in case bridge floods during an emergency event.	Flood	Medium	Demarest Borough	Municipal budget	$150,000.00	1 year	Ongoing	
09-09	Flood-proof DPW Facility and Yard	DPW building is in a floodplain and needs to be further flood proofed.	Flood, Nor'easter, Hurricane and Tropical	High	Borough	FEMA HMA	$150,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
			Storm, Severe Weather							
09-10	Coordinate with Cresskill Borough to Reduce Flooding and Overflow from Tenakill Brook	Coordinate with Cresskill Borough to reduce flooding and overflow from Tenakill Brook.	Flood	Medium	Demarest Borough/County	Municipal budget	$250,000	1 year	Ongoing	There is a pond in the borough to be dredged.
09-11	Target Harden Critical Facilities by Installing Surveillance Cameras	Upgrade security system and cameras in borough Hall, DPW, fire house, and ambulance core.	Terrorism	Low	Demarest Borough	Homeland Security grants	$40,000 for BH & DPW/Fields FD to be done $10,000	1 year	Ongoing	BH/DPW/Field is done FD 2026
09-12	Update Telecommunications for the EOC at Borough Hall	Update telecommunication for the EOC at Borough Hall, including radios and computer stations.	All Hazards	High	Borough	Municipal budget	$200,000	1 year	Ongoing	The police desk at Borough Hall has been updated; it may be used to dispatch police and fire. Radio upgrades scheduled for 2026
09-13	Purchase Equipment to Maintain Infrastructure that will Reduce Losses and Cascading Failures Associated with Hazard Events	Purchase a tree trimming truck to prevent power disruption during severe weather events.	All Hazards	Medium	Borough/County	Municipal Budget	$50,000	1 year	Ongoing	Shared service and contract for outside vendor to do tree trimming and hazardous tree removals

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
09-14	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate repetitive loss and severe repetitive loss properties by acquiring the properties through the Blue Acres program, demolishing the property, elevating the property, or if the homeowner does not wish to vacate the property or elevate educate them on the risk and the options open to them.	Flood	High	Demarest Borough	FEMA HMA	$100,000	2 years	Ongoing	
09-15	Conduct a Dam Risk Study	Conduct a study to understand mitigation strategies the borough can implement to reduce of flooding due to dam failure.	Dam and Levee Failure	Low	Borough	Municipal budget	$300,000	3 years	Ongoing	Inspection complete, repair or decommission study to be done 2026

10 – DUMONT BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Captain Kyle Lezette	**OEM Coordinator**	**Primary Contact, Municipal Meeting**
Chief Brian Joyce	Former Emergency Management Coordinator	Local OEM Meeting
Jeanine Siek	Borough Administrator	Internal Meetings
Robert Sherrow	Building Department Construction Official	Internal Meetings

COMMUNITY PROFILE

Overview

The Borough of Dumont spans approximately 2.07 square miles and is located in northeastern Bergen County, Incorporated as the Borough of Schraalenburgh in 1894, Dumont took its present name in 1898. Dumont borders the municipalities of Bergenfield, Cresskill, Demarest, Haworth, New Milford, and Oradell. County Route 505 forms the eastern border of the town and the borough is serviced by NJ Transit bus routes 166, 167, and 186, and local service is provided on the 753 and 772 routes. The borough has a population of 18,014 residents. Dumont is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Dumont Borough is primarily a residential community, with the MOD-IV dataset showing residential land use (including apartments) accounting for 80% of the total land area, covering over 770 acres in 2022. Civic/public (tax exempt) and commercial land uses also make up significant portions, comprising 11% and 6% of the total land area in the same year. From 2016 to 2022, the overall land use composition of the borough remained roughly the same.

Notably, according to NJDEP's Land Use/Land Cover datasets, the urban land use category occupied 99% of the area in 2020, making up 1,235.3 acres. The next greatest land use was forest, occupying 14.3 acres. Agriculture land use went from 3.7 acres in 2015 to no acres in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	3.7	0	-100%
Barren Land	0	1.3	-
Forest	14.3	14.3	0%
Urban	1232.8	1235.3	<1%
Water	1.5	1.5	0%
Wetlands	0	0	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

In 2021, the borough completed construction on a new municipal complex on Washington Avenue. The building houses the police department, municipal offices, the municipal court, the council chambers, and offices for the recreation department and the fire department. The building is not located within the floodplain.

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

None identified.

Demographics & Vulnerable Populations

Dumont Borough's total population is an estimated 18,014 as of the 2018-2022 ACS survey period, a negligible 0.74% population growth estimated since the 2013-2017 ACS survey. This population is estimated to be 4.0% under age 5, and 15.4% over age 65. With an aging population making up over fifteen percent of the borough's residents, Dumont may

focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

There are ten block groups throughout the borough which meet criteria as *Minority* populations under the State of New Jersey's OBC designation. No areas of the borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	18,014
Population Change since 2017	.74%
Percent of Population Age < 5	4.0%
Percent of Population > 65	15.4%

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

Hazard Ranking Explanation

Flooding is considered a hazard of medium concern as the borough's Hirshfeld Brook has houses by it.

Significant Hazard Events Since Last Plan Update

During Hurricane Ida in September 2021, flooding occurred in the areas of the borough prone to flooding including around the Hirshfeld Brook and Cypress Road. Additionally, the new Borough Hall flooded.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Dumont Borough	
Number of Policies In-Force:	68
Total Losses:	144
Total Payments:	$997,864.88
Number of RL Properties:	9
Number of Mitigated RL Properties:	0
RL – Total Losses:	21
RL – Total Paid:	$149,115.97
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

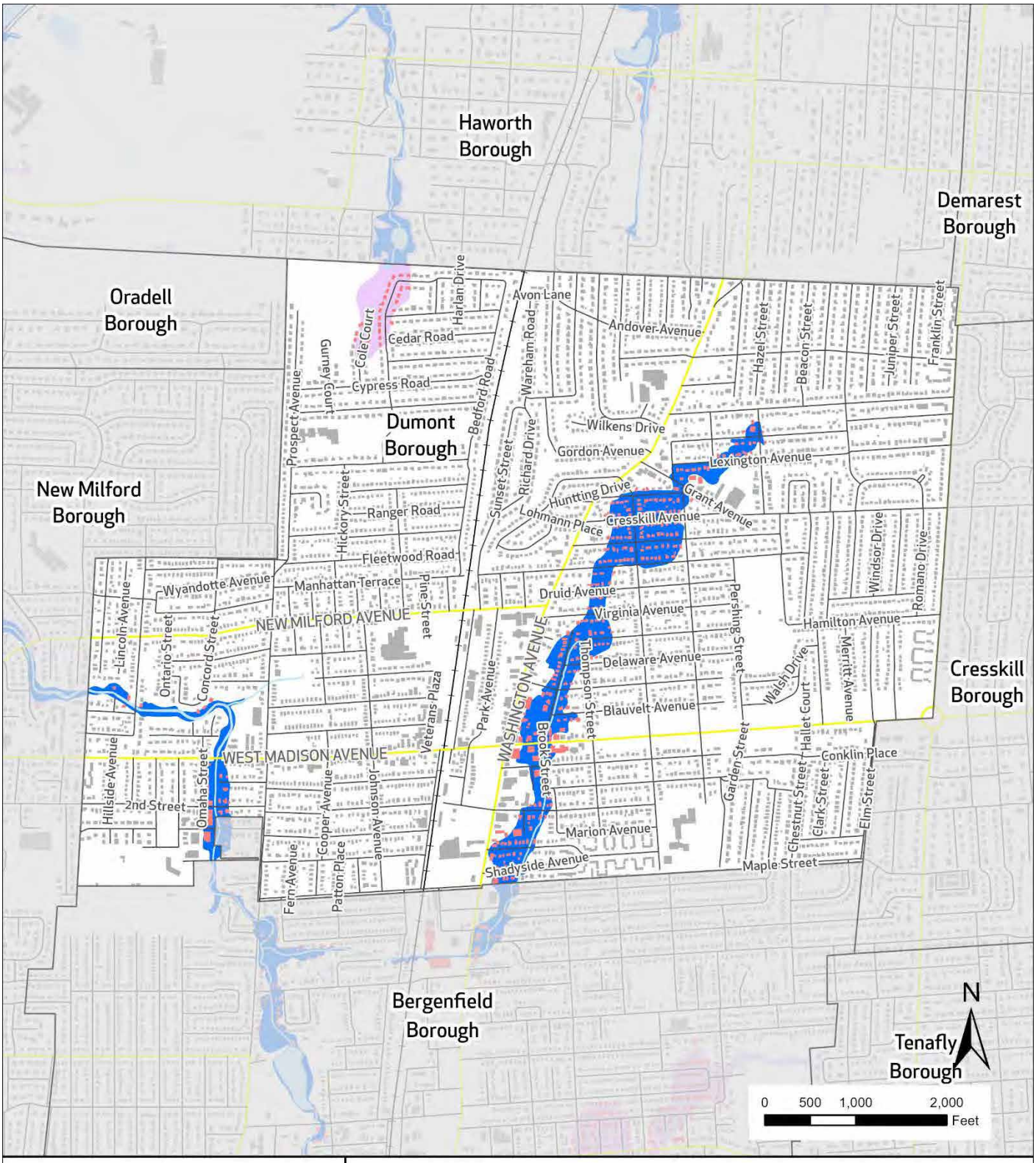
The Special Flood Hazard Area (SFHA) in the Borough of Dumont is primarily located adjacent to the main waterbodies in the borough: Haworth Brook and Hirshfield Brook. Approximately 6.8 percent of the total area of Dumont lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 73.5 percent of Dumont is considered developed. Of the developed parcels of the town, 6.7 percent fall at least partially within the 1% annual chance floodplain and 0.7 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	6.7%	0.7%
Exposed Land Area	6.8%	0.8%

During the planning process, Dumont Borough 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 20 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, three are located within the 1% annual chance floodplain and none are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Health and Medical	1	0
Water System	2	0



Flood Hazard

Dumont Borough

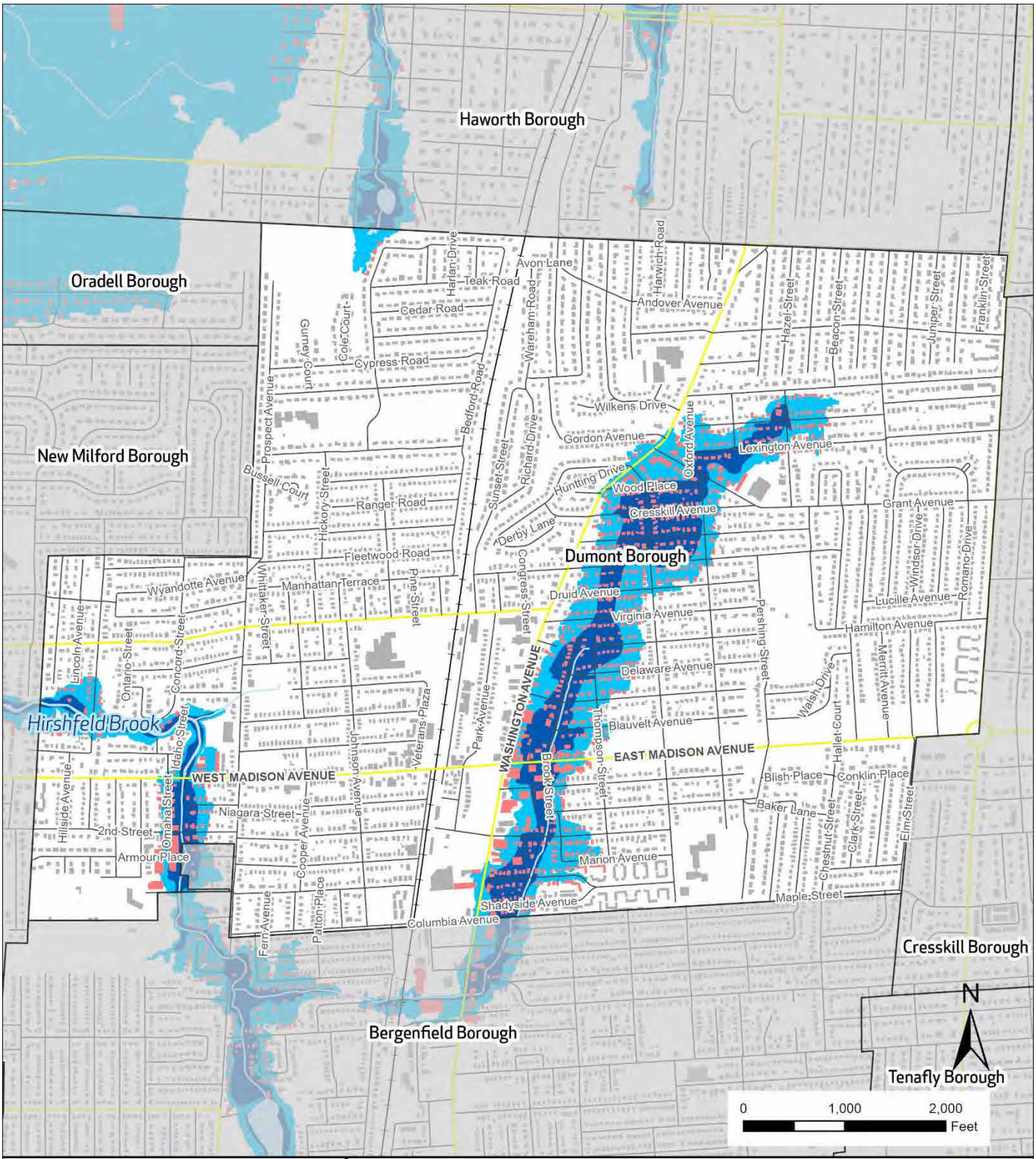
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Haworth Borough
Oradell Borough
New Milford Borough
Dumont Borough
Bergenfield Borough
Cresskill Borough
Tenafly Borough
Hirshfeld Brook
WASHINGTON AVENUE
WEST MADISON AVENUE
EAST MADISON AVENUE
Harlan Drive
Teak Road
Avon Lane
Harwich Road
Cedar Road
Cole Court
Cypress Road
Wareham Road
Andover Avenue
Hazel Street
Beacon Street
Juniper Street
Franklin Street
Bedford Road
Wilkens Drive
Gordon Avenue
Oxford Avenue
Lexington Avenue
Prospect Avenue
Bussell Court
Hickory Street
Ranger Road
Sunset Street
Richard Drive
Hunting Drive
Wood Place
Cresskill Avenue
Grant Avenue
Derby Lane
Fleetwood Road
Manhattan Terrace
Pine Street
Conquess Street
Druid Avenue
Virginia Avenue
Lucille Avenue
Windsor Drive
Romano Drive
Hamilton Avenue
Pershing Street
Wyandotte Avenue
Lincoln Avenue
Ontario Street
Concord Street
Idaho Street
Delaware Avenue
Merritt Avenue
Walsh Drive
Park Avenue
Veterans Plaza
Johnson Avenue
Thompson Street
Blauvelt Avenue
Hillside Avenue
2nd Street
Niagara Street
Ontario Street
Armour Place
Cooper Avenue
Blish Place
Conklin Place
Baker Lane
Hallet Court
Clark Street
Elm Street
Chestnut Street
Marion Avenue
Shadyside Avenue
Maple Street
Columbia Avenue
Fern Avenue
Patton Place
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Dumont Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Dumont Borough 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		2024	
Capital Improvement Plan	X		2023	Drainage and water rescue equipment installed
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2023	Enforced higher freeboard
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		12/19/2023	Higher standards were adopted
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Overseen by the Building Department
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Through Building Department
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		
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			Code Coordinated Ordinance (improved Flood Damage Prevention Ordinances as approved by FEMA)

Administrative and Technical Capabilities

Dumont Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Contract Engineer
Grant Writer	X		Part-time
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

Dumont Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Through Nixle and jurisdiction website
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		Class 9

Financial Capabilities

Within the last five years, Dumont Borough 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		Based on requirement
Other ongoing efforts to build additional financial capabilities		X	

Additional Capability Assessment Information:

Dumont recently received an $80,000 grant from the State for development of a stormwater drainage study to determine the most at-risk flood areas by calculating the capacity of the current piping system in place. The borough will work with a consulting engineering firm to collect data, establish a municipal stormwater management plan, and prioritize state-recognized high-priority green space parcels. Recommendations of priority projects for stormwater infrastructure will be made by the consultant and borough.

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Dumont has focused on enhancing flood resilience, improving emergency response capabilities, and enhancing backup power at essential Facilities. Over the next five years, Dumont aims to prioritize projects that address emerging climate challenges, by cleaning and expanding brooks, and backup power to essential facilities.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
10-01	Purchase and Install Generator at New Borough Hall	Although the previous Borough Hall had a generator (Community Action #10-16), the Hall was demolished, and a new Borough Hall is in the process of being built at 50 Washington Ave. The old generator cannot support the size of the new Borough Hall facility and therefore a new generator is needed.	All Hazards	Mediu m	Borough Administrati on	FEMA HMA	$350,000 .00	1 year	Withdrawn	FEMA would have provided $75,000 if the borough could provide $275,000, but the Borough was unable to provide those funds.
10-02	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowner s	FEMA HMA	TBD	5 + years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
10-03	Conduct Stream Restoration of the Eastern Section of the Hirshfeld Brook	Widen brook, clear of debris, and provide continual maintenance of the brook to improve stormwater infiltration.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Dumont DPW	Municipal budget	$150,000	5 + years	Ongoing	
10-04	Purchase and Install Generators at Shelters	Purchase and install generators at the Grant School (100 Grant Ave.) and Lincoln Elementary School (80 Prospect Ave.) which are designated as Red Cross Shelters.	All Hazards	Medium	Borough of Dumont, BOE	FEMA HMA	$305,000.00	2 years	Ongoing	
10-05	Construct Flood Reduction Projects along the Hirschfield Brook	Construct flood reduction projects that emerged from the NJEIT Flood Control Project and Flood Management Plan.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Dumont	FEMA HMA	$250,000	2 years	Ongoing	

11 – EAST RUTHERFORD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Francis Joseph Jr.	**OEM Coordinator**	**Primary Contact, Municipal Meeting**
Glenn Beckmyer	Floodplain Manager	Flood Mitigation Support
Paul DeRosa	Public Works Director	Stormwater Pipe Cleaning & Repair Support
Mike Laruso	DPW Commissioner	Financing Support

COMMUNITY PROFILE

Overview

The Borough of East Rutherford spans approximately 4.04 square miles and is located in southern Bergen County, New Jersey. The borough's eastern portion is part of the Meadowlands region, a large system of wetlands. Additionally, it is home to the MetLife Stadium, which is a part of the Meadowlands Sports Complex. The Berry's Creek Canal, which flows from north to south, joins the Hackensack River flowing along the southeastern border of the borough. The Passaic River forms the western boundary of East Rutherford. Berry's Creek is further connected to a network of channels that lie to the west of the Meadowlands Sports Complex. The borough also houses the American Dream Meadowlands, a large shopping center and entertainment complex. The significant presence of water bodies within the jurisdiction, along with its proximity to Hackensack River, makes the borough susceptible to flooding. East Rutherford has a population of 10,020 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In East Rutherford, civic/public (tax exempt) use is the predominant land use, accounting for 60% of its total area and covering nearly 1,097 acres in 2022. In the same year, other significant land uses included industrial, residential (including apartment), commercial, and vacant land uses, which made up 13%, 13%, 7%, and 6% of the borough, respectively. Between 2016 and 2022, there was a 38-acre decrease in East Rutherford's commercial use and 17-acre decrease in vacant land use, accompanied by a 93-acre increase in civic/public (tax exempt) use, and a 25-acre rise in apartment use.

NJDEP's Land Use/Land Cover data shows similar changes in the borough's land use composition between 2015 and 2020; urban/developed land increased by 2%, while its barren land fell by 42%. In 2020, urban land accounted for 62% of East Rutherford's total area, followed by wetlands and water, which covered 23% and 10%, respectively, of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	60.4	35.2	-42%
Forest	89.6	89.9	<1%
Urban	1592.6	1617.4	2%
Water	254.2	254.1	-<1%
Wetlands	592.5	592.6	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough recently moved the overlay for commercial use out of a floodplain.

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

None.

Demographics & Vulnerable Populations

East Rutherford Borough has a total population estimated to be just over 10,000 (10,020). This population is an estimated 6.2% growth since the last ACS survey period (2013-2017). East Rutherford's population is estimated to be nearly 9.0% under age 5, and 13.8% over age 65. A notable growth rate of such magnitude (over six percent over two ACS survey periods) may highlight potential local vulnerability to hazard events, including vulnerability related to changing landscape conditions including development and redevelopment, densification, and, potentially, increased strain on local resources.

There are five block groups in East Rutherford meeting overburden (OBC) criteria under designations as *Minority* and *Low Income and Minority* communities. No areas of the Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	10,020
Population Change since 2017	6.2%
Percent of Population Age < 5	9.0%
Percent of Population > 65	13.8%

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

Hazard Ranking Explanation

The borough is susceptible to flooding, particularly flooding induced by hurricanes, nor'easters, and storm surge, with Hurricane Irene causing record levels of flooding and damage to residential property. The borough also frequently experiences lightning strikes and has installed a lightning warning system. As a result, it ranked hurricane/tropical storm, lightning, nor'easter, flood, and storm surge as hazards of high concern.

Significant Hazard Events Since Last Plan Update

The last significant hazard event experienced by the borough was Hurricane Ida during 2021. Nevertheless, it has experienced flooding during heavy rainfall and lunar high tides, despite having a tide gate off the Hackensack River. As a

result, a few property owners in the borough are considering buyouts while others are considering elevating their properties.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including East Rutherford. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Passaic River. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 14% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

East Rutherford Borough	
Number of Policies In-Force:	62
Total Losses:	256
Total Payments:	$6,603,811.77
Number of RL Properties:	34
Number of Mitigated RL Properties:	0
RL – Total Losses:	90
RL – Total Paid:	$1,761,219.44
Number of SRL Properties:	13
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	57
SRL – Total Paid:	$2,049,078.14

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

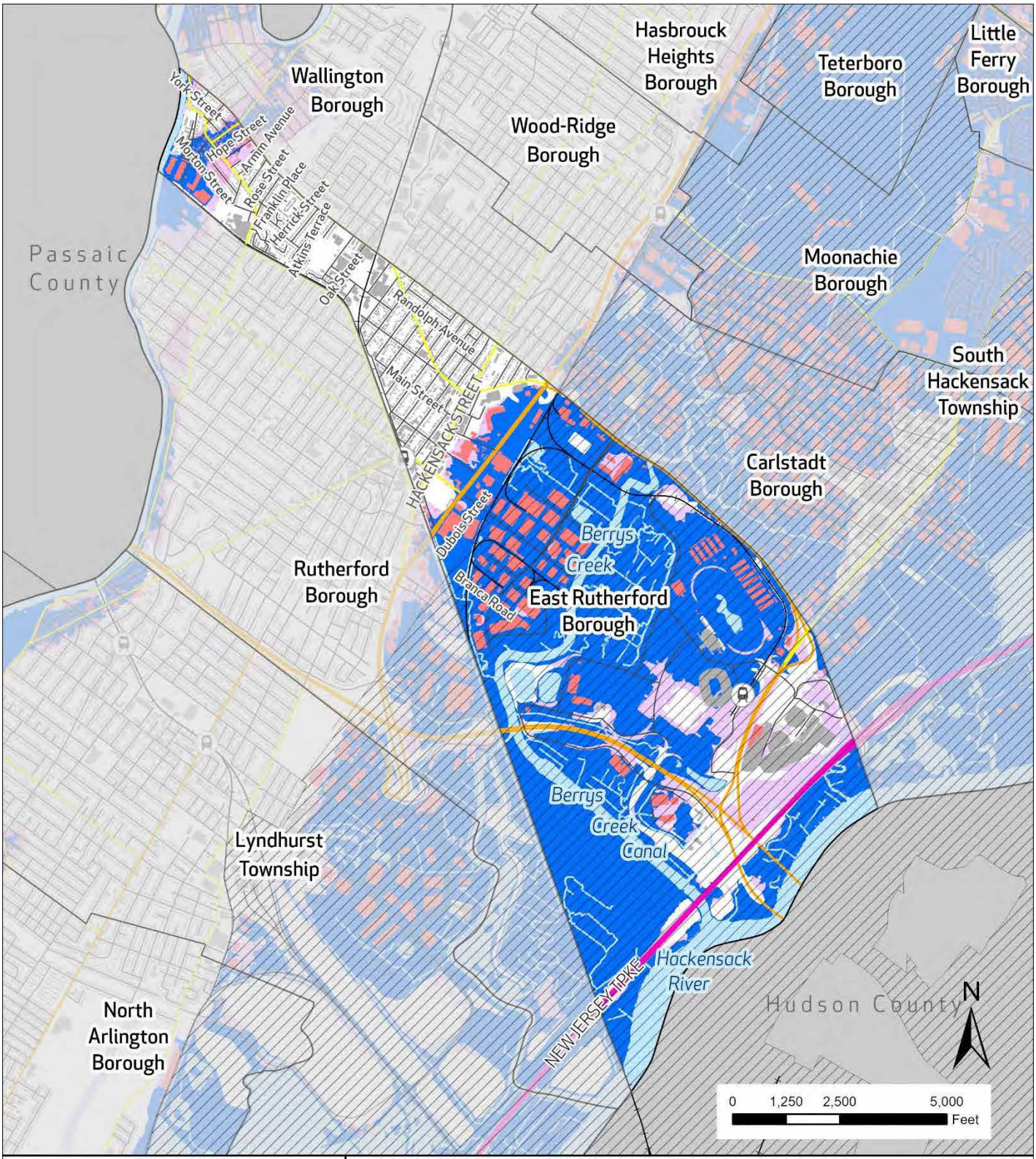
The Special Flood Hazard Area (SFHA) in the Borough of East Rutherford Borough is primarily located within the wetlands in the eastern portion of town within the Meadowlands District and along the Passaic River in the west. Approximately 63.5 percent of the total area of East Rutherford lies within the 1% annual chance floodplain as defined by FEMA. An additional 10.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 89.2 percent of East Rutherford is considered developed. Of the developed parcels of the town, 13 percent fall at least partially within the 1% annual chance floodplain and 11.4 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	13.0	11.4
Exposed Land Area	63.5	10.6

During the planning process, East Rutherford Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

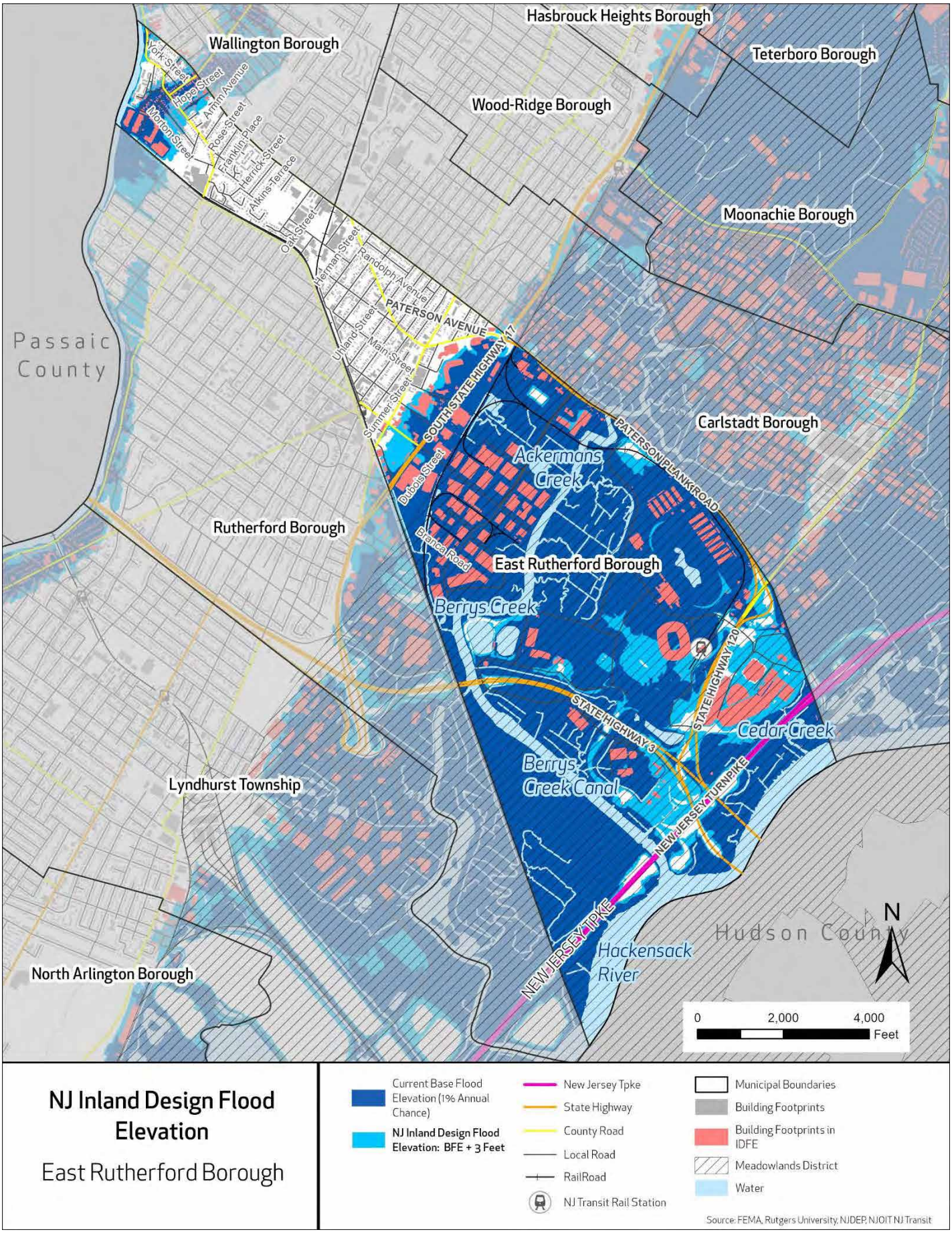
East Rutherford Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- New Jersey Tpke
- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

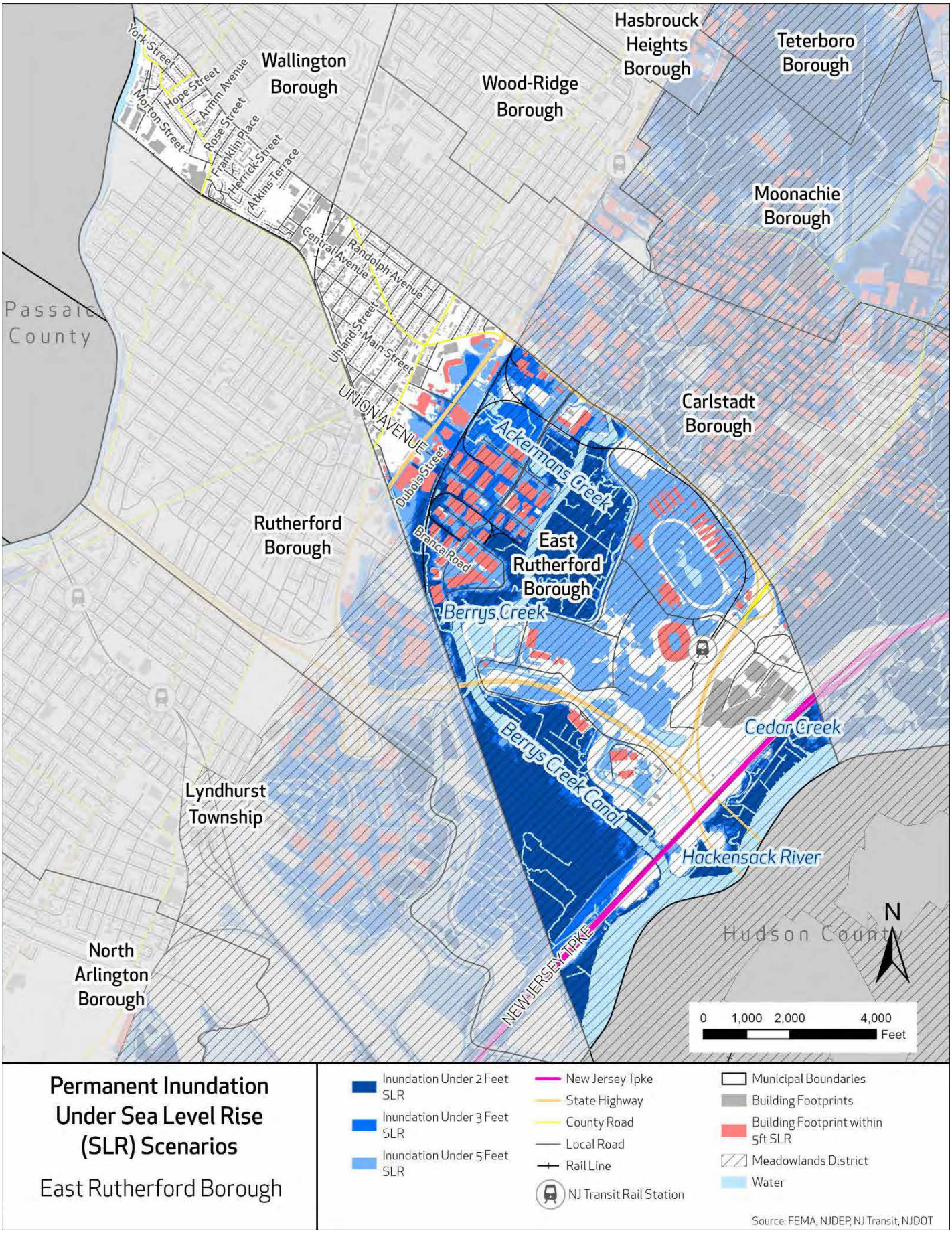


NJ Inland Design Flood Elevation

East Rutherford Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Hasbrouck Heights Borough
Teterboro Borough
Wallington Borough
Wood-Ridge Borough
Moonachie Borough
Carlstadt Borough
Passaic County
Rutherford Borough
East Rutherford Borough
Lyndhurst Township
North Arlington Borough
Hudson County
York Street
Hope Street
Armm Avenue
Morton Street
Rose Street
Franklin Place
Herrick Street
Atkins Terrace
Central Avenue
Randolph Avenue
Uhland Street
Main Street
UNION AVENUE
Dubois Street
Branca Road
Ackermans Creek
Berrys Creek
Berrys Creek Canal
Cedar Creek
Hackensack River
NEW JERSEY TPKE
N
0 1,000 2,000 4,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
East Rutherford Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

East Rutherford Borough 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		3/14/2025	
Capital Improvement Plan	X		3/14/2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X		4/2023	
Floodplain Development Ordinance	X		12/2024	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		4/19/2022	
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			With Borough Building Department and Borough Engineer.
Repetitive Loss Plan				
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Borough Engineers' office responsible for all plans and certificates for elevation changes.
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		None identified at this time. Majority of the studies have been completed.
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			Overlay zone for redevelopment moved from low-lying areas to elevated areas.

Administrative and Technical Capabilities

East Rutherford Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer was appointed Floodplain Administrator. No other employee is appointed as CFM.
Grant Writer	X		Contract with grant search company.
Staff trained to support mitigation			
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	

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations	X		First Presbyterian in Carlstadt runs a food pantry for both, Carlstadt and East Rutherford.

Education and Outreach Capabilities

East Rutherford Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Outreach through social media and the borough website, which has information on reducing vulnerability to natural hazards.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, East Rutherford Borough 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			
Other state municipal assistance or grant programs	X		Borough has contracted a grant search company to assist with finding funding for projects.
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Decisions are made by Borough Commissioners.
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of East Rutherford is working on flood prone areas currently to mitigate future flooding by updating storm drains and pipe sizes. The Public Works Department is currently cleaning and televising all other drainage in the area for future repairs. Our mission for the next update is to secure an agreement with the Borough of Wallington to mitigate flooding in our borough's westerly area. The borough has implemented a reverse 911 to alert.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
11-01	Purchase and Install Generators at Critical Facilities	Purchase and installation of generators at three public schools/shelters schools within the borough.	All Hazards	Mediu m	Joint effort of BOE and OEM	FEMA HMA	$200,000 .00	3 years	Completed	
11-02	Purchase and Install Generators, Light Towers, Variable Message Signs for Fire House and Police HQ	Purchase and install generators, light towers, variable message signs for fire house and police.	All Hazards	Low	East Rutherford Borough	Municipal budget, FEMA HMA (generato rs), and Homeland Security grants for boards	$500,000 .00	1 year	Completed	Three mobile message signs and a portable generator added.
11-03	Target Harden Critical Facilities by Installing Surveillance Cameras	Purchase and install surveillance cameras for municipally owned facilities on the west end of the borough.	Terrorism	Mediu m	Borough OEM	Homeland Security grants		1 year	Completed	
11-04	Install Generator Hookups in Traffic Lights	Install generator hookups/transfer switches in traffic lights so they are able to support backup generators. Coordinate with county on any county owned lights.	All Hazards	Low	East Rutherford	Municipal budget		1 year	Completed	Installed fold down stop signs instead.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
11-05	Conduct Feasibility Study into Flood Protection Measures (e.g., pumps, stormwater management upgrades)	The borough is looking into installing a series of berms and collapsible flood walls. There would be a series of columns with removeable walls that can be installed when necessary. The height of the columns would depend on the location. The borough is also looking into a non-man power wall, where a flood wall automatically comes up when water hits a specific sensor.	Flood	Low	Borough OEM, DPW	Municipal budget	$10,000,000.00	1 year	Ongoing	Floodplain administrator working withWallington. This is on Passaic River.
11-06	Flood-proof Critical Facilities to Provide Continuity of Operations During Flood Events	Flood-proof Critical Facilities to Provide Continuity of Operations During Flood Events.	Hurricane and Tropical Storm, Severe Weather	High	OEM	FEMA HMA	$15,000,000.00	2 years	Ongoing	Sewer pump station has diesel generator added warning. Police station and firehouses are elevated. DPW garage is vulnerable.
11-07	Clean all Catch Basins and Stormwater Management Lines	Cleaning of all catch basins and stormwater management lines.	Flood	Low	East Rutherford Borough DPW	Municipal budget	$5,000.00	1 year	Ongoing	Work performed by DPW during work hours
11-08	Acquire and Install Pump Stations at Existing Tide Gates	Coordinate with NJSEA to install pumps at existing tide gates at Ackermans Creek, Route 17, and Union St.	Flood	High	East Rutherford/ NJSEA	FEMA HMA	$10,000,000.00	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
11-09	Acquire and Install Pump Stations for Flood Walls on West End of Borough	Install a new system of pump stations from flood walls to the river to pump out rain water that gets trapped.	Flood	High	East Rutherford	FEMA HMA	$10,000,000.00	2 years	Ongoing	Only in conjunction with Action 11-10
11-10	Acquire and Install a Retention Tank on West End of Borough	Install a retention tank under the parks on the west end of the borough to store stormwater that gets trapped by the flood walls when water starts to back up in the pipes to then be released at a separate time.	Flood	Medium	East Rutherford	Municipal budget	$5,000,000.00	2 years	Ongoing	Working on 66,000 gallons retention in center of town.
11-11	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate repetitive loss and severe repetitive loss properties by acquiring the properties through the Blue Acres program, demolishing the property, elevating the property, or if the homeowner does not wish to vacate the property or elevate educate them on the risk and the options open to them.	Flood	High	East Rutherford	FEMA HMA	$3,00,000.00	1 year	Ongoing	Working with Blue Achers on purchasing repetitive flood properties.
11-12	Coordinate with Wallington on Flood Mitigation Strategies	Coordinate with Wallington to mitigate flooding from the Wallington section of the Passaic River, which affects the west side of the Borough and contributes to repetitive loss properties.	Flood	Low	East Rutherford/ Wallington	Municipal budget	$10,000,000.00	1 year	New	Floodplain manager is working with Wallington.

12 – EDGEWATER BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Robert Christiansen	**OEM Coordinator**	**Primary Contact, Municipal Meeting**

COMMUNITY PROFILE

Overview

The Borough of Edgewater is a densely populated borough located in southeastern Bergen County, fronting the Hudson River and, across the Hudson, adjacent to Upper Manhattan, New York City. Edgewater is comprised of a narrow strip of land along the Hudson River with roughly 3.5 miles of waterfront making up its entire eastern border. The Palisades Cliffs form a natural border on the town's western side, with adjacent Fort Lee and Cliffside Park boroughs located atop the cliff's formation. The northern end of Edgewater abuts the open and recreational space of Fort Lee Historic Park and the Palisades Interstate Park.

Due to its location, the borough has an early history in Bergen County. Incorporated in 1894, the borough first began as a colony of fisherman and later saw use as a resort area. Industrialization came in the early 20th century and defined much of the land use of Edgewater. Redevelopment of industrial land ongoing today helped to contribute to a rapidly growing residential community in the borough.

Major landmarks in Edgewater include Borough Hall, which is listed on both the National and the New Jersey Register of Historic Places, and the Edgewater Public Library, one of 36 Carnegie Libraries in the state.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Edgewater Borough is home to a mix of land uses – residential (including multi-family) makes up 27% of the borough as of 2022 (nearly 150 acres) while commercial land uses account for an additional 91 acres (17% of the community's total area). Notably, the borough dedicates 35% of its total land area (nearly 190 acres) to civic/public (tax exempt) uses. The story of development and growth in Edgewater is seen in land use changes between 2016 and 2022, when industrial land use dropped nearly 65%, down to 7 acres (1% of Edgewater Borough), vacant land grew to nearly 103 acres (a growth of 138%), and civic/public (tax exempt) land grew to 190 acres (130%) during this time period. Such shifts illustrate ongoing and future redevelopment.

According to NJDEP's Land Use / Land Cover data from 2020, urban (developed) land made up 81% of the total area of Edgewater, while land classified as forest made up an additional 11% (nearly 71 acres). Land use change between 2015 and 2020 in Edgewater was largely negligible based on NJDEP's Land Use / Land Cover classifications, but barren land did decrease by 9% to a total of 41 acres, supporting MOD-IVs illustration of ongoing redevelopment.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	45.3	41	-9%
Forest	72.1	70.9	-2%
Urban	498.4	503.9	1%
Water	3.6	3.6	0%
Wetlands	0.9	0.9	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present
Edgewater Borough has seen extensive redevelopment in recent years as industrial land uses are developed into residential uses, particularly in the form of mid- and high-rise developments along the Hudson riverfront.

In 2021, the borough approved a 1,200-unit mixed use development in central Edgewater at 615 River Road, a superfund site, consisting of three 25-story towers, including 180 affordable units. The proposal also incorporates retail space, green space, and a new ferry facility with service to New York. The development site is located in the floodplain. As of 2024, construction on the project had not yet started. The immediate future of the project is uncertain, though in late 2024, courts affirmed plans to develop.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
The borough anticipates ongoing redevelopment from industrial to residential land uses along the Hudson, as previously approved projects begin construction and new development is planned.

Demographics & Vulnerable Populations
Edgewater Borough has a total population of an estimated 14,394, of which 5.8% is under age 5 and 12.7% is over age 65, by 2018-2022 estimates. The borough experienced a large population shift between 2013-2017 and 2018-2022 ACS survey periods, growing an estimated 18.3% during this time. A notable growth rate of such magnitude (over eighteen percent over two ACS survey periods) along with known redevelopment along the Hudson may indicate potential hazard vulnerabilities to changing and densifying landscape conditions.

There are six block groups, making up the majority of Edgewater's area, which meet criteria for overburden (OBC) as *Minority* communities. No areas of Edgewater Borough meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	14,394
Population Change since 2017	18.3%
Percent of Population Age < 5	5.8%
Percent of Population > 65	12.7%

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 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	Hurricanes/Tropical Storms	Earthquake
	Winter Storms	Drought
	Wildfire	Extreme Temperatures
	Flood	Extreme Wind
	Lightning	Tornado
	Power Failure	Landslide
	Human-made Hazards	
		Cyber Attack
		Terrorism
		Pandemic

High	Medium	Low
	Natural Hazards	
		Economic Disruption
		Civil Unrest

Dam and levee failure was ranked as N/A due to Edgewater's location without upstream dam impact.

Hazard Ranking Explanation

The Borough of Edgewater experiences regular flooding events, particularly after heavy rain, and considers flooding the primary hazard of concern for the municipality. The unique geography of Edgewater Borough exacerbates flooding after heavy rain events, as water coming down the cliffs, and flowing from Cliffside Park Borough, reaches Edgewater and overruns the runoff capacity of the borough. At the same time, the Hudson River along Edgewater's eastern border experiences flooding along the shoreline after and during heavy storms. Related hazards which may result in flooding in Edgewater Borough are also ranked as hazards of medium concern – hurricanes/tropical storms, winter storms, flood, lightning, and power failure.

The borough ranked wildfire as a medium concern, though there are no WUI-identified areas within the borough, due to the proximity of Edgewater to the established tree-cover of the Palisades and parks along the Palisades cliffs. This buffer zone also provides a ranking of low concern for landslide hazards. The borough has not experienced recent hazard events caused by erosion or landslide, but these geological hazards remain a concern for the community due to Edgewater's unique geography and ongoing redevelopment. Though the topography may have increased landslide potential, the borough reports that mature tree coverage and development restrictions ensure that this protected wooded area does not present undue erosion risk along the Palisades.

Edgewater ranked all human-caused hazards as of low concern for the borough; these hazards have either been handled effectively in recent years (i.e., pandemic), do not pose a primary concern due to low-risk of identified targets (i.e., terrorism), or have protocols for efficient handling in place (i.e., cyber attack).

Significant Hazard Events Since Last Plan Update

Ongoing flooding due to above-mentioned heavy rain and storm activity remains the most significant hazard faced by Edgewater Borough in recent years. Standing water is sometimes apparent along River Road – duration and depth of this on-road flooding often depends on the tide schedule of the Hudson River. Flooding through the borough also brings accumulation of debris which requires cleanout; this local work is often needed at a culvert along Undercliff Avenue.

Debris accumulation and heavy rain can cause flash flooding as well as tidally influenced standing water. In January 2024, flooding caused an evacuation of the Comfort Inn located on River Road in Edgewater. During this event, flood waters rose to three feet and submerged several cars in the surrounding parking lots. The local fire department employed a high-water vehicle to remove guests and staff.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Edgewater Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, as in this river-fronting municipality which absorbs runoff from higher adjacent municipalities. Rising sea levels will also contribute to coastal erosion, further threatening the borough's riverine coastline and riverside infrastructure, which may be further impacted by tidal flooding along the Hudson. Additionally, higher temperatures and prolonged heatwaves could increase the risk of wildfires, which could become more frequent and harder to manage, even in established forestland considered currently protected from wildfire activity.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Edgewater Borough	
Number of Policies In-Force:	1610
Total Losses:	110
Total Payments:	$6,978,156.72
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	4
RL – Total Paid:	$88,726.79
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	11
SRL – Total Paid:	$2,332,811.04

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

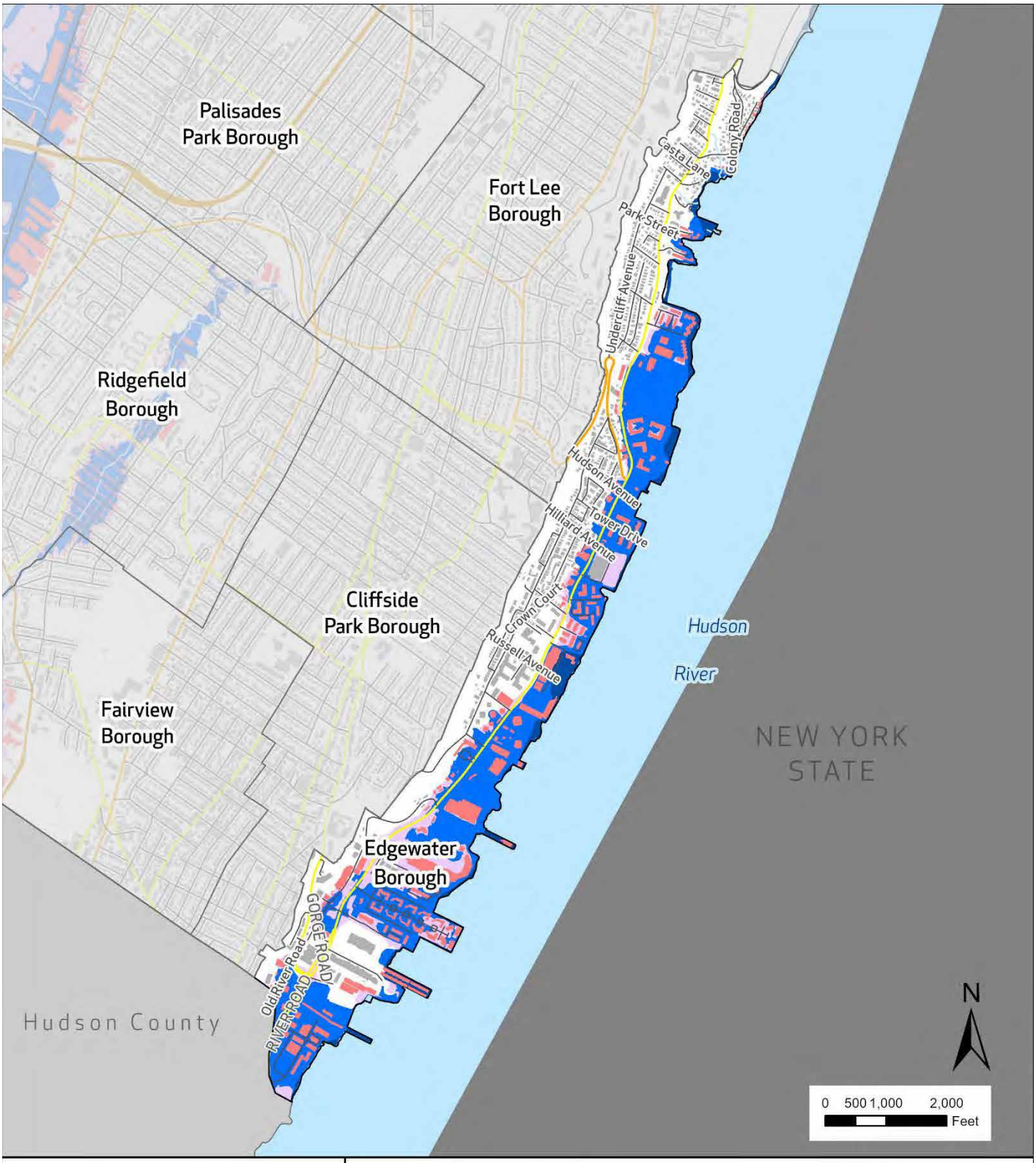
The Special Flood Hazard Area (SFHA) in the Borough of Edgewater is primarily located adjacent to the Hudson River and consists of nearly half of the borough. Approximately 38.4 percent of the total area of Edgewater lies within the 1% annual chance floodplain as defined by FEMA. An additional 10.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 78.3 percent of Edgewater is considered developed. Of the developed parcels of the town, 50.4 percent fall at least partially within the 1% annual chance floodplain and 13.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the development in the borough has largely occurred in areas which are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	50.4	13.2
Exposed Land Area	38.4	10.5

During the planning process, Edgewater Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, three are within the 1% annual chance floodplain, and one is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5‘ of Sea Level Rise
Safety and Security	3	0	1



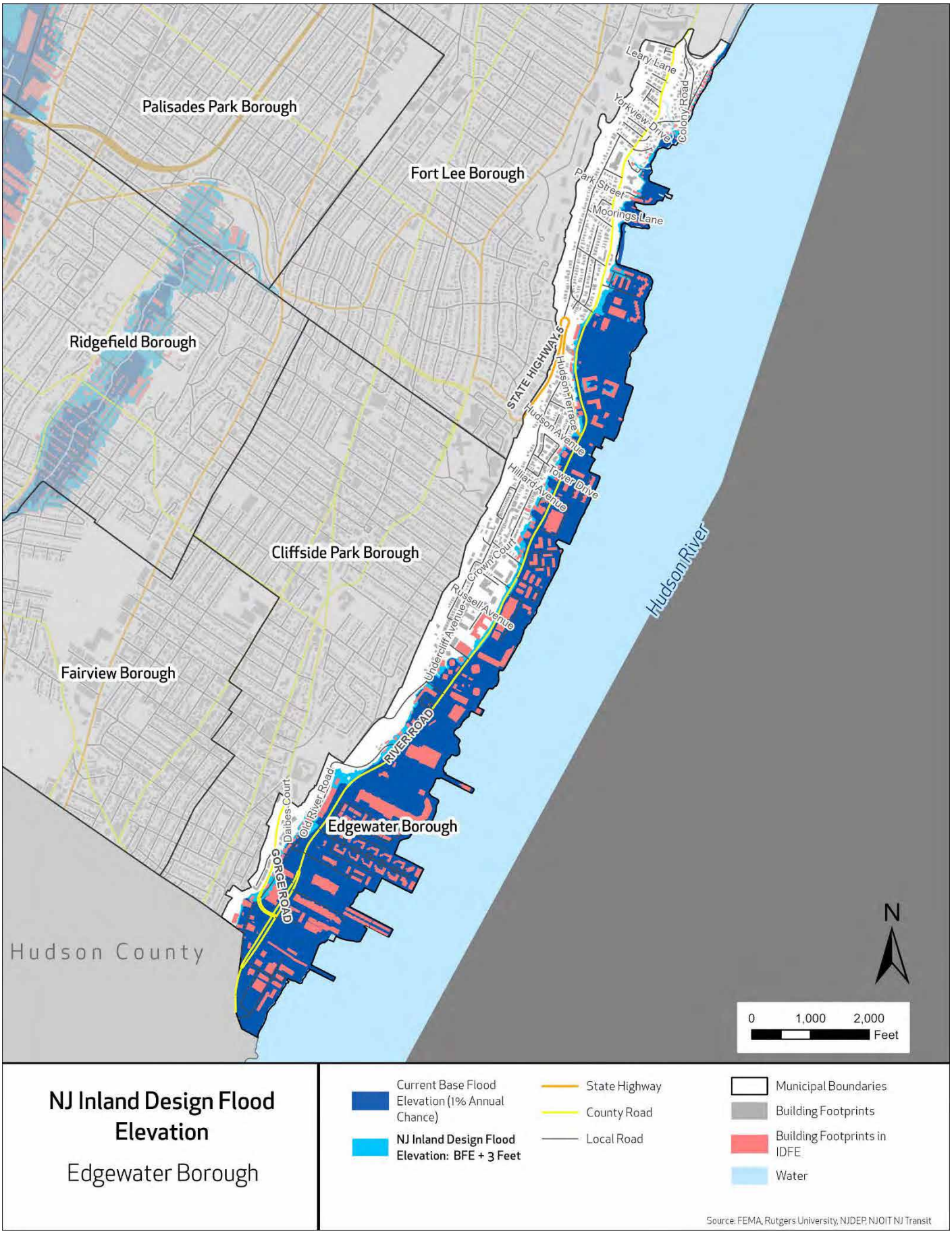
Flood Hazard

Edgewater Borough

FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)
- VE (1%)
- US Highway
- State Highway
- County Road
- Local Road
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

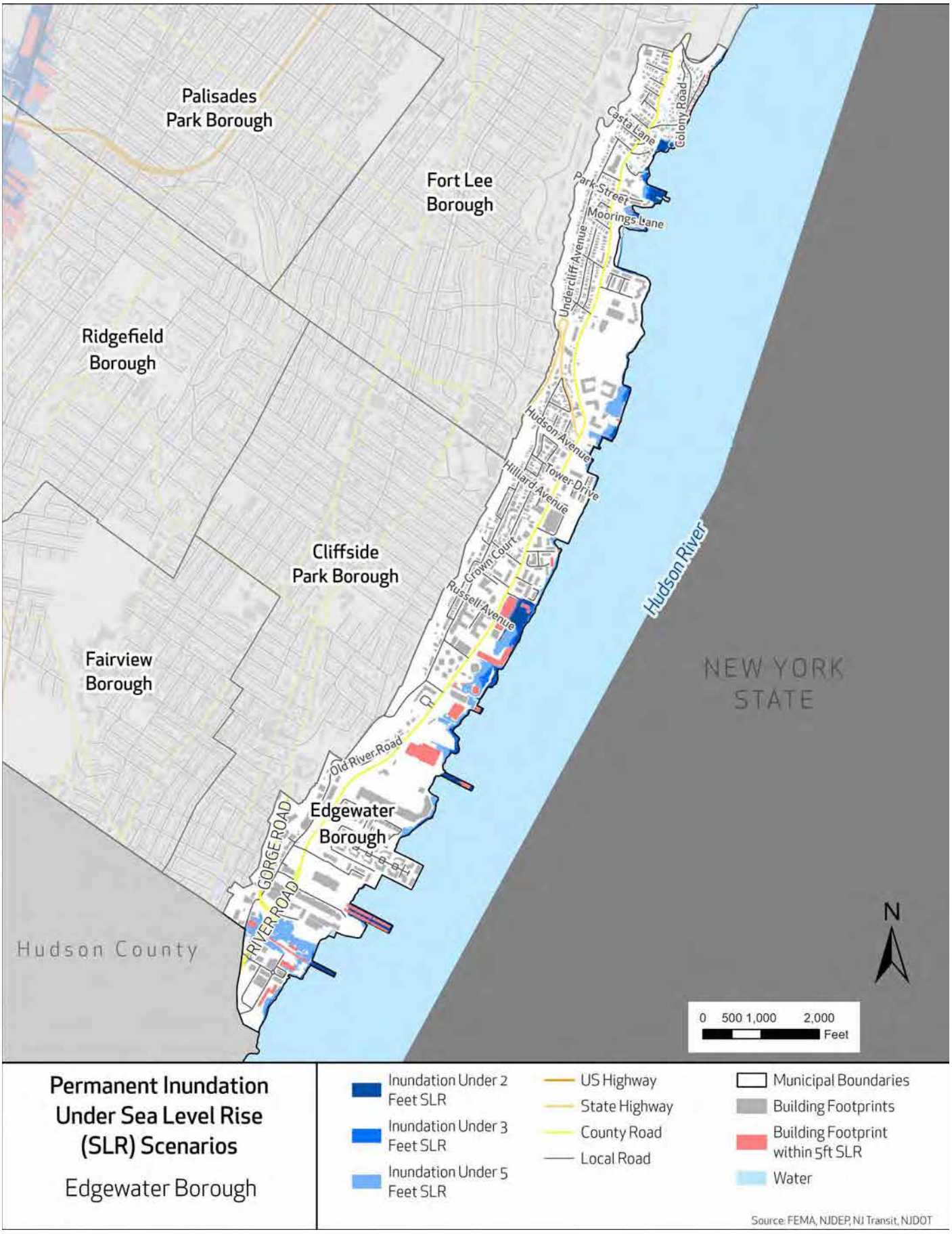


NJ Inland Design Flood Elevation

Edgewater Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Palisades Park Borough
Fort Lee Borough
Ridgefield Borough
Cliffside Park Borough
Fairview Borough
Edgewater Borough
Hudson County
NEW YORK STATE
Hudson River
Castle Lane
Colony Road
Park Street
Moorings Lane
Undercliff Avenue
Hudson Avenue
Tower Drive
Hilliard Avenue
Crown Court
Russell Avenue
Old River Road
GORGE ROAD
RIVER ROAD
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Edgewater Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
US Highway
State Highway
County Road
Local Road
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Edgewater Borough 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		1998	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan		X		
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Edgewater Borough 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

Edgewater Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The municipal website has information on building evacuation during an emergency, active shooter considerations, and fire prevention.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Edgewater Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Edgewater has focused on enhancing flood resilience, improving drainage systems, improving emergency response, prioritizing our back-up power facilities and upgrading critical infrastructure to mitigate natural hazard risks. Over the next five years, the Borough of Edgewater aims to address emerging climate challenges, such as a rise in the Hudson River levels by updating flood mapping, upgrading community shelters and our emergency alert system.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
12-01	Elevate Generator for Critical Facility	Elevate generator to continue critical community services during utility interruptions and storm events.	Flood	Low	Borough of Edgewater	FEMA HMA		1 year	Completed	
12-02	Purchase Mobile Generators for Traffic Lights	Purchase mobile generators for traffic lights and install hookups if necessary.	All Hazards	Medium	Edgewater Borough OEM	Municipal Budget		1 year	Completed	
12-03	Elevate Generators at Municipal Facilities	Elevate generators at all municipal facilities.	All Hazards	Medium	Edgewater Borough	FEMA HMA		5+ years	Completed	Completed at Fire, Police Department/Municipal Building, Borough Hall properties.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
12-04	Widen and Elevate River Road	Widen and elevate River Road to accommodate more vehicles during an evacuation as well as high water vehicles. Coordinate with county as River Road is under the county's jurisdiction.	All Hazards	Medium	Bergen County, Edgewater Borough	FEMA HMA	$10,000,000.00	2 years	Ongoing	No action has been taken in recent years, but this remains an ongoing long-term goal for the borough.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
12-05	Flood-Proof Hudson River Waterfront Walkway and Conservancy	Coordinate with State DEP on floodproofing the Hudson River Waterfront Walkway and Conservancy. Floodproofing options include installing pilings, sheathing, bulkheads, and improved drainage along the walkway.	Nor'easter, Flood	High	NJDEP, Edgewater Borough	FEMA HMA	TBD	2 years	Ongoing	Any new development that takes place along the riverfront has responsibility to build and maintain waterfront.
12-06	Coordinate with the County to Improve Drainage Along River Road	Coordinate with Bergen County to improve drainage along River Road.	Nor'easter, Flood	Low	Bergen County, Edgewater Borough	Municipal Budget	TBD	2 years	Ongoing	Ongoing goal in coordination with the County.
12-07	Coordinate with Cliffside Park on Stormwater Management and Outfall Improvements	Stormwater that originates in Cliffside Park flows through the stormwater system in Edgewater. The outfall cannot handle the capacity and subsequently floods. The outfall needs to be repaired or replaced.	Nor'easter, Flood	Low	Edgewater Borough, Cliffside Park	Municipal Budget	TBD	2 years	Ongoing	Will require cross-jurisdictional coordination with Cliffside Park.
12-08	Purchase and Install Flood Gates at Municipal Facilities	Purchase and install flood gates at municipal facilities.	Flood	High	Edgewater Borough	FEMA HMA	TBD	1 year	Ongoing	Ongoing, no action yet taken, still a goal of the borough.
12-09	Enhance Communications at Fire House	Enhance the communication system at the Fire House (first updated in 2010) and install a redundancy system if the primary system is disrupted.	All Hazards	Medium	Edgewater Borough	Municipal Budget, Homeland Security Grants	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
12-10	Acquire, Elevate, Floodproof Structures in Flood-prone Areas, Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate repetitive loss and severe repetitive loss properties by acquiring the properties, demolishing the property, elevating the property, or, if the homeowner does not with to vacate the property or elevate, educate them on risk and options open to them.	Flood	High	Edgewater Borough	FEMA HMA	TBD	1 year	Ongoing	
12-11	Improve Cyber-Security in Borough	Backup municipal data is stored in the cloud, however, the borough can enhance their cyber-security through the purchase of secondary servers for municipal and police systems and find an off-site storage facility for data.	Cyber Attack	Low	Edgewater Borough	Homeland Security Grants	TBD	1 year	Ongoing	No new action but remains a goal for Edgewater Borough.
12-12	Target Harden Critical Facilities by Installing Bollards and Fencing	Purchase and install bollards and fences for critical facilities within the borough. These include, but are not limited to, municipal buildings, fire house, police, schools, places of worship, shelters, and places of last resort. All public buildings including schools are monitored by recording CCTV from police headquarters.	Terrorism	High	Edgewater Borough	Homeland Security Grants	TBD	1 year	Ongoing	No new action but remains a goal for Edgewater Borough.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
12-13	Apply Soil Stabilization Measures on Steep, Publicly Owned Slopes	Apply soil stabilization measures, such as planting soil-stabilizing vegetation, on steep, publicly-owned slopes.	Landslide	High	Borough of Edgewater, Palisades Park Commission	FEMA HMA	TBD	3 years	Ongoing	No new action but remains a goal for Edgewater Borough.

13 – ELMWOOD PARK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Victor Scott	**Deputy OEM Coordinator**	**Primary Contact, Municipal Meeting**
Michael Foligno	Emergency Management Coordinator	Reviewed Appendix
David Hayes	Department Head, Department of Public Works	Reviewed Appendix
Michael McIlwrath	Superintendent, Department of Public Works	Reviewed Appendix
Tony Ambrogio	Department Head, Building Department	Reviewed Appendix

COMMUNITY PROFILE

Overview

The Borough of Elmwood Park, spans approximately 2.73 square miles and is located in southwestern Bergen County, New Jersey, nestled between the Passaic River and Saddle River. Route 4, Interstate 80, U.S. Route 46, and the Garden State Parkway serve Elmwood Park. Elmwood Park has a population of nearly 21,261 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Elmwood Park is a predominantly residential community with residential (including apartment) use accounting for 58% of its area and covering nearly 704 acres in 2022. In the same year, civic/public (tax exempt) land, industrial land, commercial land, railroad property, and vacant land made up 13%, 12%, 11%, 3%, and 3%, respectively, of its area. Between 2016 and 2022, industrial land fell from 151 acres to 140 acres, and area designated as railroad property fell from 41.5 acres to 34.7 acres. Apart from these decreases, there was negligible change in the land use composition of the borough.

The significant share of residential use, followed by civic/public (tax exempt), industrial, and commercial use is reflected in NJDEP's land use/land cover data as well; in 2020, urban/developed land constituted nearly 89% of the borough's total land, covering 1,562 acres. Forest, water, and wetlands followed, covering 5%, 3%, and 2% respectively of Elmwood Park's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	1.3	13.1	908%
Forest	92.9	92.9	0%
Urban	1573.9	1562.1	-1%
Water	54.9	54.9	0%
Wetlands	28.3	28.3	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough noted an increase in the conversion of single-story homes to duplexes. The borough added several 4-story mixed residential/commercial buildings referred to as "Riverfront" located between its DPW and Route 46 along River Drive.

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

New riverfront properties are planned by the Van Riper Avenue and Garden State Parkway Intersection. This development will be outside the regulatory floodplain.

Demographics & Vulnerable Populations

Elmwood Park Borough has an estimated total population of 21,261, with 6.5% of these residents estimated to be under age 5 and nearly 17% (16.96%) over age 65. The borough saw an estimated 4.78% increase in population during the periods between 2013-2017 and 2018-2022 ACS surveys. With an aging population making up nearly seventeen percent of borough residents, Elmwood Park may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a notable growth rate of nearly five percent alongside known increases in duplex conversions and new residential riverfront development may highlight potential local vulnerability to hazard events including changing landscape conditions – development and redevelopment, densification, and, potentially, increased strain on local resources.

Elmwood Park has twelve block groups which meet overburden (OBC) criteria based on indicators of *Minority* (ten block groups) and *Low Income and Minority* (two block groups) communities. There are no areas of the borough which meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	21,261
Population Change since 2017	4.8%
Percent of Population Age < 5	6.5%
Percent of Population > 65	17.0%

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 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 Temperatures
	Nor'easter	Extreme Wind
	Winter Storm	Lightning
	Flood	Tornado
	Earthquake	Dam Failure
		Landslide
		Drought
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Power Failure	Economic Disruption
		Pandemic
		Terrorism

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough typically experiences minor flooding once a year. It is susceptible to flooding from hurricanes, nor'easters, winter storms, and generally during heavy rainfall. As a result, it ranked hurricane/tropical storm, nor'easter, winter storm, and flood as hazards of medium concern.

Out of the human-made hazards, it ranked cyber attack and power failure as hazards of medium concern. The borough experiences power failure frequently; however, recovery is quick.

Significant Hazard Events Since Last Plan Update

Since Hurricane Ida in 2021, the borough did not experience any significant hazard events.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Elmwood Park. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 17% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Elmwood Park Borough	
Number of Policies In-Force:	38
Total Losses:	115
Total Payments:	$501,115.75
Number of RL Properties:	7
Number of Mitigated RL Properties:	0
RL – Total Losses:	19
RL – Total Paid:	$1,207,505.62
Number of SRL Properties:	3
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	13
SRL – Total Paid:	$706,389.87

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

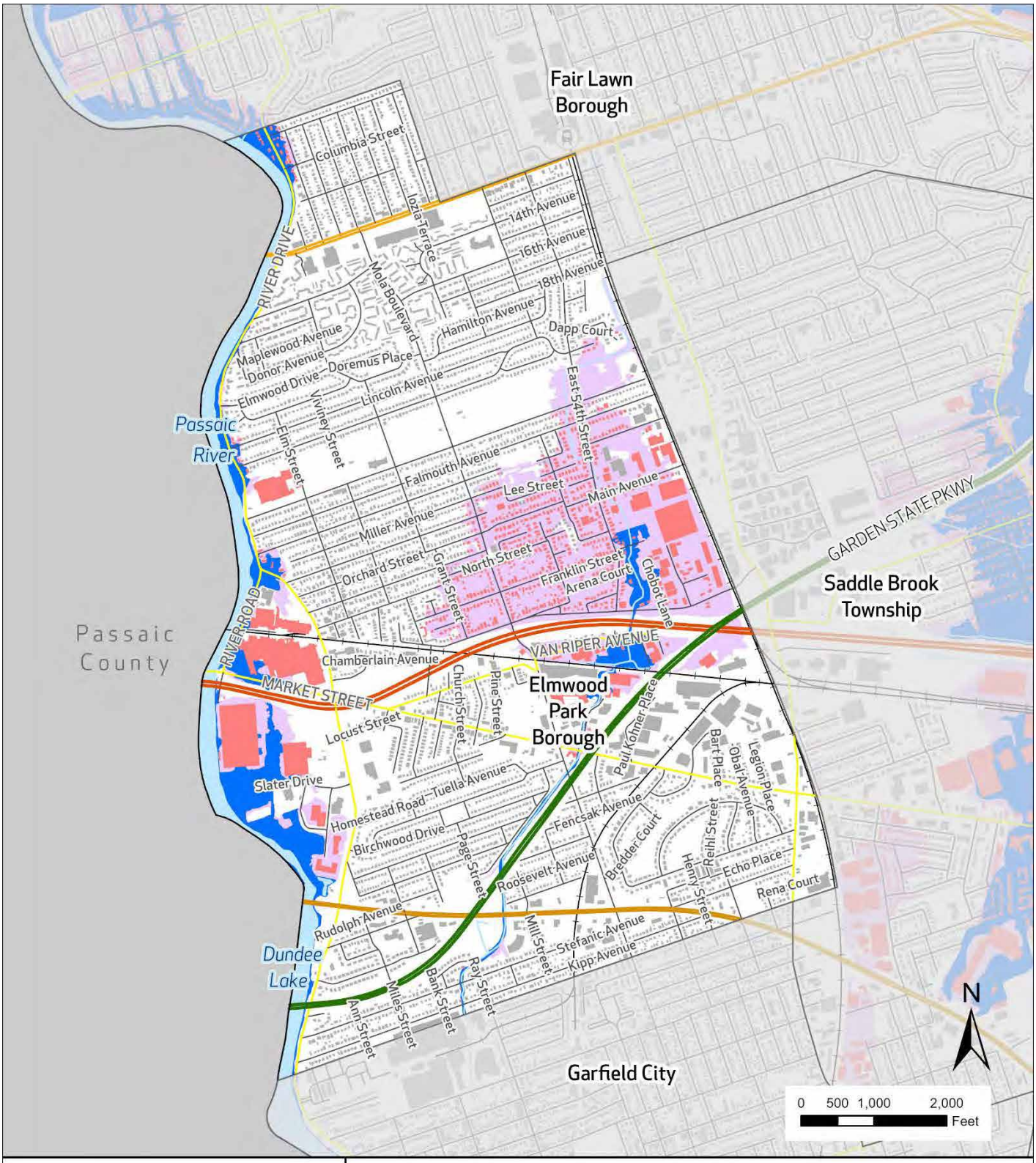
The Special Flood Hazard Area (SFHA) in the Borough of Elmwood Park is primarily located adjacent to the Passaic River and also the low-lying areas near Fleisher Brook. Approximately 7.4 percent of the total area of Elmwood Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 14.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 67.7 percent of Elmwood Park is considered developed. Of the developed parcels of the town, 2.3 percent fall at least partially within the 1% annual chance floodplain and 18.7 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	2.3	18.7
Exposed Land Area	7.4	14.6

During the planning process, Elmwood Park Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



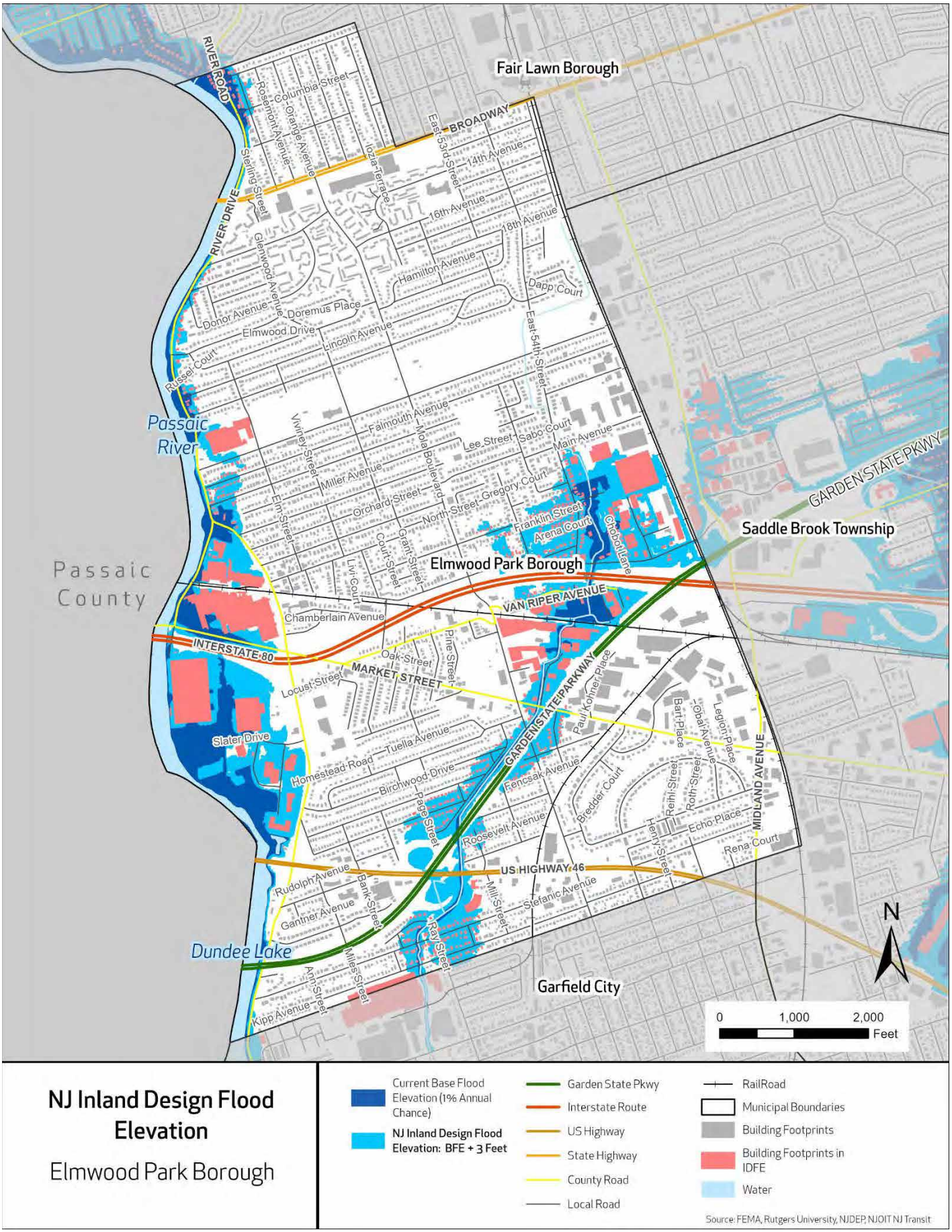
Flood Hazard

Elmwood Park Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Garden State Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line
- Municipal Boundaries
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Elmwood Park Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Elmwood Park Borough 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	Integrating hazard mitigation into this plan ensures that growth avoids high-risk areas, preserving natural buffers, and reducing future vulnerabilities.
Capital Improvement Plan	X		2024	When aligned with hazard mitigation, it prioritizes resilient infrastructure—such as elevating roads or hardening critical facilities—to reduce future disaster impacts.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	Incorporating hazard mitigation reduces disruption and ensures continued operations during and after disasters.
Floodplain Development Ordinance	X		2025	By enforcing elevation, setbacks, and construction standards, it prevents new development from increasing flood risk and helps reduce flood insurance premiums.
Floodplain Management Plan	X		2025	This plan identifies risks and outlines coordinated strategies for reducing flood impacts.
Stormwater Management Ordinance	X		2025	This ordinance limits runoff from development through requirements like detention basins, green infrastructure, and pervious surfaces. It reduces localized flooding and prevents erosion and water quality issues.
Stormwater Management Plan	X		2025	Identifying drainage issues and prioritizing infrastructure improvements and policy changes to reduce stormwater impacts. It also integrates climate trends to mitigate increasing rainfall intensity.
Watershed Management Plan		X		
Sheltering Plan	X		2025	This plan ensures the availability of safe refuge for displaced residents.
Evacuation Plan	X		2025	Ensures timely and safe relocation ahead of hazards. It supports mitigation by reducing human exposure during emergencies and identifying infrastructure needs.
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		2025	By pre-identifying debris removal protocols, contractors, and staging areas, this plan speeds recovery and prevents secondary hazards, supporting resilience.
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X		2025	Outlines how to rebuild safely and strategically. It supports mitigation by integrating resilience into rebuilding efforts.
Current/recent redevelopment plans or studies	X		2025	Redevelopment plans that integrate hazard data can shift investment away from high-risk areas and toward resilient design, promoting long-term risk reduction and smarter land use.
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		

Administrative and Technical Capabilities

Elmwood Park Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Tony Ambrogio, Building Department
Grant Writer	X		Millenium Strategies
Staff trained to support mitigation	X		PD, FD, EMS, DPW, OEM, Borough Code Officials

Position	Yes	No	Explanation
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		Borough Resident Assistance Program (RAP), American Red Cross

Education and Outreach Capabilities

Elmwood Park Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Elmwood Park Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, Elmwood Park has prioritized flood mitigation efforts and emergency power resilience, including stream clearing and generator installations at critical facilities. Over the next five years, the borough will focus on mitigating repetitive flood loss properties and enhancing stormwater infrastructure, particularly in areas prone to roadway flooding. These actions are aimed at improving resident safety and ensuring access to evacuation routes during storm events.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
13-01	Purchase and Install Generator for the Evacuation Center	Install a generator to provide emergency power to Borough evacuation center.	All Hazards	Medium	DPW	FEMA HMA	$200,000.00	1 year	Completed	Borough has a generator for recreation center.
13-02	Identify Wildfire Hazard Areas and Create Defensible Space Around Structures and Infrastructure	Develop and maintain a database to track community vulnerability to wildfire. Within the high-risk vulnerability areas, implement defensible space programs to reduce risk to structures and infrastructure by creating buffer sound structures through the removal or reduction of flammable vegetation and replace flammable vegetation with less flammable species.	Wildfire	High	Borough	Municipal budget		3 years	Withdrawn	This action is not needed as capability already exists.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
13-03	De-snag and Clean Fleischer's Brook	The borough is utilizing a Community Development Block Grant for repairs to the Kipp Avenue culvert over the Fleischers Brook, and the work includes some stream cleaning. This work is being completed at the Elmwood Park - Garfield municipal boundary.	Flood	Medium	Borough of Elmwood Park	Municipal budget	TBD	5 + years	Ongoing	Project has not started.
13-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Severe Weather	High	Borough OEM and Homeowners	FEMA HMA, NJDEP Blue Acres	TBD	5 + years	New	Project has not started.

14 – EMERSON BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Mark Savino	**Emergency Management Coordinator**	**Primary Contact, Municipal Meeting**
Perry Solimando	DPW Superintendent/Deputy OEM	Internal Meetings

COMMUNITY PROFILE

Overview

The Borough of Emerson has an area of just under two and a half square miles (2.42mi^2) and is located in north-central Bergen County, New Jersey, bordering Westwood, Oradell, and the Oradell Reservoir. The borough is the southernmost municipality in the region of Bergen County known as the Pascack Valley. What is now known as Emerson Borough was formed in 1903 from portions of Washington Township and was initially named the Borough of Etna after a community railroad station. Emerson, now named after author Ralph Waldo Emerson, calls itself 'The Family Town'.

The most significant roads serving Emerson are County Route 502 (Old Hook Road), which runs east to west providing connection across the Oradell Reservoir, and County Route 503 (Kinderkamack Road), which runs north to south and provides much of the commercial corridor throughout Emerson. The borough is located to the east of the north-south Garden State Parkway, with connection access provided in neighboring municipalities by Washington Avenue to the north or Oradell Avenue to the south.

The Oradell Reservoir makes up much of Emerson's eastern border. Emerson Woods, a 19-acre preserve which acts as a watershed buffer surrounding the Oradell Reservoir, borders Main Street Emerson and is open for recreation uses. The borough is also home to other parks including Ackerman Park, Centennial Park, Hillman Park, Rosengart Park, and Washington Park. The borough contains much of the Hackensack Golf Club (with other portions falling within Oradell).

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Emerson is primarily a residential borough, with residential land uses (including multi-family apartments) making up 39% of the total community area (around 520 acres). Vacant land makes up a large proportion of acreage in the borough, with 30% (over 400 acres) classified as vacant. Additionally, civic/public (tax exempt) land uses make up 17% of Emerson Borough (around 220 acres) and commercial land use covers 181 acres (14% of the borough).

According to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the borough has not experienced notable land use changes over these two time periods (2015 and 2020). As of 2020, the urban land use category made up the majority of Emerson Borough, with 68% of all land (1,052 acres) classified as urban or developed. Smaller shares of the borough are undeveloped forest (16% of all land area), wetlands (8%), and water (8%).

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	8	8	0%
Barren Land	0	1.3	-
Forest	240.7	240	0%
Urban	1052.7	1052.2	0%
Water	121.7	121.7	0%
Wetlands	124.8	124.8	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough reports some pressure for increased affordable housing within the municipality – exacerbating ongoing development pressure and existing infrastructural challenges related to water flow in downtown. The borough would like to explore opportunities to address impervious surfaces within their urban areas. One in-progress development is the Emerson Station project, being constructed at 90 Kinderkamack Road and including 147 apartment units, 15,000 square feet of retail space, and a large parking deck.

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

There is no known or anticipated major development coming to Emerson in the next five years.

Demographics & Vulnerable Populations

Emerson Borough has a total population estimated to be 7,281. The borough's residents are an estimated 4.4% under 5 years old, and 23.8% over age 65. Emerson experienced a population loss of over 5% (-5.047%, estimated) between the 2013-2017 and 2018-2022 ACS survey periods. A population loss of over five percent over two ACS survey periods may indicate potential hazard vulnerabilities of the built environment including redevelopment pressure, loss of density, and potentially, mismatched reliance on local resources.

Emerson has a single block group along its eastern border which meets overburden criteria (OBC) for *Minority* populations. The borough has no areas which meet designation criteria for CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	7,281
Population Change since 2017	-5.0%
Percent of Population Age < 5	4.4%
Percent of Population > 65	23.8%

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 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	
Hurricanes, Tropical Storms	Extreme Temperatures	Extreme Wind
Nor'easter	Lightning	Winter Storm
Flood	Tornado	Landslide
	Dam Failure	Drought
		Earthquake
		Wildfire
	Human-made Hazards	
		Civil Unrest
		Cyber Attack
		Economic Disruption
		Pandemic
		Power Failure
		Terrorism

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The Borough of Emerson ranks hurricanes/tropical storms, nor'easters, and flood as the hazards of highest concern facing the municipality, due to ongoing flooding experiences borough-wide. According to the borough, flooding occurs as a result of stormwater drainage issues, though DPW and PESG are notably proactive on local maintenance to address this issue.

Other natural hazards that pose medium concern for Emerson include lightning (with a local lightning detection system in place) and extreme temperatures, which pose a risk for power grid efficiency in the borough. Dam failure poses a medium concern; water levels in the reservoir can impact further stormwater back-up. A coordinated water study on dam release is suggested as part of this ongoing work.

Significant Hazard Events Since Last Plan Update

The borough reports that microbursts (sudden, powerful, localized air currents), seem to happen within Emerson more frequently than in other areas. In 2008, one microburst event caused significant damage, including impacts from hail and strong winds.

Other significant events in recent years have been related to flooding, heavy rains and storm events, and backup of stormwater drainage systems under-equipped to handle storm runoff.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Emerson Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion. The current stormwater drainage system, which already struggles to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events. Additionally, higher temperatures and prolonged heatwaves could increase the risk of damage from extreme temperatures, which may become more frequent and harder to manage. The aging infrastructure, already at risk of power failures, could be further strained by more severe storms, leading to prolonged outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Emerson Borough	
Number of Policies In-Force:	12
Total Losses:	34
Total Payments:	$379,585.10
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	5
RL – Total Paid:	$63,554.02
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$46,319.90

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Borough of Emerson is primarily located adjacent to the Oradell Reservoir and streams of the borough such as Pascack Brook. Approximately 9.9 percent of the total area of Emerson lies within the

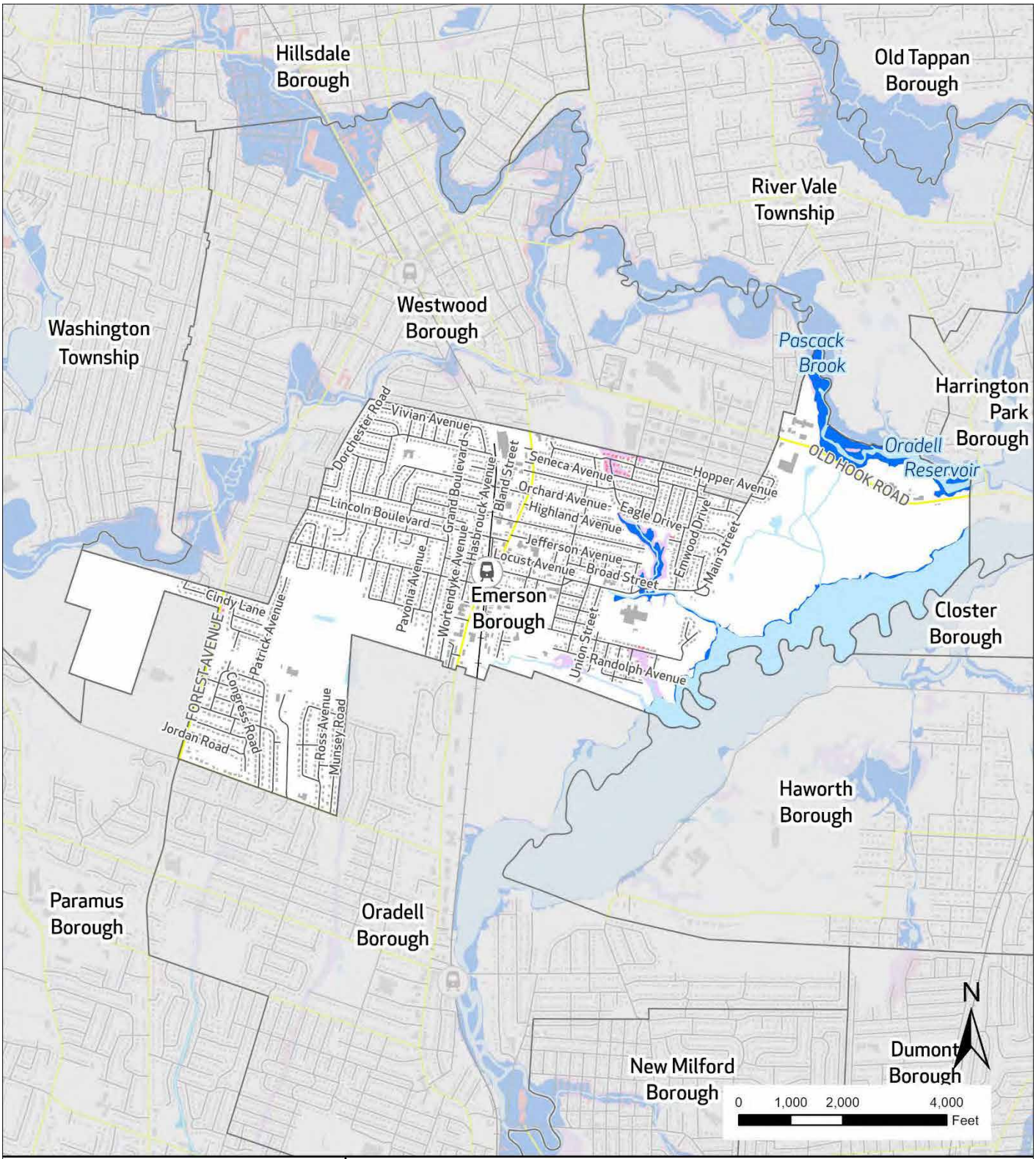
1% annual chance floodplain as defined by FEMA. An additional 1.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 84.2 percent of Emerson is considered developed. Of the developed parcels of the town, 1 percent fall at least partially within the 1% annual chance floodplain and 4 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	1.0	4.0
Exposed Land Area	9.9	1.6

During the planning process, Emerson Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Emerson Borough

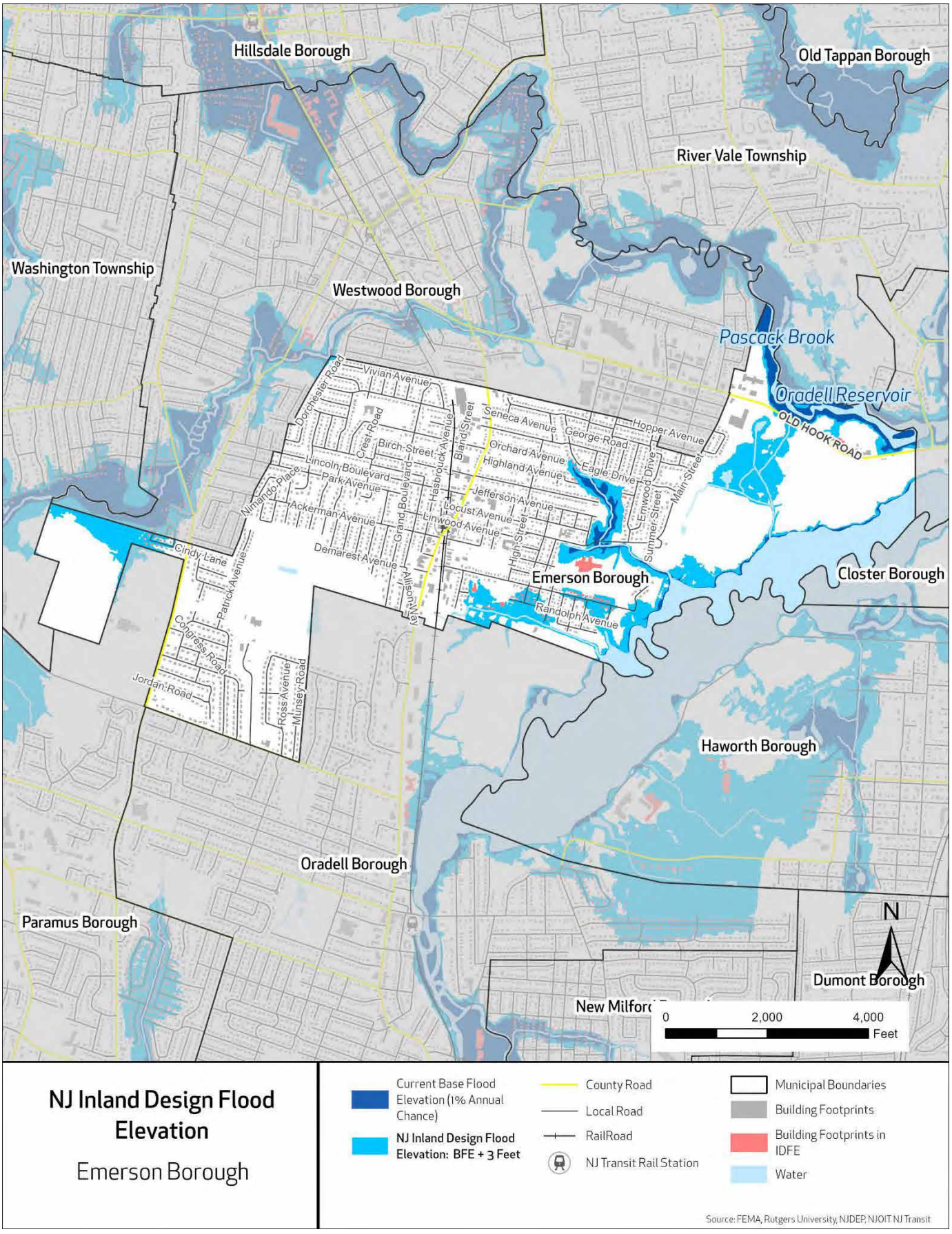
FEMA Flood Zone

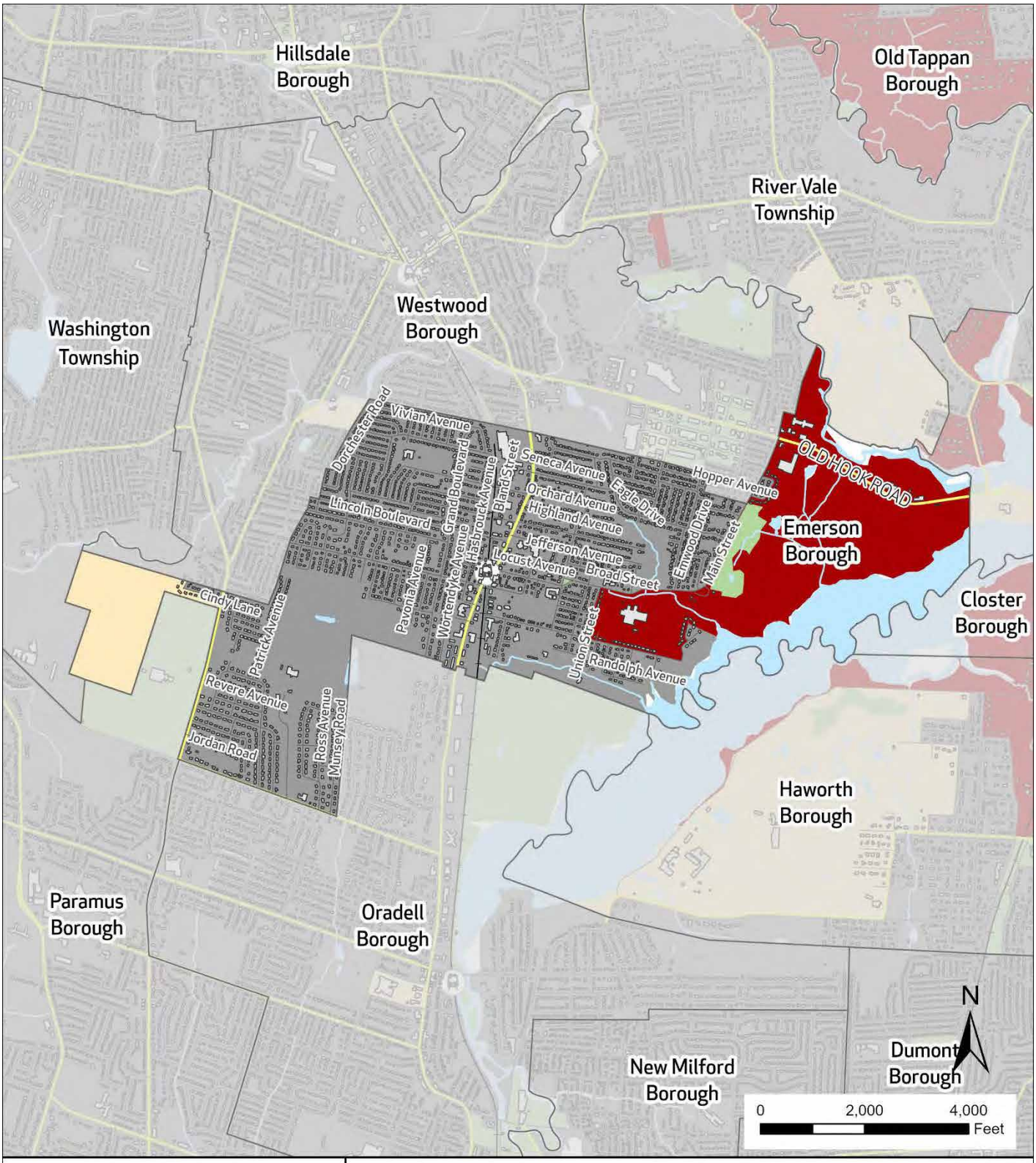
- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Hillsdale Borough
Old Tappan Borough
River Vale Township
Washington Township
Westwood Borough
Pascack Brook
Oradell Reservoir
OLD HOOK ROAD
Vivian Avenue
Dorchester Road
Crest Road
Birch Street
Bland Street
Seneca Avenue
George Road
Hopper Avenue
Orchard Avenue
Highland Avenue
Eagle Drive
Main Street
Emwood Drive
Summer Street
Lincoln Boulevard
Park Avenue
Hasbrouck Avenue
Jefferson Avenue
Locust Avenue
Linwood Avenue
Grand Boulevard
Ackerman Avenue
Nimando Place
Demarest Avenue
Allison Way
High Street
Randolph Avenue
Cindy Lane
Patrick Avenue
Congress Road
Jordan Road
Ross Avenue
Munsey Road
Emerson Borough
Closter Borough
Haworth Borough
Oradell Borough
Paramus Borough
Dumont Borough
New Milford
N
0
2,000
4,000
Feet
NJ Inland Design Flood Elevation
Emerson Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Wildland Urban Interface (WUI) Classification

Emerson Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Emerson Borough 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		2021	
Capital Improvement Plan	X		2021	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2022	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2021	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X			
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		

Administrative and Technical Capabilities

Emerson Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Part-time municipal employee
Grant Writer	X		Contractor
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		Board of Education (as needed)
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Emerson Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Rave (reverse 9-1-1), local websites, and social media
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Emerson Borough 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		Risk reduction projects are prioritized by those that have the greatest impacts on the community
Other ongoing efforts to build additional financial capabilities	X		

MITIGATION STRATEGY

Overview and Progress Since Last Update

The borough is currently working on two projects to mitigate flooding due to poor drainage. It is working with the county and borough engineers. One project on Forest Ave. and Jordan Rd. The cost of this project is still undetermined; however, it will be a shared service between the borough and the county. The other project is on Dorchester Rd. Grant funds were received from EPA Community Grants 959.752. for this project, with a total cost of $1,199,690.00.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
14-01	Install Dual Hookups for Diesel and Natural Gas Generators	Add dual hook ups at all critical facilities for both diesel and natural gas generators.	All Hazards	Low	Emerson Borough	FEMA HMA	$20,000.00	1 year	Withdrawn	Withdrawn, no longer needed.
14-02	Install a Community Solar Power Station	Install a community solar power station that can be used for backup power.	All Hazards	Low	Emerson Borough	Municipal budget	$100,000.00	1 year	Withdrawn	Withdrawn, no longer needed and no site to locate this.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
14-03	Clear and De-snag Retention Pond and Purchase and Install Debris Catcher	Clear and de-snag retention pond and clear drainage entering and exiting pond to eliminate flooding to residential property and county roadway.	Flood	Medium	Emerson Borough	Municipal budget	$300,000.00	1 year	Ongoing	Part of Forest Avenue; Permits are costly.
14-04	Purchase and Install Generator for High School	Purchase and install a generator at the high school as it also serves as a shelter.	All Hazards	Low	Emerson Borough	FEMA HMA	$200,000.00	1 year	Ongoing	
14-05	Purchase and Install Generators at Borough Schools	Purchase and install generators or some form of backup power at all borough schools for extended power outage. Coordinate with the Board of Education.	All Hazards	Low	Emerson Borough, Board of Education	FEMA HMA	$200,000.00	1 year	Ongoing	
14-06	Target Harden DPW and Borough Hall by Installing Surveillance Cameras, an Access Control System,	Purchase and install additional cameras at critical facilities, specifically DPW and Borough Hall. Implement security measures such as swipe cards or fobs to limited	Terrorism	Medium	Emerson Borough	Homeland Security grants	$30,000.00	1 year	Ongoing	This is ongoing as the Borough sees the need to add additional safe guards.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	Additional Fencing, and Bollards	access to facilities. Install additional fencing or bollards where needed.								
14-07	Purchase Additional Light Towers and Variable Message Signs	Purchase additional light towers and variable message signs.	All Hazards	Low	Emerson Borough	Municipal budget, Homeland Security grants	$30,000.00	1 year	Ongoing	Planned for 2026 PD Capital budget.
14-08	Purchase Flatbed Trailer for Emergency Equipment	Purchase flatbed trailer (double axel trailer) to keep emergency equipment like cones, lights, signs, and portable generators.	All Hazards	Low	Emerson Borough	Municipal budget	$2,000.00	1 year	Ongoing	Possible purchase this year with OEM Funds.
14-09	Design, Construct, and Install a Microgrid	Install a microgrid that can serve as a resilient source of power.	All Hazards	Medium	Emerson Borough	Municipal budget	TBD	5 + years	Ongoing	MUA with county to share equipment.
14-10	Increase Cyber Security in Borough	Install a redundancy for administrative and police servers. Servers must be separate. Acquire/install off site backup and a Cloud system.	Cyber Attack	Medium	Emerson Borough	Homeland Security grants	$70,000.00	1 year	Ongoing	Currently working on this with borough IT.
14-11	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	$1.8 million	5 + years	Ongoing	There are two residents that have had repetitive damage due to flooding from poor drainage. The Dorchester Project may alleviate the issue.

15 – ENGLEWOOD CITY

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Joseph Sorbanelli	**Emergency Management Coordinator**	**Primary Contact, Public Meeting #2, Municipal Meeting**
Frantz Vocly	City Engineer	Municipal Meeting

COMMUNITY PROFILE

Overview

The City of Englewood spans approximately 4.95 square miles and is located in east-central Bergen County, New Jersey. Englewood is a diverse suburb of New York City with a bustling downtown of its own. Landmarks include the Bergen Performing Arts Center and Liberty Pole, erected in 1966 to commemorate the repeal of the Stamp Act an early event leading to the Revolutionary Ware, as well as several historic homes. The city is bisected from north to south by Overpeck Creek, Flat Rock Brook, and Metzler Brook. Interstate 95 travels through Englewood near the southern border with Leonia. Other main transportation routes include State Routes 4 and 93, and County Routes 501 and 505. Englewood is serviced by NJ Transit bus routes 166, 171, 175, 178, and 186, as well as local routes 756 and 780. The city has a population of around 29,100 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Englewood City is primarily a residential community, with the MOD-IV dataset showing residential and apartment land use accounted for 62% of the total land area, covering over 1,500 acres in 2022. Civic/public (tax exempt) is the second most predominant use covering roughly 563 acres. The city also has a significant amount of commercial and industrial land, comprising 169 and 145 acres of land, respectively. From 2016 to 2022, commercial use decreased marginally in area, while most other categories grew marginally or remained constant.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the urban land use category occupied the largest share of land use, making up nearly 90% of the area of Englewood in 2020. The next largest category is forest making up about 8% of the area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	15.1	11.4	-25%
Forest	237.1	237.9	<1%
Urban	2855.7	2858.5	<1%
Water	21.6	21.6	0%
Wetlands	36.7	36.7	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

In 2022, a 96-unit mixed use development was completed in downtown Englewood located at 20 Grand Avenue. The complex is not located within the floodplain.

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

None identified

Demographics & Vulnerable Populations

Englewood City's population, estimated at 29,109 residents, is estimated to be 4.2% under 5 years old, and 23.8% over age 65. The city gained residents in the survey periods between 2013-2017 and 2018-2022, with an estimated 2.1%

population growth. With an aging population making up nearly one-quarter of the city's population, Englewood may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The city has sixteen block groups which meet criteria for overburden according to the State of New Jersey's OBC designations. These block groups are noted as *Minority* (twelve block groups) and *Low Income and Minority* (four block groups) communities and make up Englewood's western half. Englewood has one tract meeting criteria for CEJST designation as a *Workforce Development* community. No parts of Englewood are identified as CDRZ communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	29,109
Population Change since 2017	2.1%
Percent of Population Age < 5	4.2%
Percent of Population > 65	17.6%

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 high, medium, low, or no concern. The following include the city's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Wave action was ranked as N/A.

Hazard Ranking Explanation

Wave action is ranked as N/A (not applicable) because Englewood is an inland community and contains no bodies of water that are large enough to cause impacts from wave action.

Extreme temperatures is ranked medium. There are a few days every season where operation of heating and cooling centers are necessary. The library is a crucial lifeline in these circumstances. Lightning is ranked medium as the city reports the occurrence of house fires caused by strikes, which officials estimate at about one a year. Landslide is occasionally a concern from ground disturbance. There are large hills on the eastern side of town near the Flat Rock Brook Nature Center. Storm surge is ranked low as flood gates at the location where Overpeck Creek flows into the Hackensack River are closed during high tide or big storm events preventing tidally impacted storm surge from affecting the city.

Economic disruption is ranked medium as the city has had businesses close from flooding events. Power failure is mostly a concern when the city experiences events of wind and water at same time, causing the greatest chance of downed trees. During major events such as Hurricane Floyd or Tropical Storm Ida, parts of the city were without power for as long as two weeks. Terrorism is a medium concern as Englewood contains synagogues and other religious institutions which could be targets.

Significant Hazard Events Since Last Plan Update

Tropical Storm Ida had significant and long-lasting impacts on the borough. Englewood's downtown located along Palisade Avenue saw several feet of water in areas, and people throughout the city were became trapped in vehicles as the water rapidly rose. Many municipal buildings in this area were damaged as well as businesses and homes. Officials report that debris and water created trenches which have functioned as new pathways for water during rain events

An additional major flooding event occurred during Summer 2024. A cloudburst sat over the town without moving, dumping intense rainfall on the city. The impacts were almost as severe as Ida. Town officials report that during this event 200 people required rescuing from vehicles with support of nearby unimpacted towns which allowed use of their high-water rescue vehicles. The city reports that this heavy precipitation caused flooding in areas that never flood. Photos below illustrate some of the flooding experienced throughout the city.

Flooding from August 2024





Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the City of Englewood. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, exacerbating existing vulnerabilities, particularly in areas prone to flooding. Projected sea level rise could exacerbate flooding issues. As the low-lying areas surrounding the tidal Overpeck Creek in the south of the city become inundated, upstream areas will see worsened flooding as water "backs up" in the stream. Additionally, potential future development within the city or upstream within the watershed, could increase the amount of runoff entering Overpeck Creek. Actions identified by the borough's mitigation strategy such as drainage improvements (action 15-03 and 15-09) or relocation/elevation of city critical facilities (15-05) action should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Englewood City	
Number of Policies In-Force:	495
Total Losses:	392
Total Payments:	$12,037,879.45
Number of RL Properties:	42
Number of Mitigated RL Properties:	0
RL – Total Losses:	113
RL – Total Paid:	$3,251,565.04
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	10
SRL – Total Paid:	$1,268,115.63

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

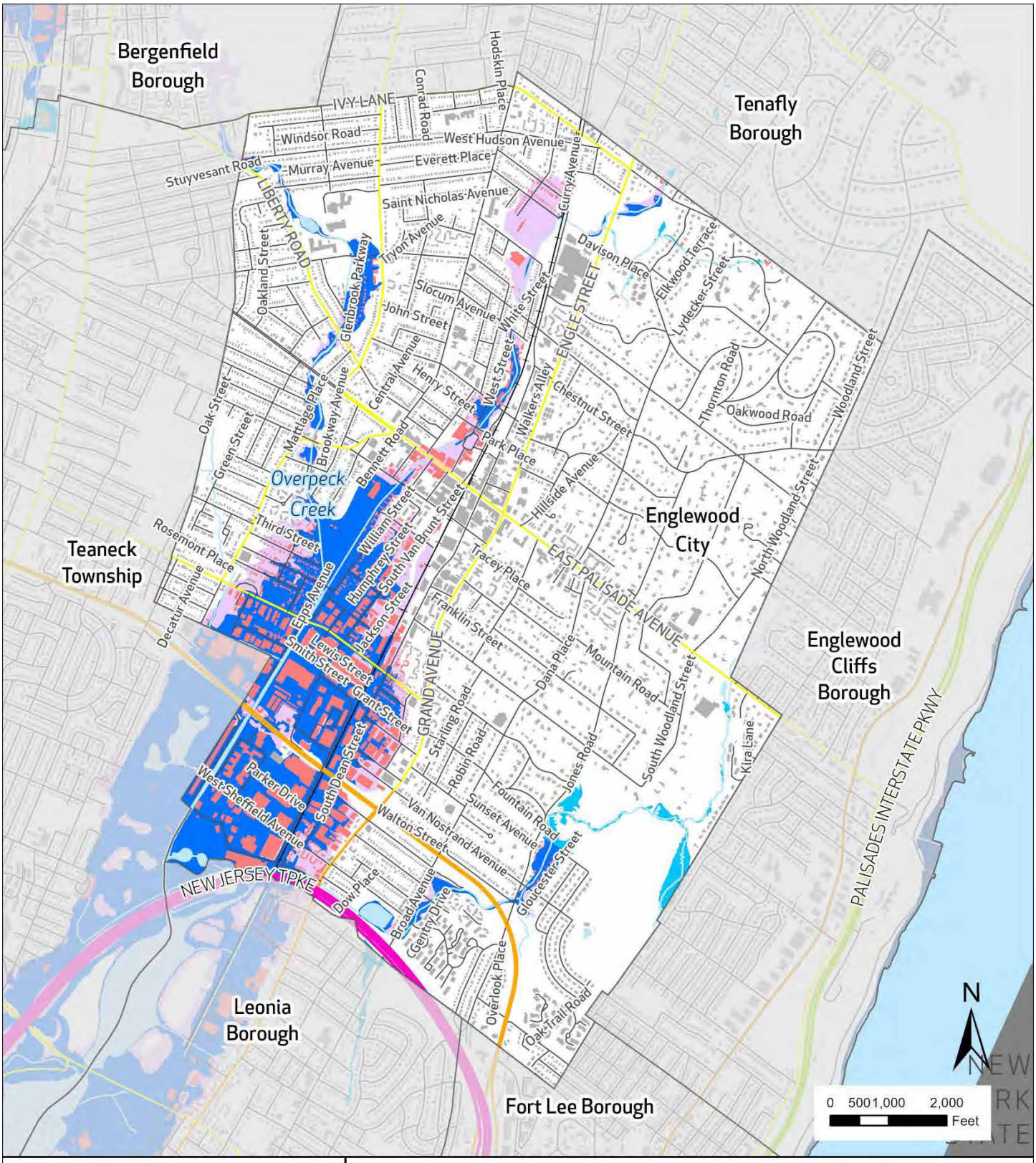
The Special Flood Hazard Area (SFHA) in the City of Englewood is primarily located adjacent to the waterbodies of the town such as Overpeck Creek, Metzler Brook, and Flat Rock Brook, and is primarily centered in the southwest corner of the city near its border with Teaneck and Leonia. Approximately 12.7 percent of the total area of Englewood lies within the 1% annual chance floodplain as defined by FEMA. An additional 4.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 75.5 percent of Englewood is considered developed. Of the developed parcels of the town, 13.5 percent fall at least partially within the 1% annual chance floodplain and 9.1 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that vulnerability of the development of the municipality is generally in line with overall flood risk for the area.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	13.5	9.1
Exposed Land Area	12.7	4.8

During the planning process, Englewood City 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 28 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 1% annual chance floodplain. These two facilities are also within the area of the city at risk from sea level rise. An additional facility is within the 0.2% annual chance floodplain. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Safety and Security	1	1	1
Water Systems	1	0	1



Flood Hazard

Englewood City

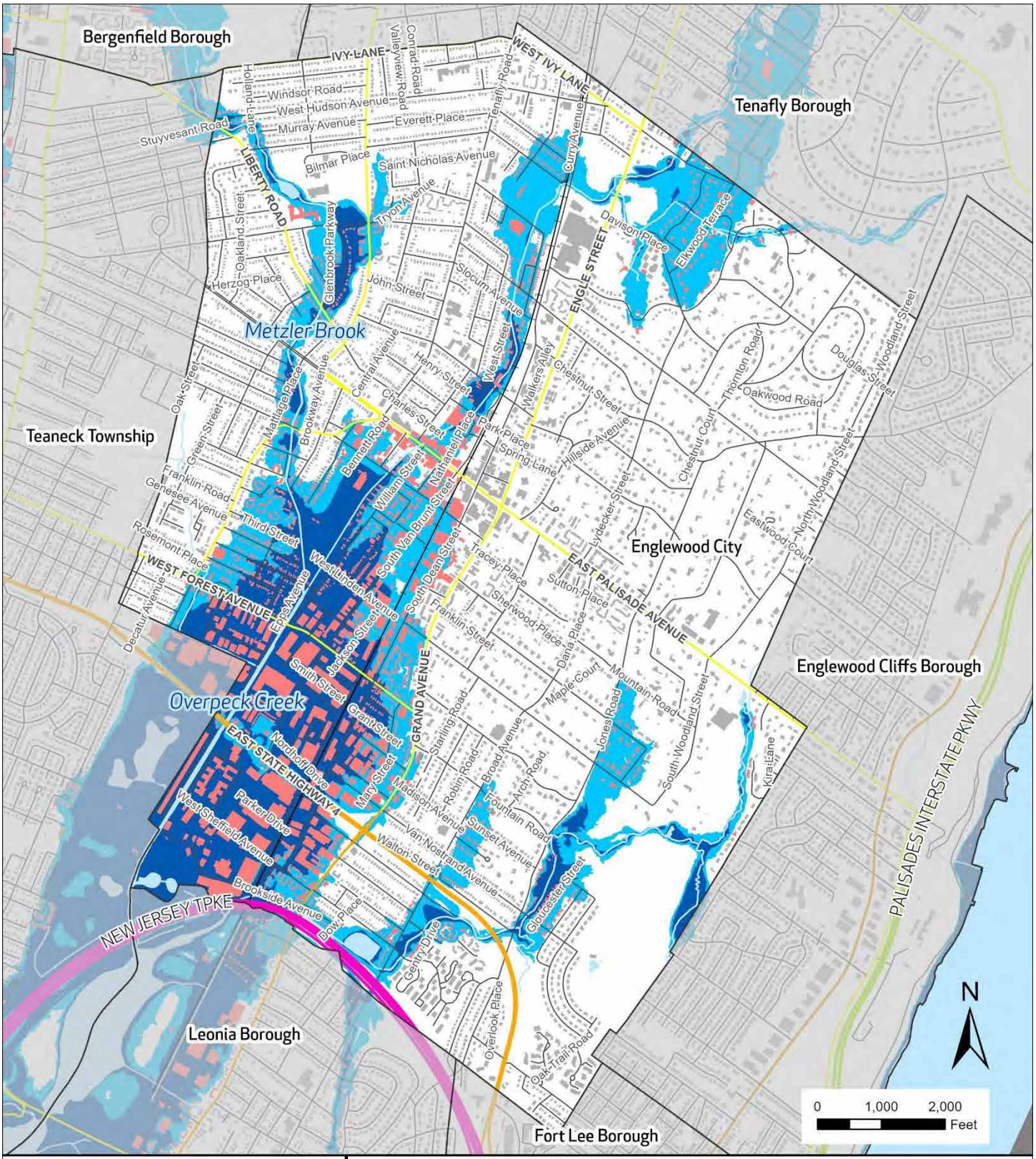
FEMA Flood Zone

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

- New Jersey Tpke
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

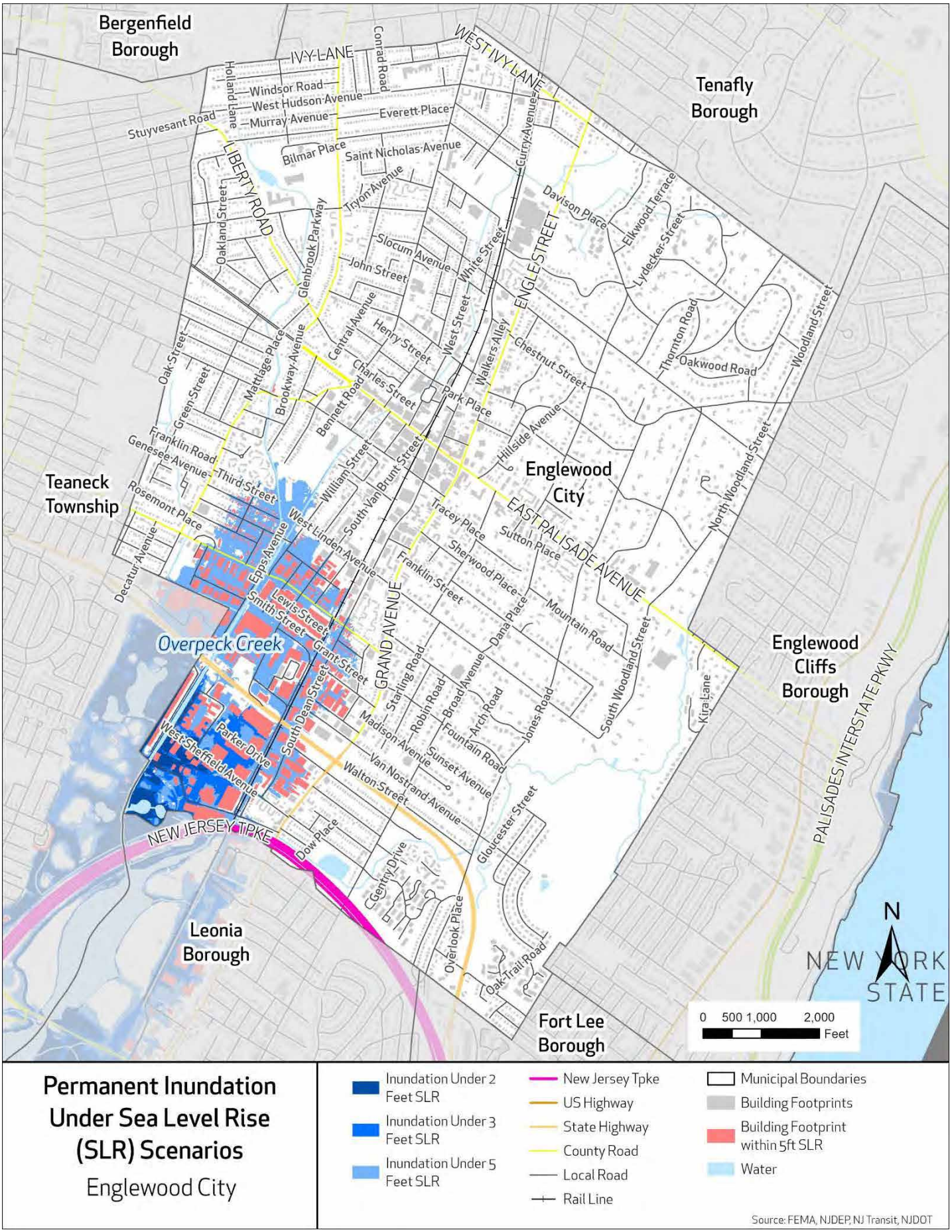


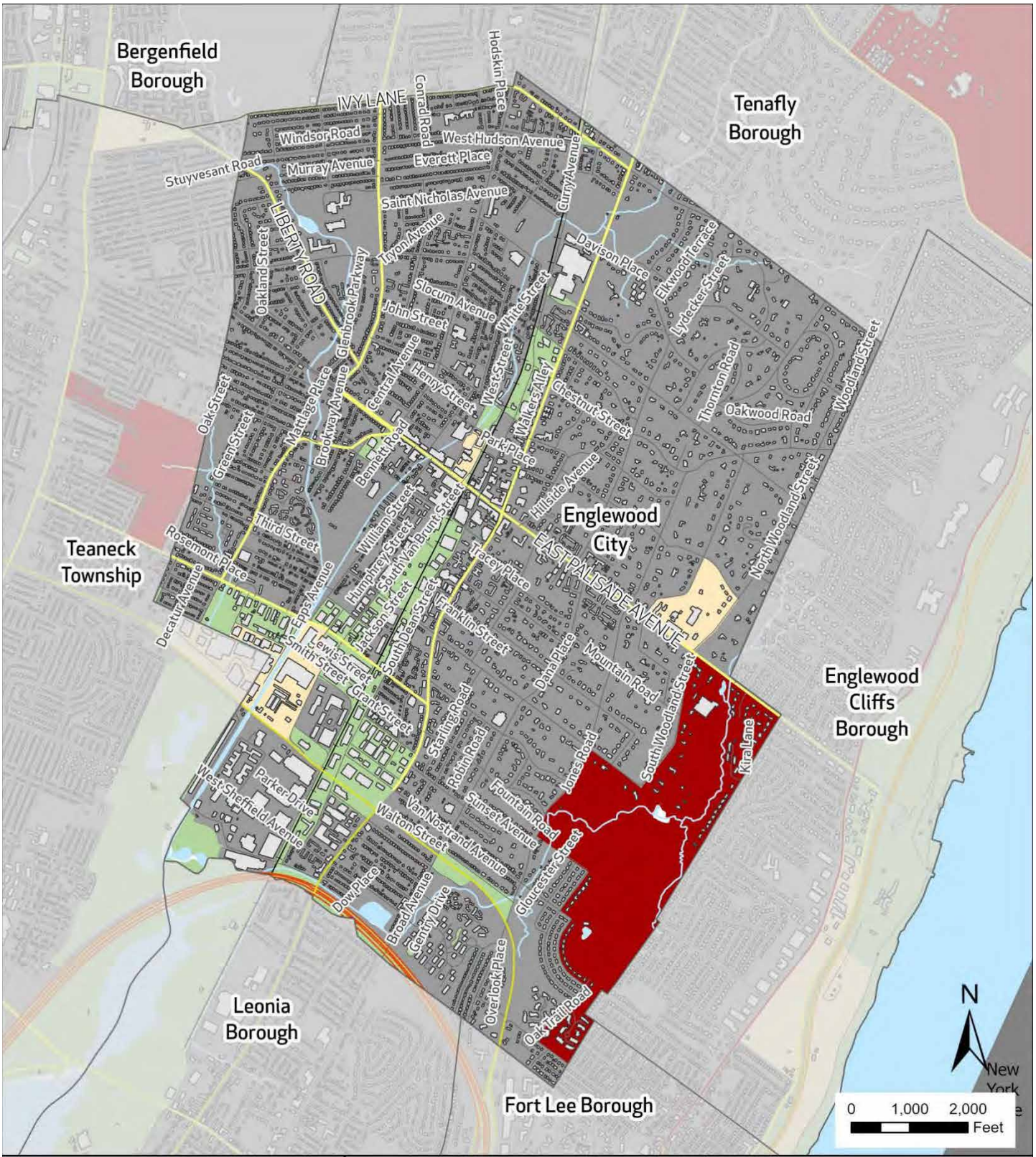
NJ Inland Design Flood Elevation

Englewood City

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- New Jersey Tpke
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Bergenfield Borough
Tenafly Borough
Teaneck Township
Englewood City
Englewood Cliffs Borough
Leonia Borough
Fort Lee Borough
Overpeck Creek
IVY LANE
WEST IVY LANE
Windsor Road
West Hudson Avenue
Murray Avenue
Everett Place
Stuyvesant Road
Holland Lane
Conrad Road
Bilmar Place
Saint Nicholas Avenue
LIBERTY ROAD
Oakland Street
Tryon Avenue
Glenbrook Parkway
Curry Avenue
ENGLE STREET
Davison Place
Elkwood Terrace
Lydecker Street
Slocum Avenue
John Street
White Street
West Street
Walkers Alley
Chestnut Street
Thornton Road
Oakwood Road
Woodland Street
Oak Street
Green Street
Mattlage Place
Brookway Avenue
Central Avenue
Henry Street
Charles Street
Bennett Road
Park Place
Hillside Avenue
North Woodland Street
Franklin Road
Genesee Avenue
Third Street
Rosemont Place
Decatur Avenue
William Street
South Van Brunt Street
Tracey Place
Sutton Place
EAST PALISADE AVENUE
West Linden Avenue
Epps Avenue
Lewis Street
Smith Street
Grant Street
Franklin Street
Sherwood Place
Dana Place
Mountain Road
GRAND AVENUE
Starling Road
Robin Road
Broad Avenue
Arch Road
Fountain Road
Jones Road
South Woodland Street
Kitra Lane
PALISADES INTERSTATE PKWY
South Dean Street
Parker Drive
West Sheffield Avenue
Madison Avenue
Sunset Avenue
Van Nostrand Avenue
Walton Street
NEW JERSEY TPKE
Dow Place
Gentry Drive
Overlook Place
Oak Trail Road
Gloucester Street
N
NEW YORK STATE
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Englewood City
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



Wildland Urban Interface (WUI) Classification

Englewood City

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- Interstate Routes
- New Jersey Tpke
- State Routes
- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Englewood City 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance	X			
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan	X			
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			
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			

Administrative and Technical Capabilities

Englewood City 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		Currently working with NJIT on improving and developing ways to reduce flooding along Overpeck Creek and Metzler's Brook.
Organizations that work with socially vulnerable or underserved populations	X		

Education and Outreach Capabilities

Englewood City 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		Class 10

Financial Capabilities

Within the last five years, Englewood City 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:

Englewood was recently a more than $1.4 million investment to address flooding and protect the community from contaminants in stormwater runoff. The new infrastructure will help stabilize the bank of the creeks moving forward, prevent any further erosion, and maintain the amount of water that can flow safely through Overpeck Creek. The borough will also install detention basins at two nearby properties. These new basins will collect contaminants in water and prevent them from spreading further into the town and those who live around the creek. These pollutants have disproportionately impacted historically underserved communities.

MITIGATION STRATEGY

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The City has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
15-01	Increase Electrical Wiring in Shelters for the Installment of Generators	Connection and wiring of previously installed generators to additional sections of two public educational facilities, designated as the all-hazards primary and secondary emergency shelters, respectively.	All Hazards	Low	City of Englewood	Municipal budget	TBD	1 year	Ongoing	
15-02	Construct Fold Down Signs at Intersections	Over the past several years, stop signs were affixed to many of the traffic lights throughout the city. Since the implementation of the program, additional traffic control devices were installed and fold down stop signs have not been installed at these locations. Additionally, numerous stop signs that have been damaged over the past years need repair, and/or replacement. This action is still relevant as additional traffic lights have been installed,	Flood, All Hazards	Low	City of Englewood	Municipal budget	$6,500	2 years	Ongoing	Some have been installed but the town could use additional signs.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		and previously installed stop signs need repair and/or replacement.								
15-03	Improve Stormwater Drainage at Forest Ave./Dean St./Florence St.	The area surrounding Forest Ave./Dean St./Florence St. is regularly impacted by flooding from severe storms. To rectify this issue, improvements need to be made to the drainage and connected sewer systems in the area.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	City of Englewood, Bergen County, CSX	DOT, Municipal budget	$25,000	1 year	Ongoing	Areas around CSX-owned railroad tracks are a persistent issue and not maintained. The town would like to clean tracks out, but railroad does not allow this. The sewer collapse on Forest Ave was repaired. Florence St has been improved. Dean Street is a County Road and would require additional coordination but would prevent water from reaching tracks.
15-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Hurricane/ Tropical Storm Nor'easter,	High	city OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	Focus on clusters along White, First, Warren, Twisby, and Gloucester Streets, Epss Ave, and Green Brook Parkway.No progress has been made on this action.
15-05	Elevate or Relocate Critical Facilities (DPW, Yeshiva School of Englewood, Mackay Field, Post Office) Out of the SFHA	Elevate or relocate certain critical facilities such as DPW, Post Office, school and child care center which are all located in the SFHA.	Flood, Hurricane/ Tropical Storm, Nor'easter	High	City of Englewood	Municipal budget	TBD	3 years	Ongoing	No progress has been made on this action

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
15-06	Map and Assess Vulnerability to Landslides and Wildfires	Complete an inventory of locations where critical facilities, other buildings, and infrastructure are vulnerable to landslides and wildfire. Also consider joining the Firewise USA program.	Wildfire, Landslide	Low	city OEM, Planning	Municipal budget	TBD	3 years	New	Drought led to brush fires this year which resulted in the closure of the Flat Rock Nature Preserve. No progress has been made on this hazard
15-07	Reestablish Eligibility in the NFIP's CRS Program	Englewood City rescinded their participation the in CRS program; reestablish eligibility to complete proactive floodplain management and assist residents with flood insurance costs.	Flood, Hurricane/ Tropical Storm, Nor'easter	Low	city OEM	Municipal budget	TBD	3 years	Ongoing	The city is interested in saving money through the CRS program.
15-08	Purchase and install Generator in Library	The library is a valuable resource and shelter during hazards, for example, functioning as a cooling or heating location during extreme temperature events. Purchase and install a backup generator would allow the library to continue to function during power disruption caused by hazard events.	All Hazards	High	City of Englewood	Grants & Municipal Budget	$200,000.00	3 years	New	
15-09	Purchase and install Generator in High School	The high school would serve as a shelter in event of an emergency but currently has no generator.	All Hazards	High	City of Englewood, DEP	Grants & School Budget	$200,000.00	3 years	New	
15-10	Implement Findings from Drainage Studies	The city is currently working with engineering consultants to produce drainage studies. Utilize the recommendations from these studies to improve drainage in the city	Flood, Hurricane/ Tropical Storm, Nor'easter,	High	City of Englewood, DEP	Municipal Budget	TBD	10 years	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
15-11	Identify Parcels of Land to Build Detention Ponds/Basins to Capture Water	Identify Parcels of Land to Build Detention Ponds/Basins to Capture Water and prevent runoff contributing to flooding in the city.	Flood, Hurricane/ Tropical Storm, Nor'easter,	High	City	Grants & Municipal Budget	1,000,000	3 years	New	
15-12	Utilize Railroad to Reduce Flooding	The city would like to utilize the CSX railroad tracks, currently in disuse, in order to reduce flooding. The city would be interested in acquiring the land or reaching an agreement with the company to maintain the ROW.	Flood, Hurricane/ Tropical Storm, Nor'easter,	Medium	CSX & City	Grants & Budget	TBD	5 years	New	
15-13	Procure Three Additional High Water Rescue Vehicles	City would like to acquire three additional high water rescue vehicles in addition to the one they already have. One vehicle for each ward would allow the city to improve emergency response time in high water conditions.	Flood, Hurricane/ Tropical Storm, Nor'easter,	Medium	City	Grants & Budget	300,000	5	New	
15-14	Design New Storm Water Management System	NJIT Flood Mitigation Study	Flooding Storm Water Management	High	State OEM & City	Funded by Grant	340,000	2 years	New	

16 – ENGLEWOOD CLIFFS BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
George Drimones	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
James Tracy	Police Lt.	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Englewood Cliffs is a 3.35 square mile affluent suburb of New York City located above the New Jersey Palisades across the Hudson River from Upper Manhattan and New York State. The Zoning Code of 1954 eliminated factories and apartment buildings and divided the borough into single-family residence zones separated by buffer zones from office buildings along Sylvan Avenue. The borough is home to the headquarters of several prominent corporations including CNBC and LG. By the end of the 20th century, Englewood Cliffs was fully developed, with almost no land available for further building. Due to high land values the borough has seen significant re-development taking place. Older homes and businesses are being removed and replaced by newer ones. Major landmarks include Palisades Interstate Park, The Englewood Cliffs campus of Saint Peter's University, and several houses listed on the National Register of Historic Places. The Palisades Interstate Parkway travels through Englewood Cliffs alongside US Route 9W, while County Route 505 also traverses the borough. The borough has a population of 5,347 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Englewood Cliffs is a largely residential community, with the MOD-IV dataset showing residential (including apartment) land use accounted for 45% of the total land area, covering 478 acres in 2022. Land classified as civic/public (tax exempt) accounted up 32% of the total land area in the same year.

According to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the urban land use category occupied the largest share of land use, making up 74% of the area in 2020. This was followed by forest land use, which accounted for 24% of the land area in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	0%
Barren Land	25.4	6.7	-74%
Forest	326.2	322.3	-1%
Urban	969	991	2%
Water	5.9	6.5	10%
Wetlands	6.1	6	-2%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified in flood zone.

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

Construction is underway on a major housing redevelopment at the site of the former Unilever headquarters at 800 Sylvan Avenue in Englewood Cliffs. The development will consist of 450 new housing units, 90 of which would be

designated as affordable housing. The site is not located within the floodplain. In addition to that development, the borough still has affordable housing obligations to meet.

Demographics & Vulnerable Populations

Englewood Cliffs Borough's total population is estimated to be 5,347 – 4.1% of which is estimated to be under 5 years old, and 20.3% of which is over age 65. The borough saw a small population decline (-1.62%, estimated) between the ACS survey periods of 2013-2017 and 2018-2022. With an aging population making up nearly one in five borough residents, Englewood Cliffs may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Englewood Cliffs entire land area (six block groups) is designated as overburdened (OBC) according to indicators of *Minority* populations. No parts of Englewood Cliffs are identified as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	5,347
Population Change since 2017	-1.6%
Percent of Population Age < 5	4.1%
Percent of Population > 65	20.3%

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

The following hazards were ranked as "N/A": Coastal Erosion

Hazard Ranking Explanation

Winter storms are a concern at Suez/Viola due to the surface conditions. The borough experienced a ransomware attack a few years ago and took action to mitigate future attacks, but the potential for another cyber attack is still a concern.

Significant Hazard Events Since Last Plan Update

Rainfall events have caused major issues with stormwater runoff, especially due to the borough's extensive bedrock. Specifically at Castle Dr/Rt 9W/Sage Rd/Demerest, there were offices that experienced damage and significant traffic issues.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Englewood Cliffs Borough	
Number of Policies In-Force:	0
Total Losses:	$0
Total Payments:	$0
Number of RL Properties:	0
Number of Mitigated RL Properties:	0
RL – Total Losses:	$0
RL – Total Paid:	$0
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

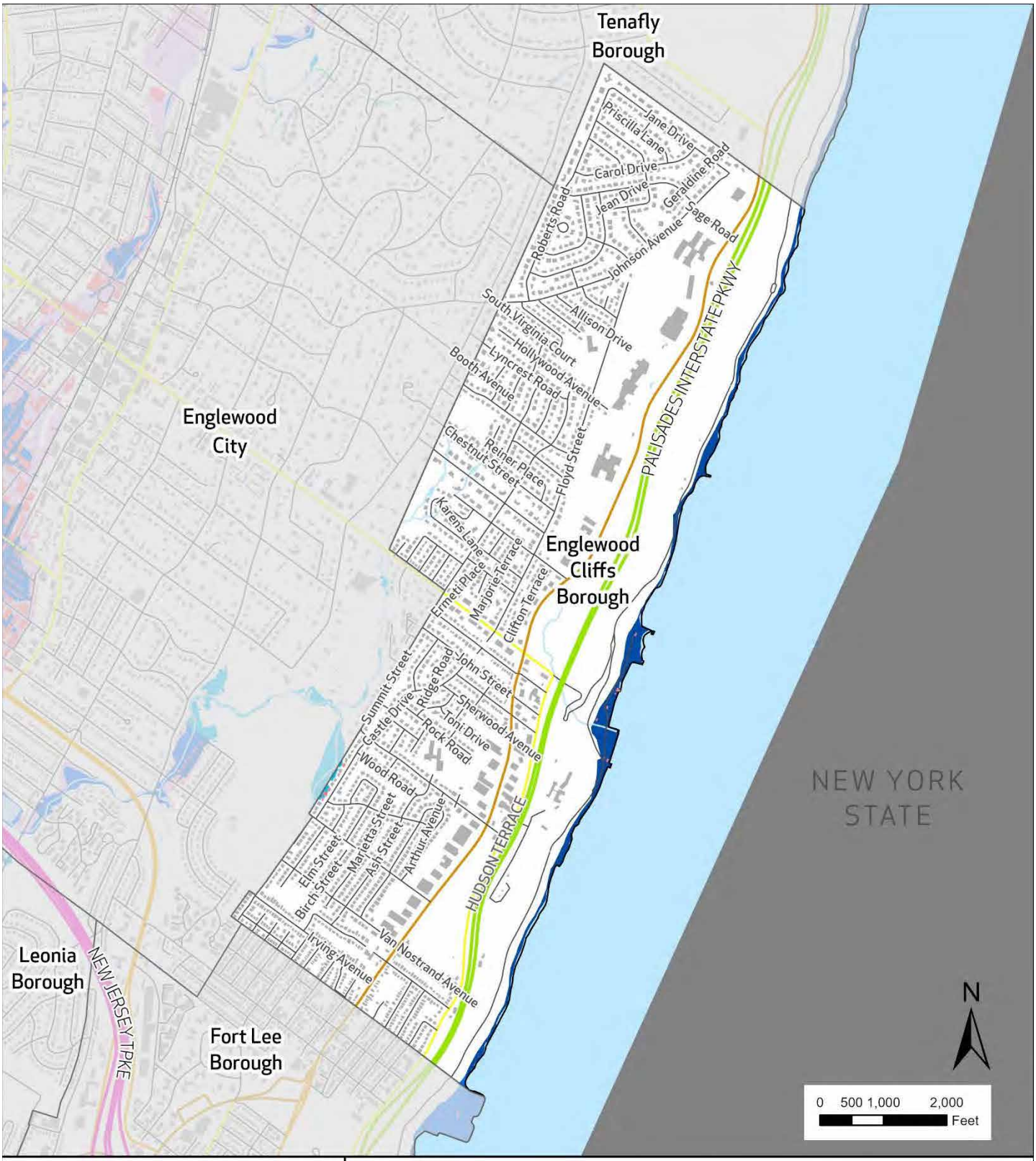
The Special Flood Hazard Area (SFHA) in the Borough of Englewood Cliffs is primarily located adjacent to the Hudson River below the Palisades. Approximately 2.4 percent of the total area of Englewood Cliffs lies within the 1% annual chance floodplain as defined by FEMA. The municipality contains no 0.2% annual chance floodplain.

About 58.6 percent of Englewood Cliffs is considered developed. Of the developed parcels of the borough, 0.5 percent fall at least partially within the 1% annual chance floodplain and none fall within the 0.2% annual chance floodplain. 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
Developed Parcels	0.5%	-
Exposed Land Area	2.4%	-

During the planning process, Englewood Cliffs Borough 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 six total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	0	0	0



Flood Hazard

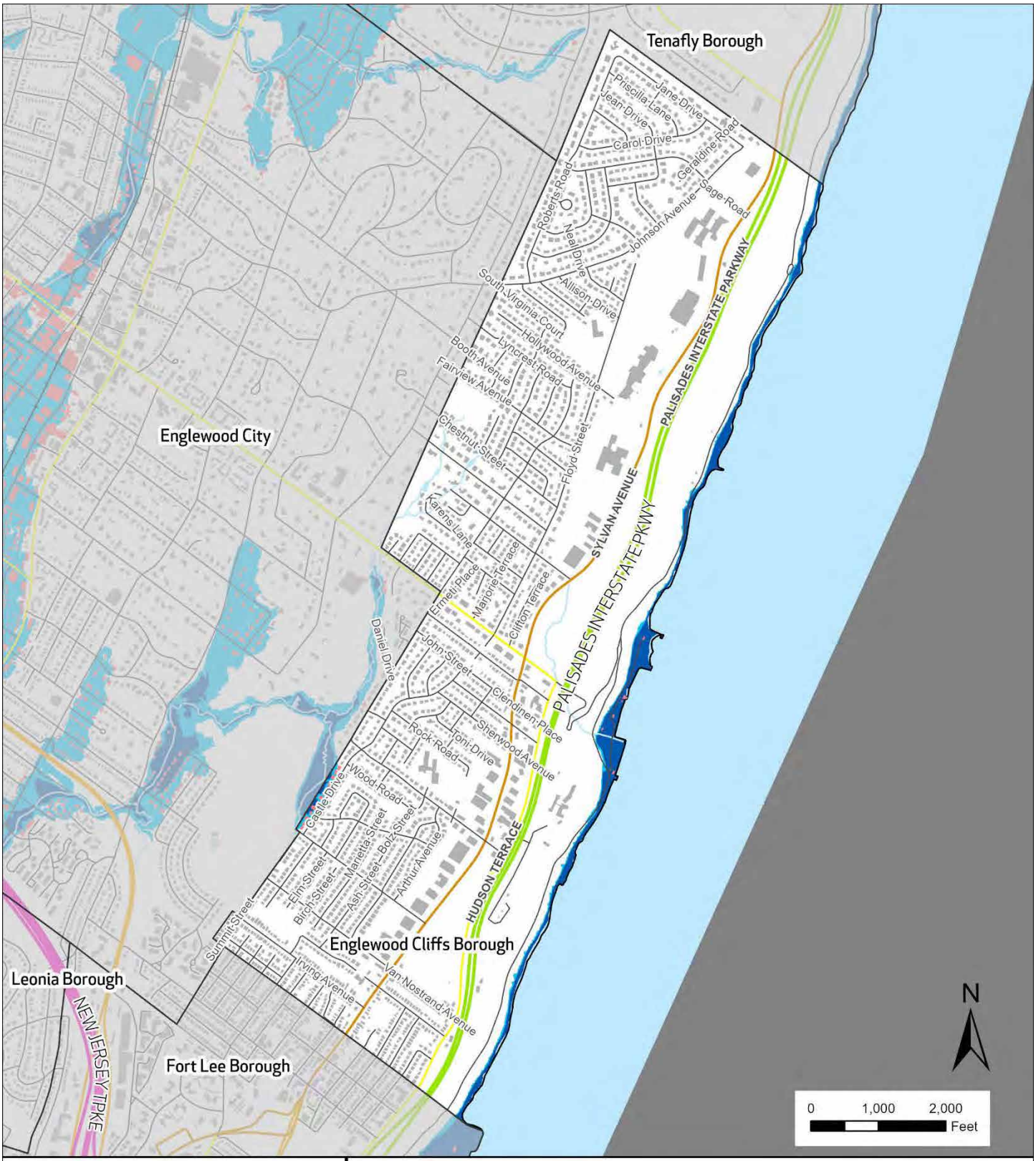
Englewood Cliffs Borough

FEMA Flood Zone

- A (1%); AH (1%)
- AE (1%)
- VE (1%)

- Palisades Interstate Pkwy
- US Highway
- State Highway
- County Road
- Local Road
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

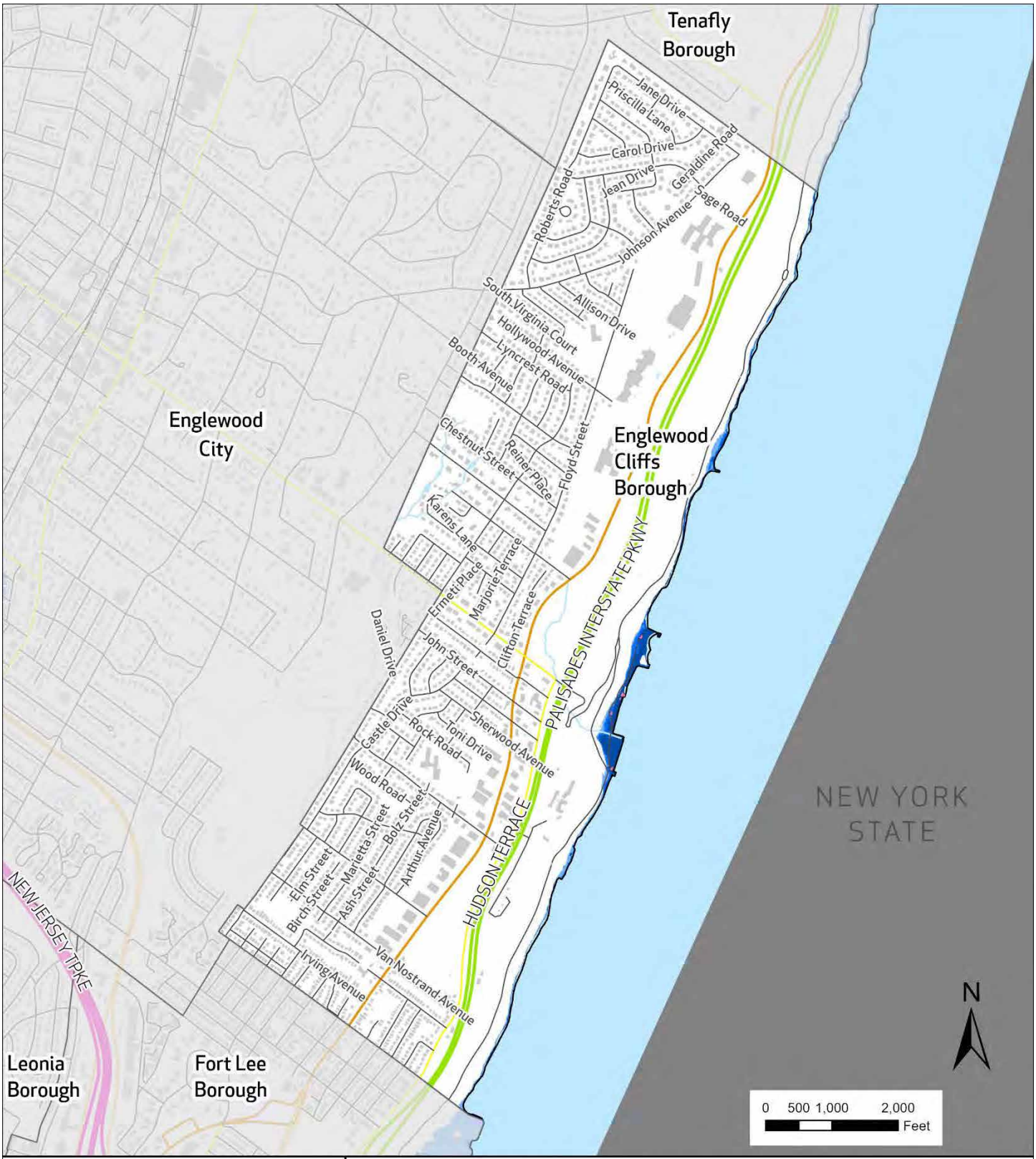


NJ Inland Design Flood Elevation

Englewood Cliffs Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- US Highway
- County Road
- Local Road
- Palisades Interstate Pkwy
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Englewood Cliffs Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- Palisades Interstate Pkwy
- US Highway
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Englewood Cliffs Borough 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		2020	
Capital Improvement Plan	X		2020	Identifies projects that, if implemented, could prevent and reduce the impacts of hazards.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X			Any Ordinance in effect or under consideration will model the State requirements for development within Flood Hazard areas. No areas within the jurisdiction are currently in Flood plain.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2020	Stormwater management measures for major development should be designed so that the post-construction peak runoff rates for the current and projected two-, ten-, and 100-year storm events, are 50%, 75% and 80%, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Via inspection by DPW, Building, Engineering, Property Maintenance, or Fire Officials. Notices of violation are issued with follow-up to the responsible party to ensure compliance in accordance with Uniform Construction Code, Uniform Fire Code, and Property Maintenance Code. When an applicant applies for a building permit for home improvements the structure is evaluated for SD/SI. If during storm events structures are damaged, in the past OEM, building code official, and Engineer have looked at structures for substantial damage determination.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Englewood Cliffs Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Via contract as needed
Grant Writer		X	
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to	X		

Position	Yes	No	Explanation
support hazard mitigation projects			
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

Englewood Cliffs Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	x		EC alerts platform initiated in 2024 and currently in use
StormReady	x		
Firewise USA		x	
Severe Weather Awareness Week	x		
Community Rating System (CRS)	x		

Financial Capabilities

Within the last five years, Englewood Cliffs Borough 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		Generator grants /re imbursements
FEMA HMGP			
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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Englewood Cliffs has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include generators for shelters and enhancing power backup and essential facilities, such as Police, Fire, EMS. Senior Center (resilience), AWD EOM Vehicle (response), and improving drainage systems/maintenance (mitigation). Over the next five years, Englewood Cliffs aims to prioritize adopting advanced emergency alert systems and upgrading community shelters. These efforts underscore the Borough's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-05	Purchase and Install of Emergency Generator at DPW Building 342 Hudson Terrace	Installation of emergency generator at DPW Building 342 Hudson Terrace	All Hazards		Borough of Englewood	Grant	$50,000.00	2 years	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-01	Purchase and Install Emergency Generator for School & Shelter	Purchase and Install Emergency Generator for School & Shelter	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$50,000.00	5 + years	Ongoing	
16-02	Install emergency Generator for Pump Station: Lyncrest Road	Install generators to ensure proper performance of the sewer and stormwater pumps in the event of power outage.	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$50,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-03	Purchase and Install Emergency Generator for Borough Hall	Purchase and Install emergency generator for Borough Hall Building 482 Hudson Terrace	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$75,000.00	5 + years	Ongoing	
16-04	Purchase and Install Emergency Generators for 700 Floyd Street - North Cliffs School Emergency Generator backup for School 7 Shelter	Location 700 Floyd Street - North Cliffs School Emergency Generator backup for School 7 Shelter	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$100,000.00	5 + years	Ongoing	
16-06	Purchase and Install Generator for Police Communications-Johnson Avenue - Water Tower	Installation of backup generator for police communications-Johnson Avenue -Water Tower	All Hazards	Medium	Englewood Cliffs Borough	FEMA HMA	$50,000.00	5 + years	Ongoing	
16-07	Purchase and Install Emergency Generator for Pump Station - Jane Drive	Location: Jane Drive - Pump Station Emergency backup service for sanitary pump station.	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$50,000.00	5 + years	Ongoing	
16-08	Purchase and Install Emergency Generator for Pump Station - Roberts Road	Location: Roberts Road - Pump Station Emergency backup service for sanitary pump station.	All Hazards	Medium	Borough of Englewood Cliffs	FEMA HMA	$50,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-09	Expand the Storm Drainage System at Palisade Avenue	Expand the storm drainage system at the Palisade Avenue	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Englewood Cliffs	FEMA HMA, Municipal budget	$150,000.00	5 + years	Ongoing	
16-10	Coordinate with the County to Purchase and Install Mobile Generator or Battery Backups for County Traffic Signals	Coordinate with the County to purchase and install mobile generator or battery backups for county Traffic Signals to support continuity of operations during a power failure along critical evacuation routes.	All Hazards	Medium	Borough of Englewood Cliffs	Municipal budget, County budget	$200,000.00	3 years	New	
16-11	Improve Drainage along State Highway 9W in coordination with the State	In coordination with the State, improve drainage along State Highway 9W to support critical evacuation routes and continuity of operations during a hazard.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Englewood Cliffs	FEMA HMA, DOT, County budget, Municipal budget	$500,000.00	5 + years	New	
16-12	Purchase and Install Redundant Radio Communication Systems for Police and Fire Services	Purchase and Install redundant radio communication systems for Police and Fire	All Hazards	Medium	Borough of Englewood Cliffs	Homeland Security grants	$500,000.00	5 + years	New	
16-13	Purchase Variable Message Signs, Moveable Barriers, and Light Towers	Purchase Variable Message signs, moveable barriers and light towers	All Hazards	Medium	Borough of Englewood Cliffs	Homeland Security grants	$50,000.00	5 + years	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-14	Purchase Additional Backup Server to Support Communication Systems	Purchase additional backup server to support communication systems	Cyber Attack	Medium	Borough of Englewood Cliffs	Homeland Security grants	$50,000.00	5 + years	New	
16-15	Move Radio Equipment to a Secure Location within a Borough Facility	Move radio equipment to a secure location within the Borough's facilities.	Cyber Attack	Medium	Borough of Englewood Cliffs	Homeland Security grants	$25,000.00	5 + years	New	
16-16	Coordinate with Power Utility to Maintain Street Trees and Urban Forestry to Prevent Power Disruption	Coordinate with power utility to maintain street trees and urban forestry to prevent power disruption.	All Hazards	Low	Borough of Englewood Cliffs	Municipal budget, utility provider	$20,000.00	5 + years	New	
16-17	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Currently, there are no RL/SRL properties in the Borough. However if that changes within the next five years, coordinate with residents to elevate RL/SRL properties or buy out RL/SRL properties and convert to open space.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	$100,000.00	5 + years	New	
16-18	Reestablish Eligibility in the NFIP's CRS Program	Englewood Cliffs rescinded their participation the in CRS program; reestablish eligibility to complete pro-active floodplain management and assist residents with flood insurance costs.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Englewood Cliffs Borough	Municipal budget	$25,000.00	2 years	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
16-19	Apply Soil Stabilization Measures, such as Planting Soil Stabilizing Vegetation, on Steep, Publicly-owned Slopes	Apply soil stabilization measures, such as planting soil stabilizing vegetation, on steep, publicly-owned slopes.	Geological Hazards	High	Borough and Palisades Interstate Park Commission	FEMA HMA	$25,000.00	3 years	New	

17 – FAIR LAWN BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Wendy Alvarez	**OEM Coordinator**	**Primary Contact, Public Meeting 2, Municipal Meeting**
Kurt Peluso	Borough Manager	Municipal Meeting
Christopher Hoitsma	Superintendent DPW	Municipal Meeting
Jacob Mamo	Asst. Superintendent DPW	Municipal Meeting
Andrea Piazza	Contracted Engineer	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Fair Lawn spans approximately 5.22 square miles and is located in western Bergen County, New Jersey. The Passaic River flows along its western border while the Saddle River flows along its eastern border. The Jordan Brook, Beaverdam Brook, Henderson Brook, and Diamond Brook all flow through the borough. Eight sites in the borough are listed on the National Register of Historic Places in addition to other major landmarks such as George Washington School and Warren Bronze and Aluminum Factory on Second Street. Fair Lawn is serviced by the Radburn and Broadway train stations on the NJ Transit Bergen County Line, which offers service to Lower Manhattan. It also connects Secaucus Junction to Penn Station in Midtown Manhattan and to most other NJ Transit train lines. The borough has a population of around 34,948 residents. Fair Lawn is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Fairlawn Borough is primarily a residential community, with the MOD-IV dataset showing residential land use (including apartments) accounting for 64% of the total land area, covering nearly 1,400 acres in 2022. Commercial and Civic/public (tax exempt), industrial, and commercial land uses also make up significant portions, making up 18%, 9%, and 7% of land use, respectively, in the same year.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the urban land use category occupied the largest share of land use, making up 94% of the area in 2020. Barren land increased by about three acres, while forest decreased by about two acres and urban land by about one.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1	1	0%
Barren Land	7.8	10.9	40%
Forest	85.1	82.8	-3%
Urban	3131.2	3130.5	-<1%
Water	43.4	43.4	0%
Wetlands	72.1	72.1	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Recent major development in the borough includes the Chelsea Senior Living (15-00 River Road), Bob Gordon Senior Housing (18-25 River Road), Livana Housing Complex (17-00 Pollitt Drive), Clariant Property (3rd Street), and Pictor Fair Lawn Logistics Center (17-02 Nevins Road).

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

Development to come in the next five years include the Nabisco Property on Route 208.

Demographics & Vulnerable Populations

Fair Lawn Borough has a total population estimated to be 34,948 residents. Of this population, an estimated 4.9% are under age 5, and 19.6% are over age 65. The borough experienced a 4.49% population growth estimated in the survey periods between 2013-2017 and 2018-2022. With an aging population making up nearly twenty percent of the borough population, Fair Lawn may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a growth rate of nearly five percent may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and, potentially, increased strain on local resources.

Fair Lawn has seven block groups which meet criteria as potentially overburdened communities (OBC) based on indicators of Minority populations. No parts of the borough meet designation criteria for CEJST or CDRZ identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	34,948
Population Change since 2017	4.5%
Percent of Population Age < 5	4.9%
Percent of Population > 65	19.6%

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

Hazard Ranking Explanation

For the hazards ranked high, the borough has experienced these more than the others and the borough has the greatest potential of experiencing them in the future. The borough has previously been cyber attacked, so that is high on the borough's radar as a possibility. Most of the borough's facilities are on backup generators, but it does have an older infrastructure that can fail in high wind storms, hurricanes, etc.

For the hazards ranked as medium, the borough has experienced, but not as frequently. For the hazards ranked as low, the borough, has not experienced often, if at all.

Significant Hazard Events Since Last Plan Update

Hurricane Ida affected the borough in 2021, and the effects of COVID-19 continued into 2021. Ida brought significant rainfall. The borough is bordered by two separate rivers on either end of the municipality. The Passaic River flash floods cause many streets along the river to flood. When the flash flood of the Passaic River recedes, the Saddle River floods causing significant flooding on that side of the borough. Once the Saddle River recedes, the Passaic River begins to crest causing additional flooding to those homes and streets. The cresting of the Passaic River, especially for Ida, left a couple of feet of water in the borough's streets for almost a week before it began to recede. These two rivers cause stress to borough employees, volunteers, and infrastructure.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Fair Lawn Borough	
Number of Policies In-Force:	139
Total Losses:	362
Total Payments:	$5,838,637.71
Number of RL Properties:	23
Number of Mitigated RL Properties:	0
RL – Total Losses:	60
RL – Total Paid:	$749,162.78
Number of SRL Properties:	7
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	40
SRL – Total Paid:	$1,046,738.21

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Borough of Fairlawn is primarily located adjacent to the Passaic and Saddle Rivers and their smaller tributaries within the borough. Approximately 9.2 percent of the total area of Fair Lawn lies within the 1% annual chance floodplain as defined by FEMA. An additional 4.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

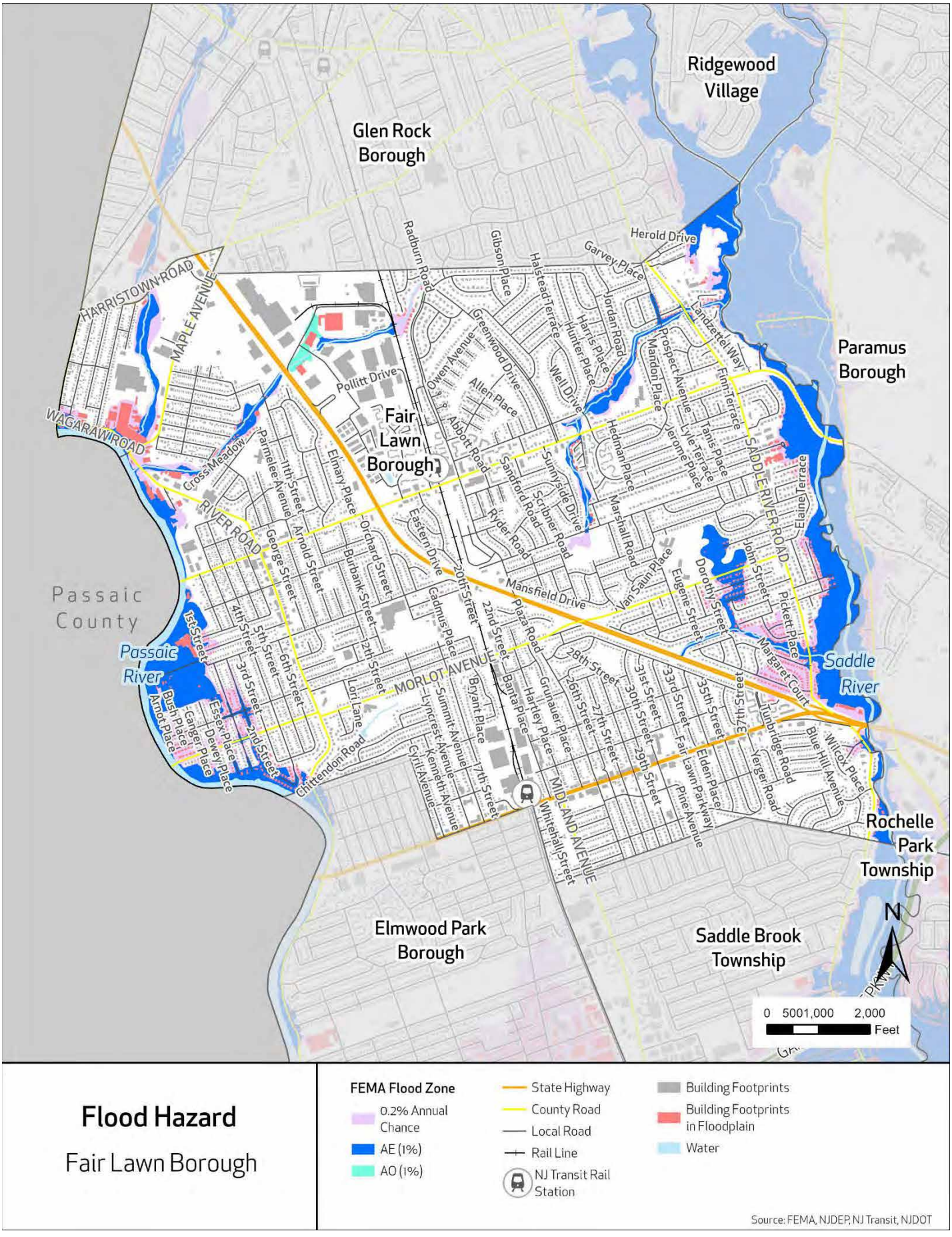
About 71.1 percent of Fair Lawn is considered developed. Of the developed parcels of the town, 6.0 percent fall at least partially within the 1% annual chance floodplain and 8.4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

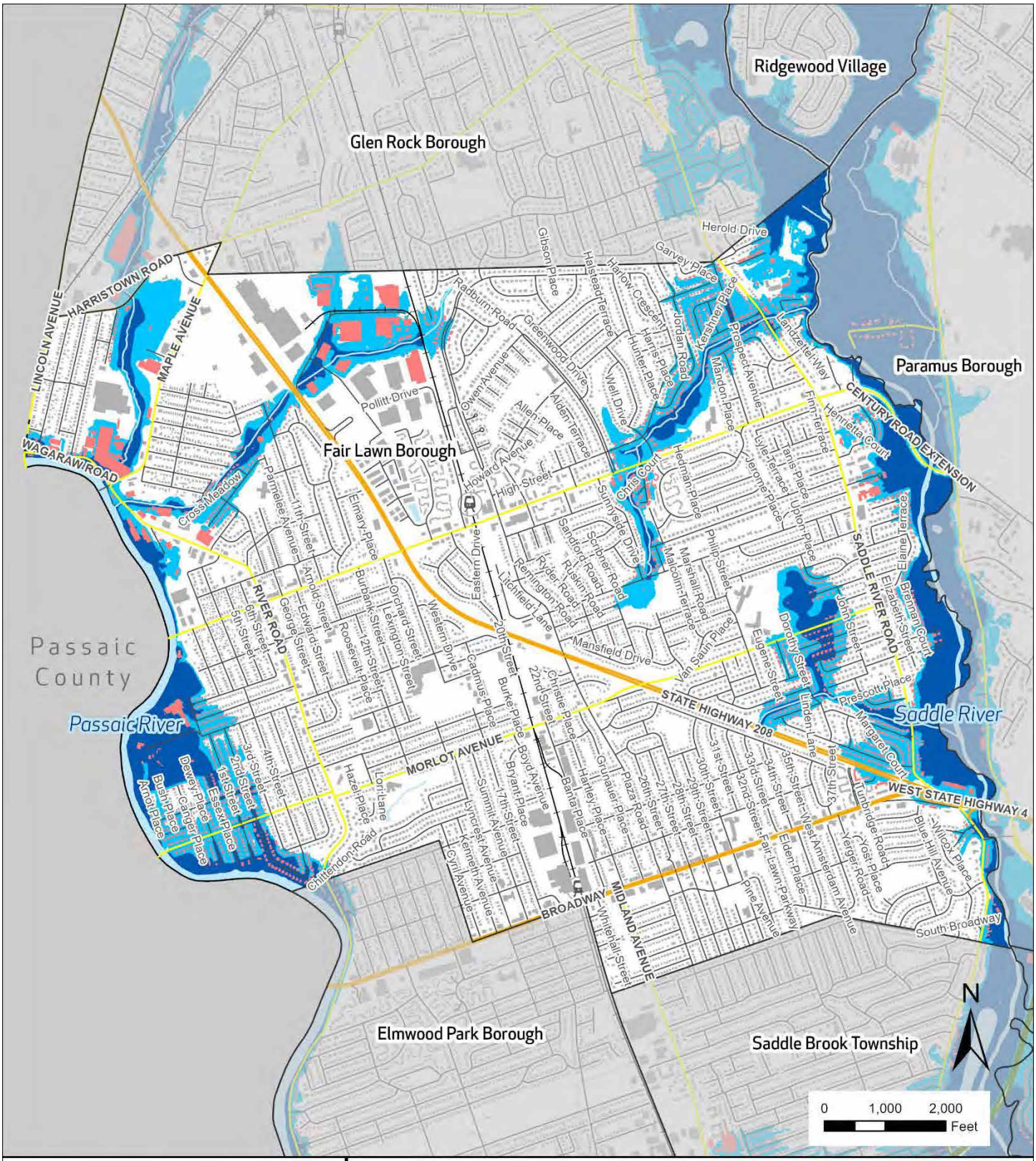
	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	6.0	8.4
Exposed Land Area	9.2	4.1

During the planning process, Fair Lawn Borough 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 68 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 1% annual chance floodplain and four are within the 0.2% annual chance area.

The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Health and Medical	0	1
Food, Hydration and Shelter	1	0
Water Systems	1	3


Ridgewood Village
Glen Rock Borough
Paramus Borough
Fair Lawn Borough
Elmwood Park Borough
Saddle Brook Township
Rochelle Park Township
Passaic County
Passaic River
Saddle River
HARRISTOWN ROAD
MAPLE AVENUE
WAGARAW ROAD
RIVER ROAD
MORLOT AVENUE
MIDLAND AVENUE
SADDLE RIVER ROAD
Radburn Road
Gibson Place
Halstead Terrace
Garvey Place
Herold Drive
Greenwood Drive
Owen Avenue
Allen Place
Abbott Road
Pollitt Drive
Well Drive
Harris Place
Hunter Place
Jordan Road
Landzettel Way
Finn Terrace
Prospect Avenue
Mandon Place
Lyle Terrace
Tanis Place
Jerome Place
Hedman Place
Marshall Road
Sunnyside Drive
Scribner Road
Sandford Road
Ryder Road
Eastern Drive
Elmary Place
Parmelee Avenue
Cross Meadow
11th Street
George Street
Arnold Street
Orchard Street
Burbank Street
Gadmus Place
20th Street
22nd Street
Plaza Road
Banta Place
Harley Place
Grunauer Place
Bryant Place
17th Street
Lori Lane
Chittendon Road
Summit Avenue
Lyncrest Avenue
Kenneth Avenue
Cyril Avenue
Whitehall Street
Mansfield Drive
Van Saun Place
Eugene Street
Dorothy Street
John Street
Pickett Place
Margaret Court
Elaine Terrace
26th Street
27th Street
28th Street
29th Street
30th Street
31st Street
33rd Street
35th Street
37th Street
Fair Lawn Parkway
Pine Avenue
Elden Place
Yerger Road
Tunbridge Road
Blue Hill Avenue
Wilcox Place
1st Street
2nd Street
3rd Street
4th Street
5th Street
6th Street
Bush Place
Arnott Place
Ganger Place
Essex Place
Dewey Place
N
0 5001,000 2,000
Feet
Flood Hazard
Fair Lawn Borough
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
AO (1%)
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Fair Lawn Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Fair Lawn Borough 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		2016 Reexamination Report	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		February 2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Through the Building Official / Building Department
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			They are on file with the borough's Engineering Office.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		Development is being experienced in the Industrial Section, center of town, Broadway, etc. It is both housing and commercial
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		

Administrative and Technical Capabilities

Fair Lawn Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Richard Bolan, full-time employee who serves as the Building Official and is a Certified Floodplain Administrator.
Grant Writer	X		Contractor
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	

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations	X		Access for All Committee, Senior Citizen Advisory Committee, Senior Citizen Center

Education and Outreach Capabilities

Fair Lawn Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Via social media, reverse 911, local television station, website, email announcements, text messaging
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Fair Lawn Borough 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		Capital budgeting (5-year plan)

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan update, the Borough of Fair Lawn has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include improving drainage systems, and enhancing backup power at essential facilities. Over the next five years, Fair Lawn aims to prioritize projects that address emerging climate challenges, such as sea-level rise, by expanding mitigation strategies like updated flood mapping, adopting advanced emergency alert systems, and upgrading community shelters. These efforts underscore the Borough of Fair Lawn's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
17-01	Purchase and Install Bypass Pump at Saddle River Road Pump Station	Purchase and Install Bypass Pump at Saddle River Road Pump Station.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough of Fair Lawn	FEMA HMA	$35,000	1 year	Completed	Project Completed using municipal capital funding at a cost of $35,000 in 2019.
17-02	Purchase and Install One Bypass Pump at South Siphon Sewer Pump Station	South Siphon Sewer Pump Station - Install one bypass pump permanently.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Fair Lawn	FEMA HMA	$150,000	5 + years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
17-03	Acquire and/or Elevate Homes of the Repetitive Loss and Severe Repetitive Loss Properties in the Lyncrest Neighborhood	Mitigate flood-prone residential structures, with particular focus on those in our community that are on FEMA's Repetitive Loss List.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Open Space Committee	FEMA HMA, NJDEP Blue Acres	$16 million	5 + years	Ongoing	Approximately 16 structures

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
17-04	Acquire Homes of the Repetitive Loss Properties in the Columbia Heights Neighborhood	Mitigate flood-prone residential structures, with particular focus on those in our community that are on FEMA's Repetitive Loss List.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Open Space Committee	FEMA HMA, NJDEP Blue Acres	$10 million	5 + years	Ongoing	4 structures
17-05	Relocate Municipal Buildings or Elevate Above the 500-yr Storm Event	Relocate municipal buildings or elevate them to an elevation above the 500-yr storm event.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Open Space Committee, Borough Administration, OEM	Municipal budget	$40 million	5 + years	Ongoing	
17-06	Coordinate with the County to Purchase and Install Mobile Generator Hook-ups or Battery Back-ups at Traffic Signals	Install generators at traffic lights.	All Hazards	Low	Borough of Fair Lawn	Municipal budget, County budget	$200,000.00	5 + years	Ongoing	
17-07	Purchase Folding Stop Signs	Purchase folding stop signs that can be deployed during a hazard.	All Hazards	Low	Borough of Fair Lawn	Municipal budget	$5,000	5 + years	Ongoing	
17-08	Relocate Pool Structure out of SFHA	Relocate pool structure further inland and elevate.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough of Fair Lawn	Municipal Budget	$15,000,000	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
17-09	Acquire Homes of the Repetitive Loss Properties in the Passaic River and Saddle Brook Area	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Affected homeowners, Administration, OEM	FEMA HMA, NJDEP Blue Acres	$30 million	1 year	Ongoing	30 Structures
17-10	Purchase and Install Computer Infrastructure for Cyber Security	Purchase and install computer infrastructure for cyber security.	Cyber Attack	Medium	Administration, OEM, Borough IT	Homeland Security, Borough Funds	$1,000,000.00	1 year	Ongoing	
17-11	Install Emergency Generators	Install emergency generators at SRR Sewer Pump Station, Radburn Sewer Pump Station, S. Siphon Sewer Pump Station, No. Siphon Sewer Pump Station, Westmoreland Well, and Veolia Well.	All Hazards	High	Borough of Fair Lawn DPW	FEMA-HMA, Municipal Budget	$1,225,000	5 years	New	
17-12	Lining Sanitary Sewer Mains	Eliminate the infiltration and exfiltration of flood waters to the sewer lines	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough of Fair Lawn DPW	FEMA-HMA, Municipal Budget	$10 million	5 years	New	

18 – FAIRVIEW BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Vincent Bellucci	**EMC Coordinator**	**Primary Contact, Municipal Meeting**
Diane Testa	Borough Administrator	Internal Reviews
Dennis Licameli	Fire Chief	Internal Reviews
Berge Tombalakian	DPW Super	Internal Reviews

COMMUNITY PROFILE

Overview

The Borough of Fairview spans approximately 0.85 square miles and is located in southern Bergen County, New Jersey. The Wolf Creek flows along the western border of the borough and joins the Hackensack River. Fairview was formed on December 19, 1894, from portions of Ridgefield Township. The borough is home to Fairview Cemetery and Mount Moriah Cemetery which are located along the western slope of the Hudson Palisades. Several NJ Transit bus routes service the borough providing service to and from the Port Authority Bus Terminal in Midtown Manhattan, along with the 83, which connects Fairview to Jersey City. The borough has a population of 14,935. Fairview is a coastal community that will experience sea level rise from its river and creeks.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Fairview Borough is primarily a residential community, with the MOD-IV dataset showing residential land use accounted for 41% of the total land area, covering 178 acres in 2022. Civic/public (tax exempt), commercial, and industrial land uses also make up significant portions, comprising 28%, 19%, and 10% of the total land area, respectively, in the same year. From 2016 to 2022, commercial land decreased by about eight acres, while industrial land increased by about five.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the urban land use category occupied the largest share of land use, making up 96% of the area in 2020. This was followed by forest, which accounts for 3% of the borough's land use.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	1.5	4	167%
Forest	15.2	14.1	-7%
Urban	522	520.6	-<1%
Water	2.1	2.1	0%
Wetlands	0	0	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Two units with 100+ apartments each were completed recently. These are located at 520 Cliff Street and 331 Bergen Boulevard.

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

Another complex of 100+ units will soon be under construction at 250 Broad Avenue. There are also approvals to build a 15-story high-rise building at 501 Fairview Avenue.

Demographics & Vulnerable Populations

Fairview Borough, with a total estimated population of 14,935, grew an estimated 3.56% between the ACS survey periods of 2013-2017 and 2018-2022. Fairview's current population is made up of an estimated 4.9% of residents under age 5, and 14.6% of residents over age 65. A growth rate of over three and a half percent may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

The entirety of Fairview's area (eleven block groups) meets criteria indicating potentially vulnerable communities based on indicators of overburden (OBC) in *Minority* (five block groups), *Low Income and Minority* (two block groups), and *Low Income, Minority, and Limited English* (two block groups) categories. The entirety of Fairview (two tracts) is also identified as potentially vulnerable through CEJST designation based on indicators related to workforce development. There are no parts of the Borough which meet criteria as CDRZ designated communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	14,935
Population Change since 2017	3.6%
Percent of Population Age < 5	4.9%
Percent of Population > 65	14.6%

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 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 Wind	Extreme Temperatures
	Hurricane/ Tropical Storm	Lightning
	Flood	Tornado
	Winter Storm	Landslide
		Drought
		Storm Surge
		Earthquake
		Wildfire
Human-made Hazards		
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Power Failure	
	Terrorism	

Hazard Ranking Explanation

Nor'easters are at a high level of concern. During nor'easters, streets are difficult to pass and the workforce is depleted. Streets are narrow and difficult to pass in the event of snow. Dam failure and animal disease were ranked as not applicable.

Significant Hazard Events Since Last Plan Update

Hurricane Ida in September 2021 produced high and rapid flooding in the borough. There were no injuries, but there was property damage. The area around the creek was affected.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Fairview Borough	
Number of Policies In-Force:	5
Total Losses:	23
Total Payments:	$1,765,639.18
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	8
RL – Total Paid:	$1,220,102.41
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

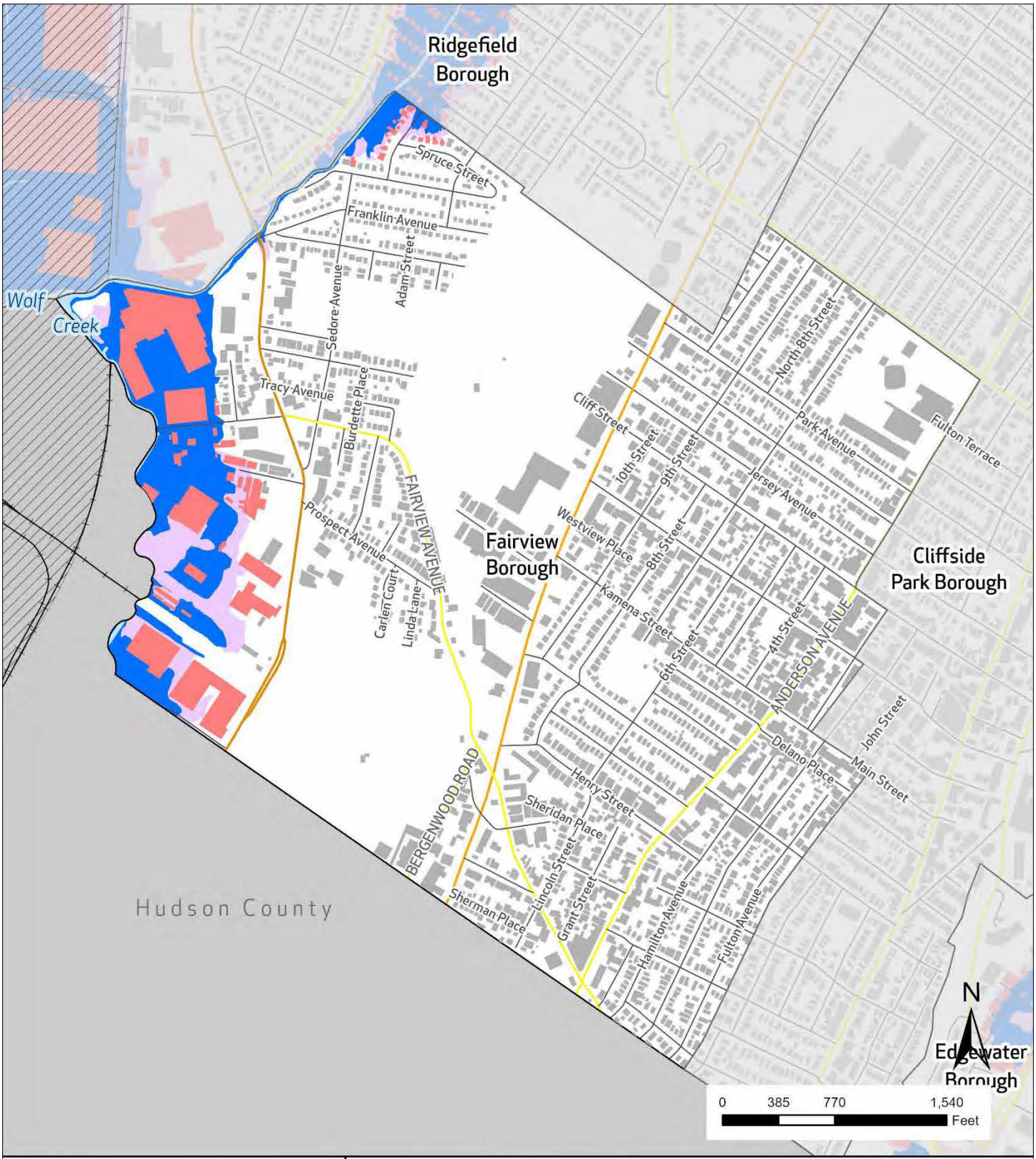
The Special Flood Hazard Area (SFHA) in the Borough of Fairview is primarily located adjacent to Wolf Creek in the west of town. Approximately 6.5 percent of the total area of Fairview lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.4 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 80.9 percent of Fairview is considered developed. Of the developed parcels of the town, 1.7 percent fall at least partially within the 1% annual chance floodplain and 1.5 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	1.7	1.5
Exposed Land Area	6.5	2.4

During the planning process, Fairview Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain. This facility is also within the area of the borough at risk from sea level rise. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 Feet of Sea Level Rise
Safety and Security	1	0	1



Flood Hazard

Fairview Borough

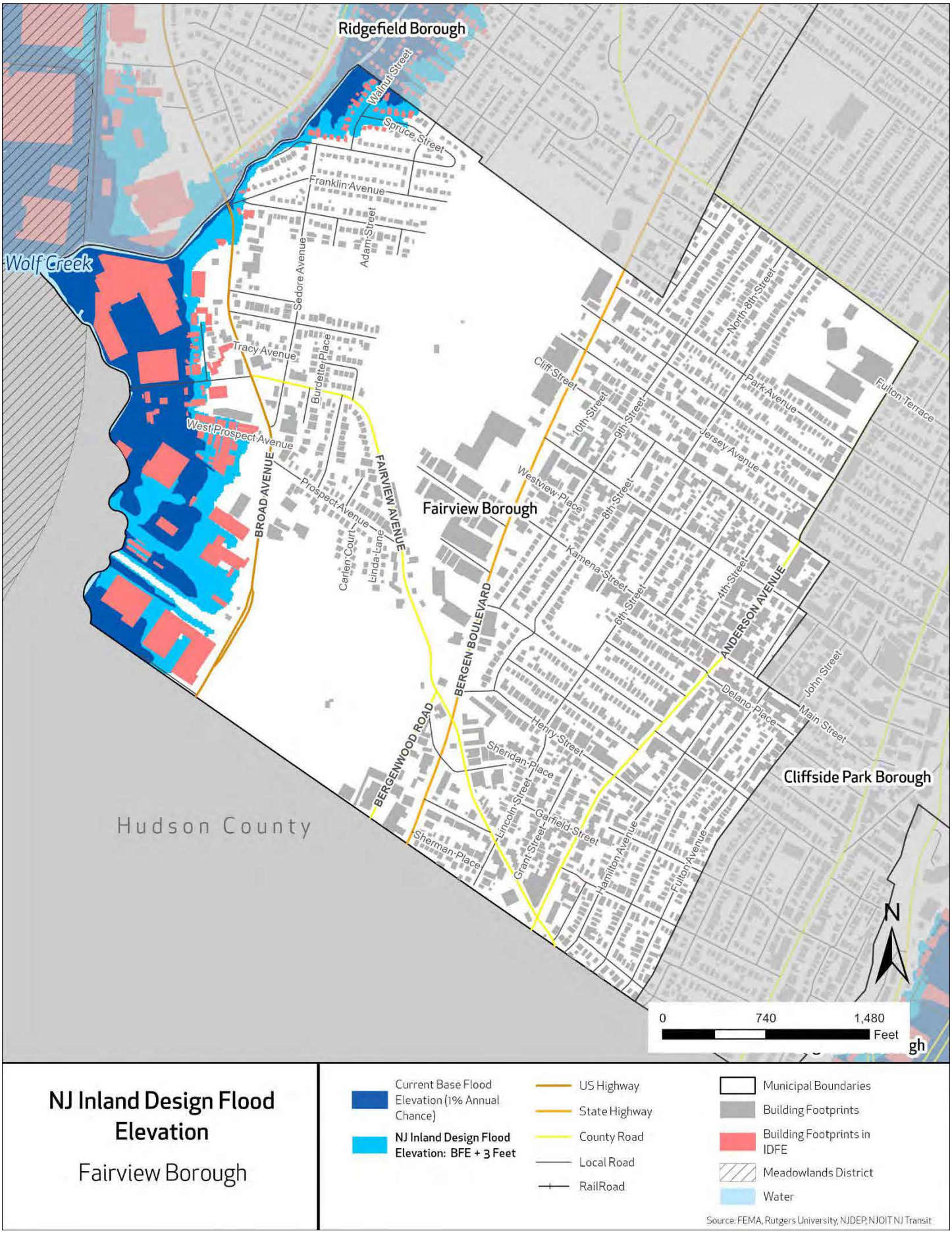
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

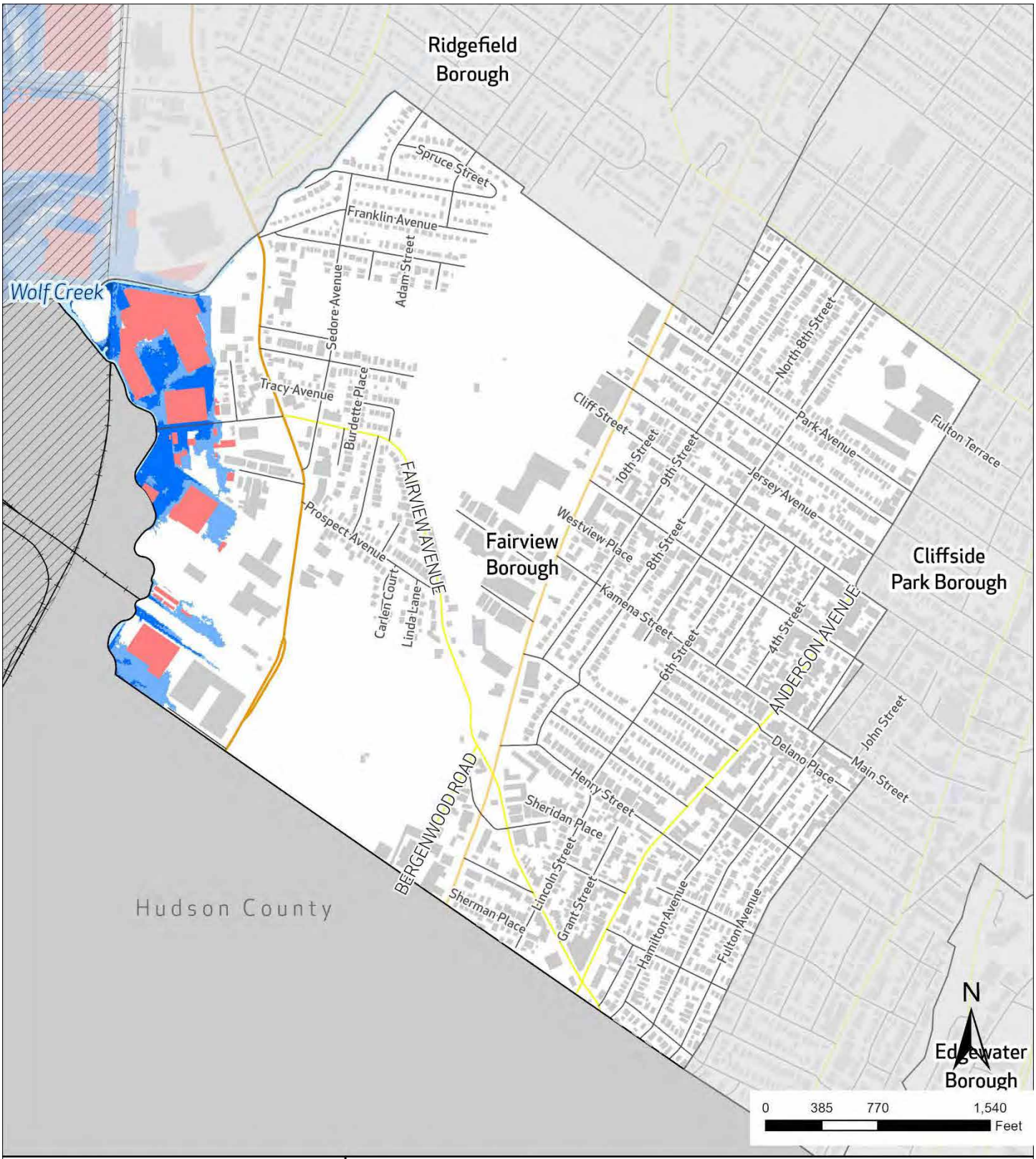


NJ Inland Design Flood Elevation

Fairview Borough

- Current Base Flood Elevation (1% Annual Chance)
- **NJ Inland Design Flood Elevation: BFE + 3 Feet**
- US Highway
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Fairview Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Fairview Borough 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		2014	
Capital Improvement Plan	X		2024	Reduces flooding impact on borough owned buildings
Local Emergency Operations Plan/Continuity of Operations Plan	X		2022	
Floodplain Development Ordinance	X		08/20/2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Through Building Department
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Available only upon requesting
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Code Coordinated Ordinance (improved Flood Damage Prevention Ordinance as approved by FEMA and NJDEP)

Administrative and Technical Capabilities

Fairview Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
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

Fairview Borough 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 and direct messaging
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Fairview Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough's mitigation strategy had been to prioritize hazards that were continually plaguing the Borough in known areas, such as flooding. We have had success in mitigating these issues and are now moving on to other projects that will address the entire municipality. We are looking to improve the early warning systems with all residents as a major priority, place redundant systems for our communication and technical infrastructure, and better secure our critical facilities.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
18-01	Conduct a Flood Study in Bellman Creek Area	Flooding in the Bellman Creek area caused impassable roadway and flooding to the borough's critical facility, Department of Public Works Yard.	Flood	Low	Fairview DPW	Municipal budget	TBD	1 year	Completed	This was completed in conjunction with Action 18-03. Action performed by an in-house engineer.
18-02	Purchase Light Towers and Variable Message Signs	Purchase additional light towers and variable message signs to use in emergency events.	All Hazards	Low	Fairview Borough OEM	Homeland Security grants	$39,945	1 year	Withdrawn	
18-03	Coordinate with DEP and Dredge and Desnag Waterways	Coordinate with DEP in order to dredge and desnag waterways	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm	Mediu m	Borough Administrati on, OEM, DEP	Municipal budget	$120,076	2 years	Completed	This was completed in conjunction with Action 18-01.
18-04	Purchase and Install Pump Stations to Handle Current and Future Risk of Flooding	Purchase and install pump stations that can handle current and future risk of flooding.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Fairview Borough Administrati on, OEM	FEMA HMA, Borough Funds	TBD	1 year	Withdrawn	There are no plans to move forward with the pump station at this time.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
18-05	Purchase and Install an Early Warning Audible Alert System throughout the borough	Purchase and install an early warning audible alert system throughout the borough.	All Hazards	Low	Fairview OEM	Municipal budget	$30,000	1 year	Ongoing	
18-06	Purchase and Install Generators at Critical Facilities	Purchase and install generators at the Borough Fire House, five school sites, and the Borough Library.	All Hazards	Medium	Fairview Borough OEM	FEMA HMA	$200,000	1 year	Ongoing	This action has been completed at the Borough Fire House.
18-07	Target Harden Critical Facilities by Installing Surveillance Cameras, Fencing, and Access Cards	Target Harden Borough Hall, Police Station, Fire House, DPW, schools, library, places of worship by adding cameras, swipe cards, and fencing.	Terrorism	Medium	Borough Administration, OEM	Homeland Security, Borough funds	$29,000	1 year	Ongoing	Cameras and swipe cards have been added at Borough Hall, the main Borough Fire House, the Police Station, and DPW.
18-08	Purchase Redundant Communications for Fire House and Police Station	Purchase redundant communications for fire house and police station.	All Hazards	Low	Borough Administrator, OEM	Homeland Security grants, Borough funds	$25,000	1 year	Ongoing	
18-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	$240,000	5 + years	Ongoing	

19 – FORT LEE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Christopher Richter	**OEM Coordinator**	**Primary Contact, Municipal Meeting**
Matthew Hintze	Police Chief	Law Enforcement related /Hazmat Annexes
Edward Young	Police Deputy Chief	Law Enforcement related /Hazmat Annexes
Steve Curry	Ambulance Chief	Emergency Medical Annex
Samuel Ghali	Fire Chief	Fire & HAZMAT Annex
Patrick Ferrara	DPW Director	Public Works Annex
Charlene Ortiz/Elizabeth Bennett	Deputy OEM Coordinator #1 &#2	Shelter & Reception/EOC Annexes
Alfred Restaino	Borough Administrator	Resource Annex
Jill Scarpa	Health Officer	Public Health Annex
Crissa Scarimbus	Senior Center/Human Services Director	Shelter & Reception

COMMUNITY PROFILE

Landscape

The Borough of Fort Lee is located in southeastern Bergen County, New Jersey, and has just under 3 square miles of area. The borough borders Cliffside Park, Edgewater, Englewood, Englewood Cliffs, Leonia, Palisades Park, and Ridgefield in Bergen County. Across the Hudson River, Fort Lee borders Upper Manhattan. The George Washington Bridge, which crosses the Hudson into New York City, is the world's busiest motor vehicle bridge and connects Fort Lee to Washington Heights. The borough is situated atop the escarpment of the Hudson Palisades on the peninsula between the Hackensack and Hudson Rivers. The Hudson River makes up the majority of Fort Lee's eastern border.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Fort Lee is a predominantly residential community with residential (including apartment) use accounting for 58% of its area, covering 627 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, and vacant land made up 25%, 14%, and 3% respectively of its area. Between 2016 and 2022, there was negligible change in its land use composition.

The significant share of residential use and commercial use on the one hand, and the noteworthy presence of forested land particularly the Palisades Park Recreation Area is also reflected in NJDEP's Land Use/Land Cover data; in 2020, urban/developed land constituted nearly 89% of the borough's total land, while forest land covered 11% of its total land. Between 2015 and 2020, the borough lost over 12 acres of barren land. Meanwhile its urban/developed land increased by 13 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	18.0	5.9	-67%
Forest	169.9	168.9	-1%
Urban	1414.0	1427.1	1%
Water	2.1	2.1	<1%
Wetlands	2.4	2.4	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Fort Lee underwent substantial development since 2021. The Pinnacle, a 15-story residential complex of 142 units was developed on 69th Main Street. The Addison, a 7-story residential complex of 59 units also came up on 1685 Bergen

Boulevard. More recently, in 2024, DOMA, a 5-story luxury rental complex of 30 units was built at 1435 10th Street. None of these complexes experience significant flooding, nor are they located in a regulatory floodplain.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
There are several developments planned in the next 5 years. These include major plans for separating the storm drains and sewers. The NJ Infrastructure Bank is working with Boswell McClave Engineering on the borough's combined sewer overflow (CSO) project.

Demographics & Vulnerable Populations

Fort Lee Borough has a total estimated population of 39,799, an estimated 7.4% growth since the 2013-2017 ACS survey period. The borough has an estimated population with 5.6% of residents under age 5, and nearly 25% (24.955%) over age 65. With an aging population making up nearly one-quarter of the borough's population, Fort Lee may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023). Additionally, a notable growth rate of over seven percent across two ACS survey periods may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment (with known ongoing and future redevelopment plans), densification, and, potentially, increased strain on local resources.

Nearly the entire area (twenty-five block groups) of Fort Lee (with two small exceptions near the northwest and southeast of the borough) meets criteria for overburden (OBC) based on indicators of *Minority* (twenty-three block groups) and *Low Income, Minority, and Limited English* (two block groups) communities. There are no parts of Fort Lee which meet criteria for potentially vulnerable communities according to CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	39,799
Population Change since 2017	7.4%
Percent of Population Age < 5	5.6%
Percent of Population > 65	25.0%

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 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	
Flood	Extreme Temperatures	Lightning
	Extreme Wind	Tornado
	Hurricane/Tropical Storm	Coastal Erosion
	Nor'easter	Landslide
	Winter Storm	Drought
		Storm Surge
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Terrorism	

High	Medium	Low
	Power Failure	

Wave action was ranked as N/A.

Hazard Ranking Explanation

The borough ranked flood as a hazard of high concern because of its experience with frequent flooding during heavy rainfall. In particular, along Route 1 and the area south of Central Boulevard experience flooding during heavy rainfall.

It ranked extreme temperatures as medium; in the summer of 2024, all four cooling centers were used. Furthermore, in early 2025, the borough experienced severely low temperatures.

Out of the human-made hazards, the borough ranked cyber attack as medium owing to its susceptibility to phishing attacks. Terrorism was ranked medium because of the presence of the George Washington Bridge within its jurisdiction. Fort Lee also ranked pandemic as medium because it experienced a high mortality rate during the COVID-19 pandemic. Finally, power failure was ranked medium because of the borough's experience of frequent power outages during heavy rainfall and the aging state of its infrastructure. Fort Lee is currently in the process of overhauling its power infrastructure.

Significant Hazard Events Since Last Plan Update

Fort Lee experienced significant flooding in 2021 due to Hurricane Ida. During the storm and its aftermath, Fort Lee OEM received several hundred calls for aid.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Fort Lee. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplain running through the borough's center. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 25% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Fort Lee Borough	
Number of Policies In-Force:	11
Total Losses:	22
Total Payments:	$163,205.84
Number of RL Properties:	-
Number of Mitigated RL Properties:	-
RL – Total Losses:	-
RL – Total Paid:	-
Number of SRL Properties:	-
Number of Mitigated SRL Properties:	-
SRL – Total Losses:	-

Fort Lee Borough	
SRL – Total Paid:	-

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

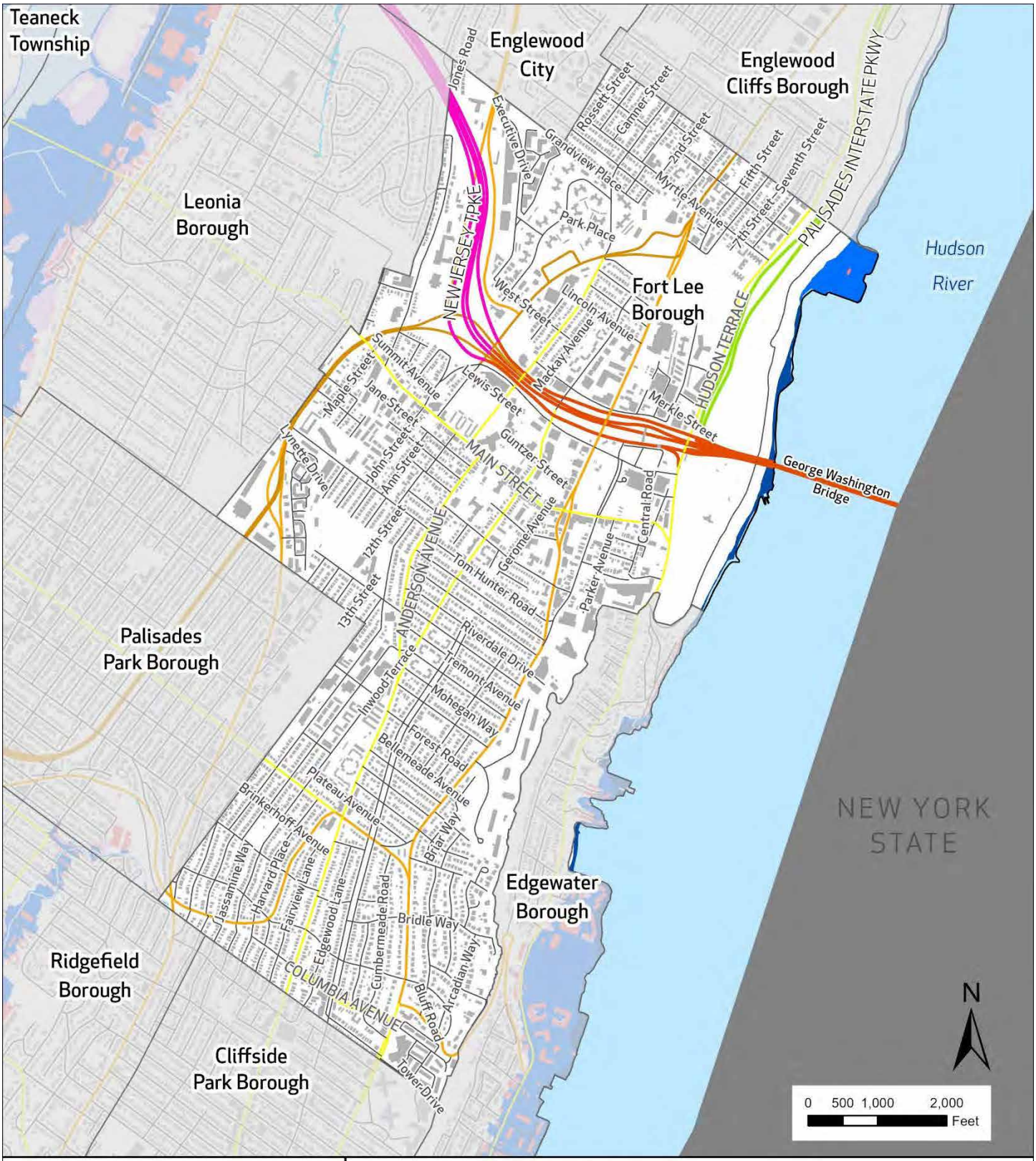
The Special Flood Hazard Area (SFHA) in the Borough of Fort Lee is primarily located adjacent to the Hudson River below the Palisades. Approximately 1.3 percent of the total area of Fort Lee lies within the 1% annual chance floodplain as defined by FEMA. Fort Lee contains no land within the 0.2% annual chance floodplain.

About 63.6 percent of Fort Lee is considered developed. Of the developed parcels of the town, none fall within the 1% or 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk which is minimal.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	0.0	0.0
Exposed Land Area	1.3	0.0

During the planning process, Fort Lee Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Fort Lee Borough

FEMA Flood Zone
- AE (1%)
- VE (1%)

- New Jersey Tpke
- Palisades Interstate Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Fort Lee Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- New Jersey Tpke
- Palisades Interstate Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Fort Lee Borough 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		12/31/2021	The Master Plan supports mitigation by addressing areas or specific things that need attention within the borough. It discusses what is in place to reduce hazards such as flooding from stormwater (increased drainage and pivoting driveway grade to direct water toward the street) or actions to improve the borough's safety and environment. Measures such as dense tree cover and shade trees, checking for erosion on the Palisades, bike/scooter paths and keeping the George Washington Bridge traffic from clogging up the streets of Fort Lee were just some of the things mentioned. The borough also seeks to achieve compatibility with the State's 2020 Multi-Jurisdictional Hazard Mitigation Plan, 2020 Energy Master Plan, and the 2021 Draft Climate Change Resilience Strategy.
Capital Improvement Plan	X			Updated yearly and plans for the next 5 years.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	The borough's government, department heads, and support agencies are well versed in the borough's risks and address them while making and maintaining Local Emergency Plans.
Floodplain Development Ordinance	X			In 2019 there was a Flood Damage Prevention Ordinance. More recently a Flood Damage Protection Ordinance was introduced May 15, 2025, but has not been adopted yet.
Floodplain Management Plan	X			See above, it appears a plan has been built into the ordinance.
Stormwater Management Ordinance	X		2/20/2025	Updated Ordinance Adopted 2/20/2025
Stormwater Management Plan	X		April 2025	https://fortleenj.org/698/Stormwater-Management-MS4 "Storm Water Pollution Prevention Plan" The plan keeps roadways from flooding by maintaining the sewers, keeping up with leaf and debris cleanup
Watershed Management Plan	X		April 2025	Attached to the Storm Water Pollution Prevention Plan
Sheltering Plan	X		2/2025	EOP Annex R – Shelter Reception & Care
Evacuation Plan	X		2/2025	EOP Annex H – Evacuation to be prepared for an evacuation for any reason to keep the process organized
Substantial Damage/Improved Structures Response	X			Building Department Codes and the Damage Plan lays out the procedures on determining damage to the buildings after a storm and also determines whether building codes need to be updated to improve buildings' resiliency against storms.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		The DPW goes by what is in the contract with the garbage company regarding debris, garbage, whitegoods etc.
Tracking elevation certificates and/or Letter of Map Change		X		According to the FEMA map, the Borough is outside of the floodway. Any tracking would be done through the building department.
Post-Disaster Recovery Plan	X		2/2025	EOP Annex E – Disaster Recovery. Helps the process of recovery.
Current/recent redevelopment plans or studies	X			Chapter 319 of the Borough Code outlines Redevelopment plan/areas.
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			All current plans have been outlined in this document.
Other ordinance and regulation that mitigate the impacts of natural hazards	X			Fort Lee Board of Health Ordinances Chapter 66-5 Maintenance Standards – addresses not leaving specific items on property to alleviate health and safety hazards (stagnant water promotes mosquito infestation and more) Chapter 71-4 – Specific Nuances – addresses specific acts, omissions, or maintenance of certain conditions which would cause health and safety issues. (Keeping barrels of water to stagnate causing a mosquito problem).

Administrative and Technical Capabilities

Fort Lee Borough 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		The Borough of Fort Lee has both Fire and EMS mutual aid agreements in place. In the event Fort Lee's resources are overwhelmed by a fire or mass casualty incident they can request mutual aid from the other towns in the agreement. Fort Lee will respond accordingly to the other town's mutual aid request.
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Red Cross assists with sheltering.
Organizations that work with socially vulnerable or underserved populations	X		The borough has a staffed Senior Citizen Center which provides lunches to our Senior population at a reduced cost as well as social activities. During the height of Covid-19 the staff continued to provide lunches for this population, packing the lunches on a pickup and bring home basis. Meals on Wheels also delivered food to those who needed it during this crisis. The borough also has a private adult day care center and housing for people who are disabled. There are 2 state subsidized senior apartment buildings in which the rents are reduced for the residents. The Senior Citizen Director also is the current Human Services Director.

Education and Outreach Capabilities

Fort Lee Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Information on mitigation and resilience is handed out to the public and on the borough's website under the Emergency Management Department's section. Hi-rise outreach program where community leaders meet with hi-rise management and residents to discuss emergency preparedness.
StormReady		X	Storm Ready Certification is now only on the County level. We are currently looking into the National Oceanic and Atmospheric Administration's (NOAA) latest initiative, becoming a Weather Ready Nation (WRN) Ambassador.
Firewise USA		X	
Severe Weather Awareness Week		X	The borough has several events throughout the year in which it provides preparedness information.
Community Rating System (CRS)		X	
Other – Schools	X		The Fire Department and Fire Prevention staff go to elementary schools to teach fire safety. OEM volunteers attend Career Day at the High School each year to give information on volunteering and possible careers in Emergency Management. Other agencies such as Fire and Police also attend.

Financial Capabilities

Within the last five years, Fort Lee Borough 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		The FEMA Public Assistance Reimbursements to the Borough of Fort Lee since 2020 totaled over $750,000 due to submitting for COVID-19, Tropical Storm Isaias 8/2020, and Hurricane Ida Remnants 9/2021. Prior to these examples and moving forward the Borough will always apply for public assistance when eligible.
FEMA HMGP		X	We may have had projects in the past and are looking into it for future projects.
Non-FEMA Federal Funding Programs		X	Looking into it.
Other FEMA resources	X		The Borough of Fort Lee often orders educational materials on storm preparedness from the FEMA warehouse where we get the items for free.

Financial Capability	Yes	No	Explanation
NJ Infrastructure Bank	X		The NJ Infrastructure Bank is working with Boswell McClave Engineering for our Combined Sewer Overflow (CSO) project in town.
Other state municipal assistance or grant programs		X	
Evaluation process on the prioritization of risk reduction projects against other local activities			All sewer separation projects currently in the capital improvement plan are in accordance with the NJDEP approved Long Term Control Plan. These will minimize flooding throughout the Borough
Other ongoing efforts to build additional financial capabilities		X	

Additional Capability Assessment Information:
The Borough of Fort Lee has a Hoarding Task Force, which consists of the Fire Inspector and Health Officer. This Task force addresses, fire and health hazards. There is no ordinance which covers having the task force in place, as it is based on the NJ Uniform Fire Code and Health Ordinances.

In cases, where there is a complaint of hoarding in a multi-family dwelling, such as a mid-rise or high-rise building, townhomes, multi-family homes , the task force comes in to do an inspection and if they find it inhabitable they tag it as such. In multiple family buildings or homes the fire and health risks could spread to the apartments surrounding the inhabitable apartment or through the entire building. Except for about 25% of the cases, the residents or owners are responsible for any accommodation, locksmith and cleanup costs.

In events of extreme heat, the Borough offers places in which people could cool down, mitigating against extreme heat related illnesses. All the locations are open during the day when the heat is at its most intense and 3 of the 4 locations are open until 8:30 or 9:00 pm and one is open 9:00 am – 3:30 pm. There are no additional costs as these locations are made available to the public during normal business hours. If needed these locations can also serve as warming centers.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The overall mitigation action strategy is to follow the State approved Long Term Control Plan, which outlines the different phases for sewer separation throughout the Borough. This will minimize flooding by providing stormwater storage capacity.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
19-01	Purchase Additional Backup Snow Removal Equipment	Currently working with our equipment and looking to upgrade to make removal of snow more efficient.	Winter Storm	Low	Fort Lee DPW	Municipal budget	N/A	2 years	Withdrawn	The DPW does not buy backup snow removal equipment. They buy replacements and have enough equipment to get through a storm, even if something should break. The DPW has not bought any snow equipment between 2020 and now.
19-02	Establish CERT Team	Meet with high rise buildings and set up CERT teams in buildings.	All Hazards	Low	Fort Lee OEM	Municipal budget	Staff Time	2 years	Completed	Borough has set up CERT team and frequently holds meetings with the high-rise buildings.
19-03	Target Harden Maintenance Yard Target Harden Critical Facilities by Installing Surveillance Cameras and Fencing	Target Harden Maintenance Yard to store equipment	Terrorism	Mediu m	Borough Administrati on, OEM	Homeland security, Borough funds	Unknow n	1 year	Completed	Cameras have been set up and gate passes prepared. Cost is unknown as it was completed in-house.
19-04	Purchase and Install Ped Gates	Purchase and install pedestrian gates.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Administrato r, Borough OEM	FEMA HMA, Borough funds	$5,250.0 0	2 years	Completed	30 Ped Gates Purchased 12/14/2023
19-05	Install New flood-proofed Stormwater Pump Stations with Permanent Generator at Each Station	Install new flood-proofed stormwater pump stations in the borough with a permanent back-up generator at each.		Mediu m	Borough Administrato r, Borough OEM	FEMA HMA, Borough funds	$10,000, 000.00	2 years	Withdrawn	Boswell Engineering commented 6/30/2025, no stormwater pumping stations; according to State and Federal regulations, this is not required; and no assets in the floodway/floodplain, and floodproof doors were not required (this is only for areas in the flood zones).
19-06	Install Temporary Signals at Intersections When Power is	Install temporary signals at intersections when power is out (shore term); identify critical	All Hazards	Mediu m	Borough Administrato r, Borough OEM	Municipal budget	N/A	1 year	Withdrawn	

	Out (shore term) and Prioritize Traffic Lights for a Generator-powered Emergency Traffic Control (long-term)	intersections and develop a prioritized list for generator-powered emergency traffic control (long-term).								
19-07	Purchase Additional Light Towers	Portable light towers for rescues at night or during a power outage.	All Hazards	Low	Borough Administrator, Borough OEM	Municipal budget, Homeland Security grants		1 year	Withdrawn	At this time, we do not have a record of purchasing any light towers since the 2020 Multi-Jurisdictional Hazard Mitigation plan. It is noted on this mitigation action 2 were bought the last time we purchased any light towers was in 2013 and if we need any we can borrow from the County.
19-08	Purchase Variable Message Signs/ and Evacuation Signs	The borough wishes to improve the notification to residents and persons traveling through the Borough roadways by two different means of information: Portable: a portable sign trailer that has a message board and it notifies persons of hazardous condition	All Hazards	Medium	Borough Administrator, Borough OEM	Municipal budget, Homeland Security grants		1 year	Withdrawn	No electronic message signs were purchased, only repairs. No immediate plans to purchase unless absolutely needed.
19-09	Dredging and De-snagging Canals	Clean vegetative and manmade debris, logs, and other items that are contributing to erosion and localized flooding in canals.	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Administrator, Borough OEM	Municipal budget		2 years	Withdrawn	The DPW does not dredge, de-snag streams. We do not have canals.
19-10	Apply Soil Stabilization Measures, such as Planting Soil Stabilizing Vegetation, on Steep, Publicly-owned Slopes	Apply soil stabilization measures, such as planting soil stabilizing vegetation, on steep, publicly-owned slopes.		High	Borough and Palisades Interstate Park Commission	FEMA HMA		3 years	Withdrawn	We do not do this.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
19-11	Purchase Backup Generators for Traffic Lights	Purchase Backup Generators for Traffic Lights.	All Hazards	Low	Fort Lee DPW and Police Department	Borough funds	$200,000.00	2 years	Ongoing	Borough currently owns only two traffic lights; the rest are owned by the county or state.
19-12	Inspect all City-owned Storm Sewers and Remove Debris	DPW to inspect all city owned storm sewers and remove debris.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Fort Lee DPW	Municipal budget	$724,829.63 for Equipment; Staff Time	2 years	Ongoing	Fort Lee DPW takes care of checking the storm drains/sewers and cleaning out the catch basins, on a regular ongoing basis, each year they cover 20% of the town and on a rotating basis the whole town every 5 years. This is done with the Borough's DPW employees and Equipment and the Borough also has a camera truck that they use to inspect clogged pipes. Jet Vac we purchased from Vactor in 2021 for $469,998.63 and the sewer camera truck was purchased from Jet-Vac in 2023 for $254,831.00. There are no other costs other than purchasing the two trucks, because all the work is done during regular working hours by DPW staff.
19-13	Purchase and Install Backup Servers and Off-site Data Storage	Purchase and Install backup servers and off-site data storage.	Cyber Attack	Medium	Borough Administration, OEM, Borough IT	Homeland Security, Borough Funds	$1,000,000.00	1 year	Ongoing	
19-14	Purchase a Siren/ PA system	Increase public warning capabilities with the purchase of a warning siren.	All Hazards	Medium	Borough Administrator, Borough OEM	Municipal budget	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
19-15	Purchase Redundant Communication System	Improve communications of EOC and Dispatch. EOC needs communication equipment including all office equipment, and the Redundant Dispatch system needs to be upgraded.	All Hazards	Medium	Borough Administrator, Borough OEM	Municipal budget	TBD	1 year	Ongoing	The current radio system was installed 15 years ago. However, the Committee is looking to purchase a new system in the future. This will probably cost a few million, but no exact figures are available at this time.
19-16	Purchase Mobile Generators/Generators for Critical Facilities to Remain Operational During Storms	Purchase Mobile Generators/Generators for the DPW facilities, Community Center, and the High School.	All Hazards	Medium	Borough Administrator, Borough OEM	FEMA HMA, Borough funds	TBD	1 year	Ongoing	Some critical facilities such as the Police Department, Borough Hall, and Firehouses have permanent generators.
19-17	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Currently, there are no RL/SRL properties in the borough. However, if that changes within the next five years, coordinate with residents to elevate RL/SRL properties or buy out RL/SRL properties and convert them to open space.	Flood, Hurricane and Tropical Storm, Earthquake	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	

20 – FRANKLIN LAKES BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Christopher Poppe	**Emergency Management Coordinator**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Joe Barcelo	Deputy Emergency Management Coordinator	Local OEM Meeting, Municipal Meeting
Greg Hart	Borough Administrator	Reviewed Capability Assessments
Eileen Boland, PE, CFM	Borough Engineer, Boswell Engineering Project Manager	Reviewed Capability Assessments related to Floodplain Development and Stormwater Management

COMMUNITY PROFILE

Overview

Franklin Lakes Borough is an inland community located in northern Bergen County, New Jersey, and spans approximately 9.88 square miles, with 9.41 square miles of land and 0.47 square miles of water. While it is not a coastal area, the borough features prominent waterbodies, including Bakers Pond, Blauvelt Lakes, and Franklin Lake. Additionally, Franklin Lakes is known for its notable landmarks, such as the Franklin Lakes Nature Preserve and the Lorrimer Sanctuary.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Franklin Lakes Borough is primarily a residential community, with the MOD-IV dataset showing residential (including apartment) land use being the largest category in 2022, accounting for 70% of the total land use and covering 3,852.9 acres of land. Civic/public (tax exempt), vacant, and commercial uses also account for significant portions, comprising 16%, 7%, and 6% respectively of the total land use in the same year. From 2016 to 2022, the area under commercial land use decreased notably, from 533.8 acres to 335.9 acres, while civic/public (tax exempt) land increased from 752.4 to 884.7 acres.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 70% of the area in 2020, followed by the forest and wetlands land use. These categories accounted for 17% and 7% of the total land area, respectively. Meanwhile, barren land increased from 11.3 acres in 2015 to 40.4 acres in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	12.9	12.9	0%
Barren Land	11.3	40.4	258%
Forest	1122.7	1093.9	-3%
Urban	4428.4	4426.5	<1%
Water	312.4	315.7	1%
Wetlands	436.7	434.9	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified.

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

A building complex on Parson Pond Drive is planned to undergo redevelopment. This complex is outside the floodplain. The current development plan includes construction of 495 multi-family housing units including 62 units of affordable housing. In addition, plans include construction of 70,000 square feet of retail and office development and transfer of 3.5 acres of property to the borough for the development of a 71-unit affordable housing project. This suggests a total of 566

residential units. The proposal for redevelopment has not been submitted as of May 2025, but is anticipated in the near future. One substantive unknow is the demographic makeup and population of the planned new development.

The area to be developed includes 88 acres previously owned by Cigna located on and around Parsons Pond Road between Old Mill Road in Franklin Lakes and Wyckoff Avenue in Mahwah.

Demographics & Vulnerable Populations

Franklin Lakes Borough's total population is 11,007, a negligible 0.49% population growth since the 2013-2017 ACS survey period estimates. This population is estimated to be 2.5% under age 5, and 21.6% over age 65. With an aging population making up over one in five borough residents, Franklin Lakes may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	11,007
Population Change since 2017	0.5%
Percent of Population Age < 5	2.4%
Percent of Population > 65	21.6%

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 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	
Extreme Wind	Extreme Temperatures	Drought
Hurricane/Tropical Storm	Winter Storm	Earthquake
Nor'easter		Flood
Wildfire		Landslide
		Lightning
		Tornado
	Human-made Hazards	
Dam Failure	Economic Disruption	Civil Unrest
Power Failure	Cyber Attack	Terrorism
	Pandemic	

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

Franklin Lakes Borough faces significant hazards, including extreme temperatures, extreme winds, dam failures, and cyberattacks that are all ranked high level of concern. Rising temperatures contribute to frequent power outages, while geomagnetic storms disrupt communication infrastructure in the borough. The borough is also vulnerable to cyberattacks, including incidents linked to cryptocurrency, as well as dam failures. The Pettee Avenue Dam at Haledon Reservoir requires rehabilitation following previous breaches. The borough is also concerned about the growing risk of wildfire due to the

proximity to vegetation. Prominent organizations, such as First Street, have identified several areas within the borough at risk.

Even though drought was ranked as a low hazard, it poses a challenge where approximately one-third of residents relying on private wells for water and has prompted some residents to transition to connected water systems.

Significant Hazard Events Since Last Plan Update

In the last 5 years there have been power outages caused by Tropical Storm Ida (previously categorized as a hurricane). Additionally, the borough saw a breach of Pettee Avenue dam in 2022, as well as incidents of microbursts accompanied by ice storms.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Franklin Lakes. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly power failure from high temperatures and winds, as well as the risk of wildfires from hotter and drier climates. Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's 21.6% population of over 65.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Franklin Lakes Borough	
Number of Policies In-Force:	23
Total Losses:	31
Total Payments:	$193,281.62
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	8
RL – Total Paid:	$69,063.33
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

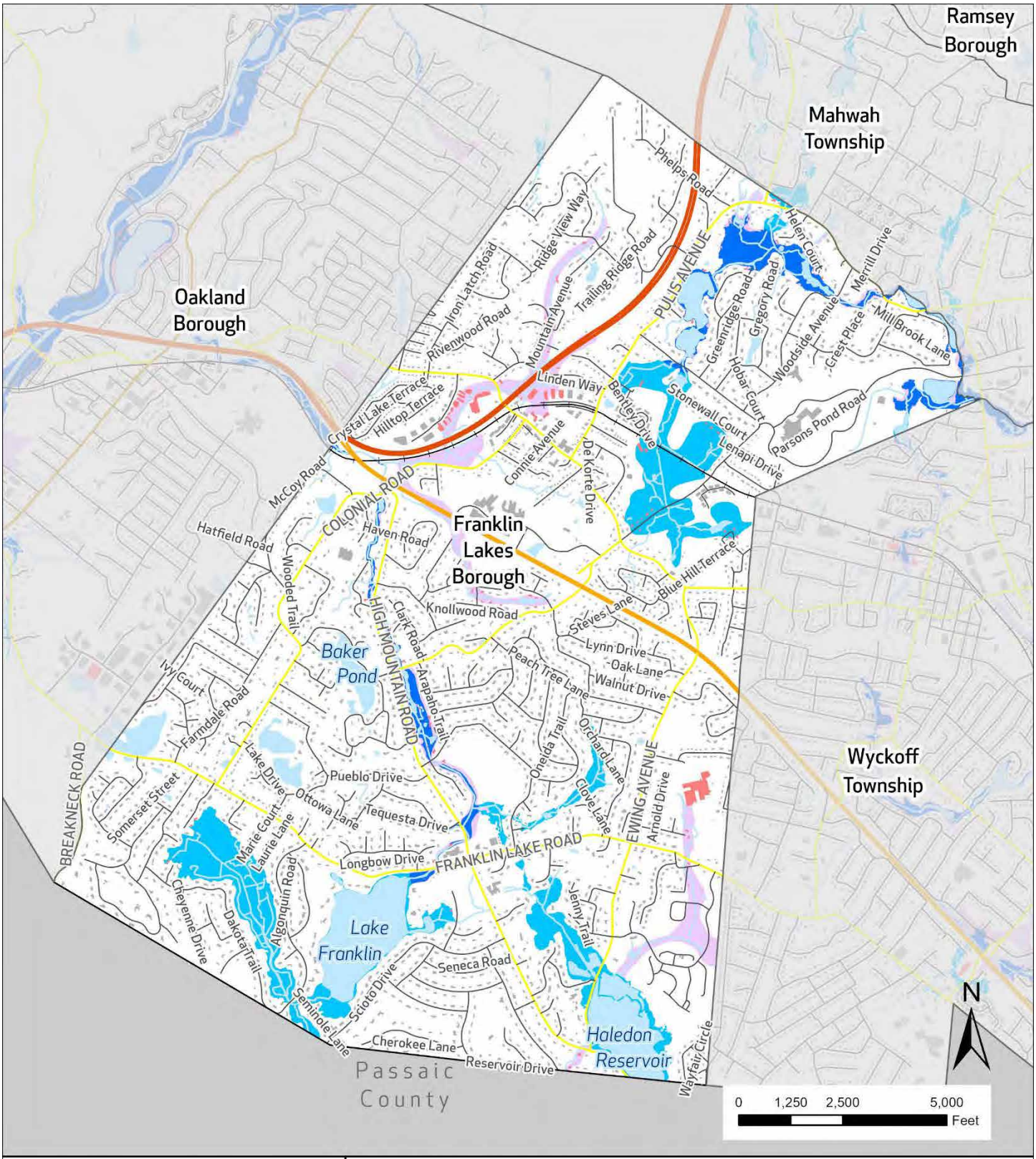
The Special Flood Hazard Area (SFHA) in the Borough of Franklin Lakes is primarily located adjacent to the waterbodies of the town: Ho-Ho-Kus Brook, Franklin Lake, Haledon Reservoir, Shadow Lake, and the various small streams which flow into these water bodies. Approximately 10.5 percent of the total area of Franklin Lakes lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.9 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 77.9 percent of Franklin Lakes is considered developed. Of the developed parcels of the town, 8.3 percent fall at least partially within the 1% annual chance floodplain and 7.2 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	8.3	7.2
Exposed Land Area	10.5	2.9

During the planning process, Franklin Lakes Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Franklin Lakes Borough

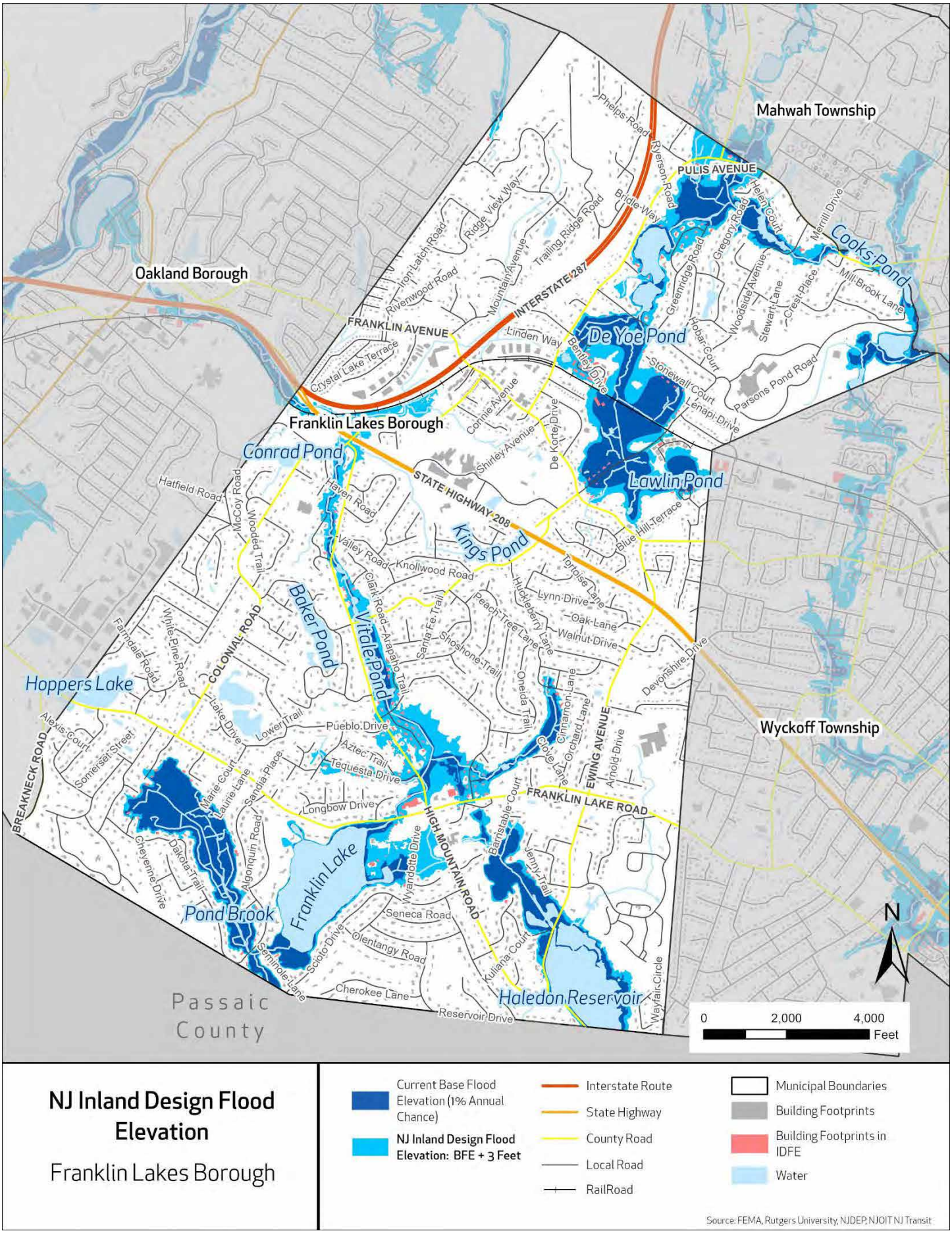
FEMA Flood Zone

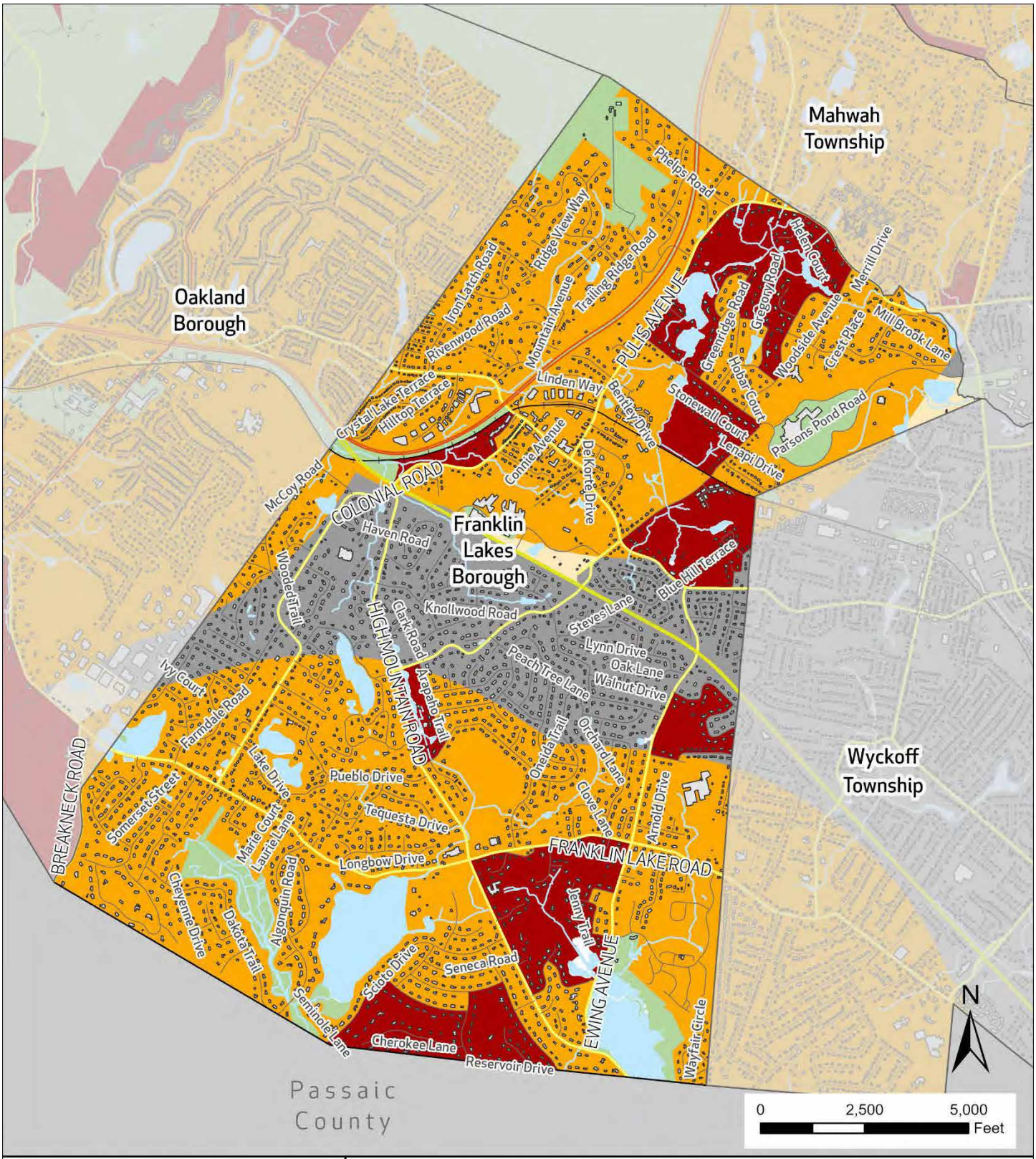
- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)

- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Mahwah Township
Oakland Borough
Franklin Lakes Borough
Wyckoff Township
Passaic County
INTERSTATE 287
STATE HIGHWAY 208
FRANKLIN AVENUE
FRANKLIN LAKE ROAD
EWING AVENUE
COLONIAL ROAD
HIGH MOUNTAIN ROAD
BREAKNECK ROAD
PULIS AVENUE
Phelps Road
Ryerson Road
Bridle Way
Ridge View Way
Trailing Ridge Road
Iron Latch Road
Rivenwood Road
Mountain Avenue
Crystal Lake Terrace
Linden Way
Bentley Drive
De Korte Drive
Connie Avenue
Shirley Avenue
Hatfield Road
McCoy Road
Wooded Trail
Haven Road
Valley Road
Knollwood Road
Clark Road
Arapaho Trail
Santa Fe Trail
Shoshone Trail
Peach Tree Lane
Huckleberry Lane
Lynn Drive
Oak Lane
Walnut Drive
Tortoise Lane
Blue Hill Terrace
Devonshire Drive
Oneida Trail
Cinnamon Lane
Orchard Lane
Clove Lane
Arnold Drive
Greenridge Road
Gregory Road
Helen Court
Merrill Drive
Woodside Avenue
Stewart Lane
Crest Place
Mill Brook Lane
Hobart Court
Stonewall Court
Lenapi Drive
Parsons Pond Road
Farndale Road
White Pine Road
Lake Drive
Lower Trail
Pueblo Drive
Aztec Trail
Tequesta Drive
Longbow Drive
Somerset Street
Alexis Court
Marie Court
Laurie Lane
Sandia Place
Algonquin Road
Cheyenne Drive
Dakota Trail
Seminole Lane
Scioto Drive
Olentangy Road
Seneca Road
Cherokee Lane
Reservoir Drive
Wyandotte Drive
Barnstable Court
Jenny Trail
Kuliana Court
Wayfair Circle
Hoppers Lake
Conrad Pond
Baker Pond
Vitale Pond
Kings Pond
De Yoe Pond
Lawlin Pond
Cooks Pond
Pond Brook
Franklin Lake
Haledon Reservoir
N
0
2,000
4,000
Feet
NJ Inland Design Flood Elevation
Franklin Lakes Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
Interstate Route
State Highway
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Wildland Urban Interface (WUI) Classification

Franklin Lakes Borough

WUI Classification

- WUI - Interface
- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- Interstate Routes
- State Routes
- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Franklin Lakes Borough 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		9/18/2024	
Capital Improvement Plan	X		4/25/2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X		3/14/2023	Updated Franklin Lakes EOP is currently in process for approval.
Floodplain Development Ordinance	X		8/18/2019	Flood Damage Prevention Ordinance
Floodplain Management Plan		X		Follow NJ DEP ordinances and guidelines.
Stormwater Management Ordinance	X		11/26/2024	
Stormwater Management Plan	X		7/2021	Plan updated every 10 years.
Watershed Management Plan		X		Follow NJ DEP ordinances and guidelines.
Sheltering Plan	X		3/14/2023	Included as an Annex in the Franklin Lakes EOP.
Evacuation Plan	X		3/14/2023	Included as an Annex in the Franklin Lakes EOP.
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		Frankin Lakes has minimal repetitive loss.
Disaster Debris Management Plan	X		3/14/2023	Included in the DPW Annex in the Franklin Lakes EOP.
Tracking elevation certificates and/or Letter of Map Change		X		No changes in many years. Letters of Map Amendment sent to Boswell Engineering (Borough Engineer) and approved by NJ DEP.
Post-Disaster Recovery Plan	X		3/14/2023	Included as an Annex in the Franklin Lakes EOP.
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		Included in Franklin Lakes Sustainable Jersey submission (2025).
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Franklin Lakes Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Boswell Engineering (Borough Engineer)
Grant Writer	X		Borough Administrator and consultant
Staff trained to support mitigation	X		Borough OEM, Police Department, Building Department, Department of Public Works
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Mutual Aid agreements with several local municipalities and Bergen County.
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Boswell Engineering
Organizations that work with socially vulnerable or underserved populations	X		Meals-On-Wheels, Bergen County Social Services, religious organizations

Education and Outreach Capabilities

Franklin Lakes Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Borough "E-Blast" via e-mail communication, Borough Web site, Nixle text messaging to residents.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	CRS for individual homes in Franklin Lakes would have de minimis reduction on flood insurance rates. Generally not a hazard in Franklin Lakes.

Financial Capabilities

Within the last five years, Franklin Lakes Borough has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC		X	
FEMA FMA	X		Rehabilitation of the Pettee Avenue dam.
FEMA Public Assistance	X		Rehabilitation of the Pettee Avenue dam.
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		Routine OEM meetings include evaluation of risk reduction pertaining to all hazards.
Other ongoing efforts to build additional financial capabilities		X	

Additional Capability Assessment Information:

Active volunteer OEM / CERT organization.

- Trained for evacuation assistance.
- Trained for comfort station management.
- Food access / delivery in emergencies.
- Wellness checks in coordination with Borough EMS.
- Long range radio communications capabilities to mitigate traditional communications outage.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Franklin Lakes Hazard Mitigation Plan is intended to build and sustain resilient systems, communities, critical infrastructure, and key resource lifelines to reduce vulnerability to natural, technological, and human-caused threats and hazards by lessening the likelihood, severity, and duration of adverse consequences. Specific priorities include hazards such as general sustained power outages (potentially during an extreme temperature event), rain events causing localized flooding and possible dam failure, and smoke events due to wildfires in the area. Franklin Lakes has experienced each of these hazards since 2021.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
20-01	Dredge Stream Throughout the Borough	Revive past dredging program to assist with stream clearing.	Flood	Medium	Franklin Lakes Borough	Municipal budget	TBD	1 year	Withdrawn	
20-02	Upgrade Secondary Red Cross Shelter and Purchase and Install a Generator	Add circuits, install generator, and upgrade existing generator to natural gas to allow full scale sheltering.	All Hazards	Low	OEM	Municipal budget, FEMA HMA (generator)	$300,000.00	1 year	Withdrawn	
20-03	Retrofit Generators at High School and Police Station for Propane Tanks	Retrofit generators at high school and police station for LP (propane) tank.	All Hazards	Low	Franklin Lakes Borough	FEMA HMA, Municipal Finances, CDBG-DR	$200,000.00	1 year	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
20-04	Install Dam Warning/Monitoring System	It was proposed to install water level monitoring, intrusion altering and surveillance cameras. There is exposure to vandalism at the dam facility.	Dam and Levee Failure, Flood, Terrorism	High	Franklin Lakes OEM	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	$300,000.00	1 year	Ongoing	
20-05	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space,	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	As understood by FL OEM, RL list (2 residences) - NJ State offered mitigation. Residents refused.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	or other types of mitigation.								
20-06	Elevate or Flood-proof the Franklin Lakes DPW Building	The Franklin Lakes DPW Building is located in the SFHA.	Flood, Hurricane and Tropical Storm, Severe Weather	Low	Borough DPW, OEM	FEMA HMA	$200,000.00	2 years	Ongoing	Mitigation: 1.) Flood insurance; 2.) Proactive movement of equipment prior to incident (flood).
20-07	Pettee Dam Culvert Replacement	Replacement of the culverts on Pettee Dam allowing for proper flow downstream from the lower lake.	Dam Failure Hurricane/ Tropical Storm Nor'easter	High	Borough, Boswell Engineering	FEMA HMA	$719,400 (95% reimbursed by FEMA)	1 year (currently in process)	Ongoing	Replacement of the culverts and secondary dam structure is currently an active project.
20-08	Establish Comfort Stations for residents	The Borough has designated Comfort Stations for residents in the event of an extended power outage to provide warming/cooling, power for phones, rechargeable batteries, etc.	Extreme Wind Hurricane/ Tropical Storm Nor'easter Power Failure	High	Borough OEM	Borough	TBD	1 year	Ongoing	This is not intended to offer overnight shelter. Temporary comfort station, only.
20-09	Install commercial air cleaner at EOC.	Installation of commercial air cleaner at the EOC to remove smoke or other particulate matter in the event of a local wildfire. Procure and maintain inventory of N95 masks for distribution to residents.	Wildfire Power failure	High	Borough OEM	Borough	$1100	2 years	New	

21 – GARFIELD CITY

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jason Tani	**OEM Coordinator**	**Primary Contact**
Claire Follari	Lieutenant, Police Department	Municipal Meeting
Sam J. Garofalo	Deputy OEM Coordinator	Municipal Meeting

COMMUNITY PROFILE

Overview

The City of Garfield spans approximately 2.19 square miles, and is located in southwestern Bergen County, New Jersey. The Saddle River is a shared border with the Borough of Wallington to the south, while the Passaic River flows along its western boundary. U.S. Route 46 and County Route 507 pass through Garfield. The city has a population of approximately 34,472 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Garfield is a predominantly residential community with residential (including apartment) use accounting for 61% of its area, covering over 622 acres of land in 2022. In the same year, civic/public (tax exempt) land, commercial land, industrial land, vacant land, and railroad property made up 17%, 11%, 8%, 2% and 1%, respectively, of its area. Between 2016 and 2022, there was negligible change in the land use composition of the city.

The significant share of residential use, followed by civic/public (tax exempt), commercial and industrial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 95% of the city's total land. Water and forest land followed, accounting for 4%, and 1% respectively of the city's total area. Notably, between 2015 and 2020, barren land disappeared completely.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	10.6	0.0	-100%
Forest	15.4	15.2	-1%
Urban	1326.7	1337.4	1%
Water	49.7	49.7	0%
Wetlands	0.3	0.3	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Since 2021, substantial redevelopment took place in the city. Additionally, the development of a Self-Storage Facility of 168,670 square feet, along with a warehouse building of 131, 676 square feet at 290 River Drive is currently underway. It falls within the regulatory floodplain. A multifamily property at 232 Midland Avenue was also recently developed.

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

Developments are planned at Passaic Street and River Drive, along with an Amazon facility at Monroe Street and River Drive. Both these developments fall within the regulatory floodplain.

Demographics & Vulnerable Populations

Garfield City's total population is estimated at 34,472, of which an estimated 5.9% is under age 5 and 14.0% is over age 65. The city has seen an estimated 2.09% population growth in the periods between 2013-2017 and 2018-2022. With an aging population making up fourteen percent of the city's residents, Garfield may focus hazard mitigation efforts on

populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

There are twenty-one block groups within Garfield which meet criteria as potentially overburdened communities (OBC) based on data related to *Low Income* (three block groups), *Minority* (six block groups), *Low Income and Minority* (eleven block groups), and *Low Income, Minority, and Limited English* (one block group) community vulnerabilities. These block groups are clustered in Garfield's south and northeast. The city also has five census tracts identified as potentially vulnerable through CEJST designation, according to indicators related to *Workforce Development*, *Climate Change, Housing, Legacy Pollution, Transportation, Water and Wastewater* qualities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	34,472
Population Change since 2017	2.1%
Percent of Population Age < 5	5.9%
Percent of Population > 65	14.0%

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 high, medium, low, or no concern. The following include the city's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The city ranked extreme temperatures as high because it opened its cooling and warming stations a few times since 2021 for its senior population. Furthermore, flood is a hazard of high concern for the city, particularly during extreme weather events, such as hurricane/tropical storm, nor'easter, and winter storm. The city is also vulnerable to flooding during heavy rainfall and when the Passaic River is in high tide. The city is particularly concerned about increased volume of the Passaic River and seeks to dredge saddle brook. Notably, the city also experiences flooding owing to sewer backup; it does not have any pump stations. Areas particularly vulnerable to flooding include Midland Avenue and the railroad, where sewer backs up and causes significant flooding.

The city ranked lightning as a hazard of medium concern; it previously installed a lightning warning system in spaces of recreation and in the Leonia High School.

Amongst the human-made hazards, the city ranked cyber attack and power failure as hazards of high concern; it is vulnerable to phishing attacks and has a substantial proportion of vulnerable populations that are at risk of other hazards induced by power outages. Although PSE&G undertook mitigation efforts, power failure remains a concern for the city.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Garfield. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from the Passaic and Saddle Rivers, and the floodplain running along the city's western boundary. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the city's over 14% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Garfield City	
Number of Policies In-Force:	70
Total Losses:	364
Total Payments:	$5,679,029.20
Number of RL Properties:	30
Number of Mitigated RL Properties:	0
RL – Total Losses:	78
RL – Total Paid:	$2,038,689.33
Number of SRL Properties:	6
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	26
SRL – Total Paid:	$618,216.53

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

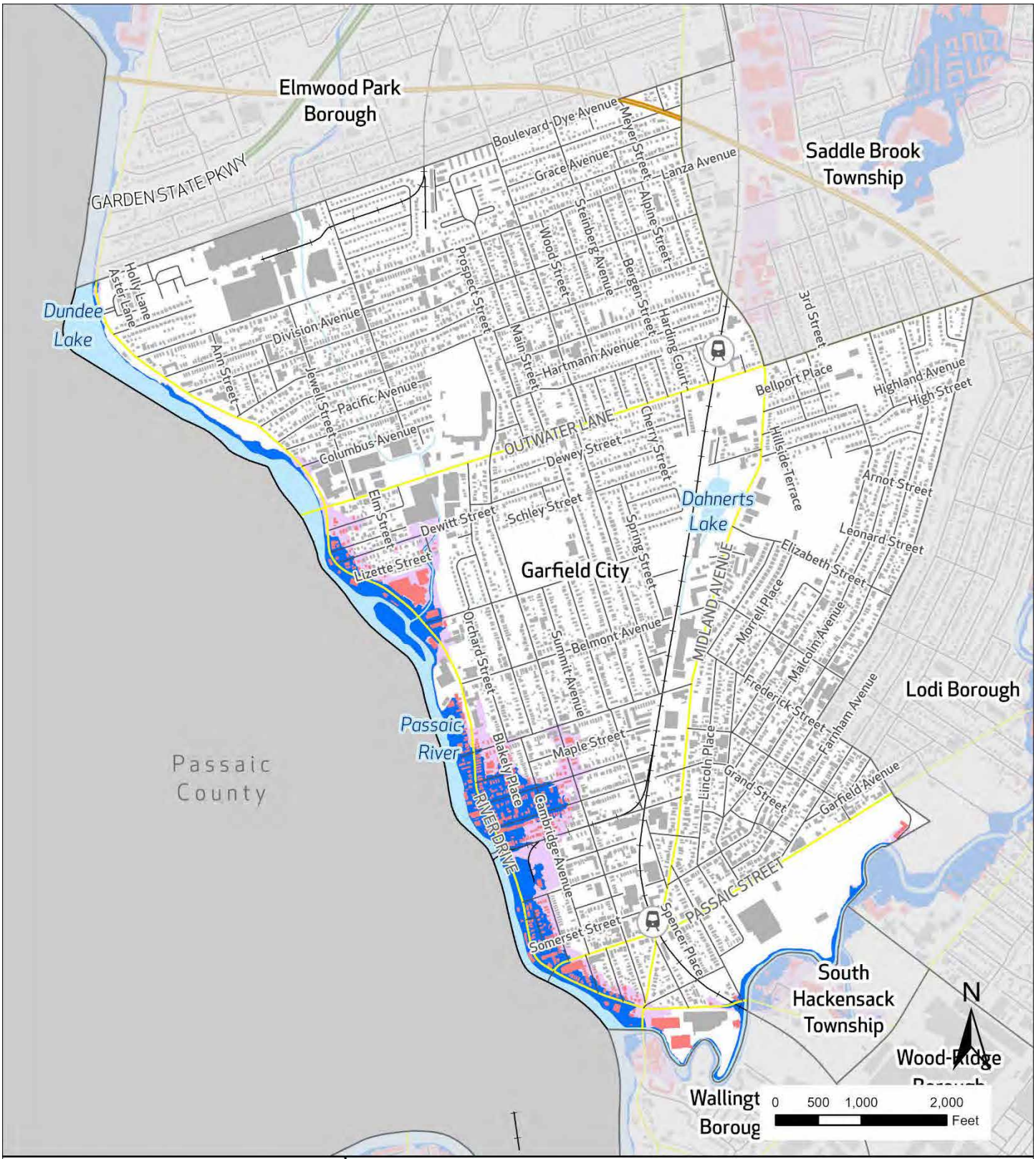
The Special Flood Hazard Area (SFHA) in the City of Garfield is primarily located adjacent to the waterbodies of the town: the Passaic and Saddle Rivers. Approximately 7.7 percent of the total area of Garfield lies within the 1% annual chance floodplain as defined by FEMA. An additional 3.2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 69.9 percent of Garfield is considered developed. Of the developed parcels of the town, 5 percent fall at least partially within the 1% annual chance floodplain and 5.8 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	5.0	5.8
Exposed Land Area	7.7	3.2

During the planning process, Garfield City 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Garfield City

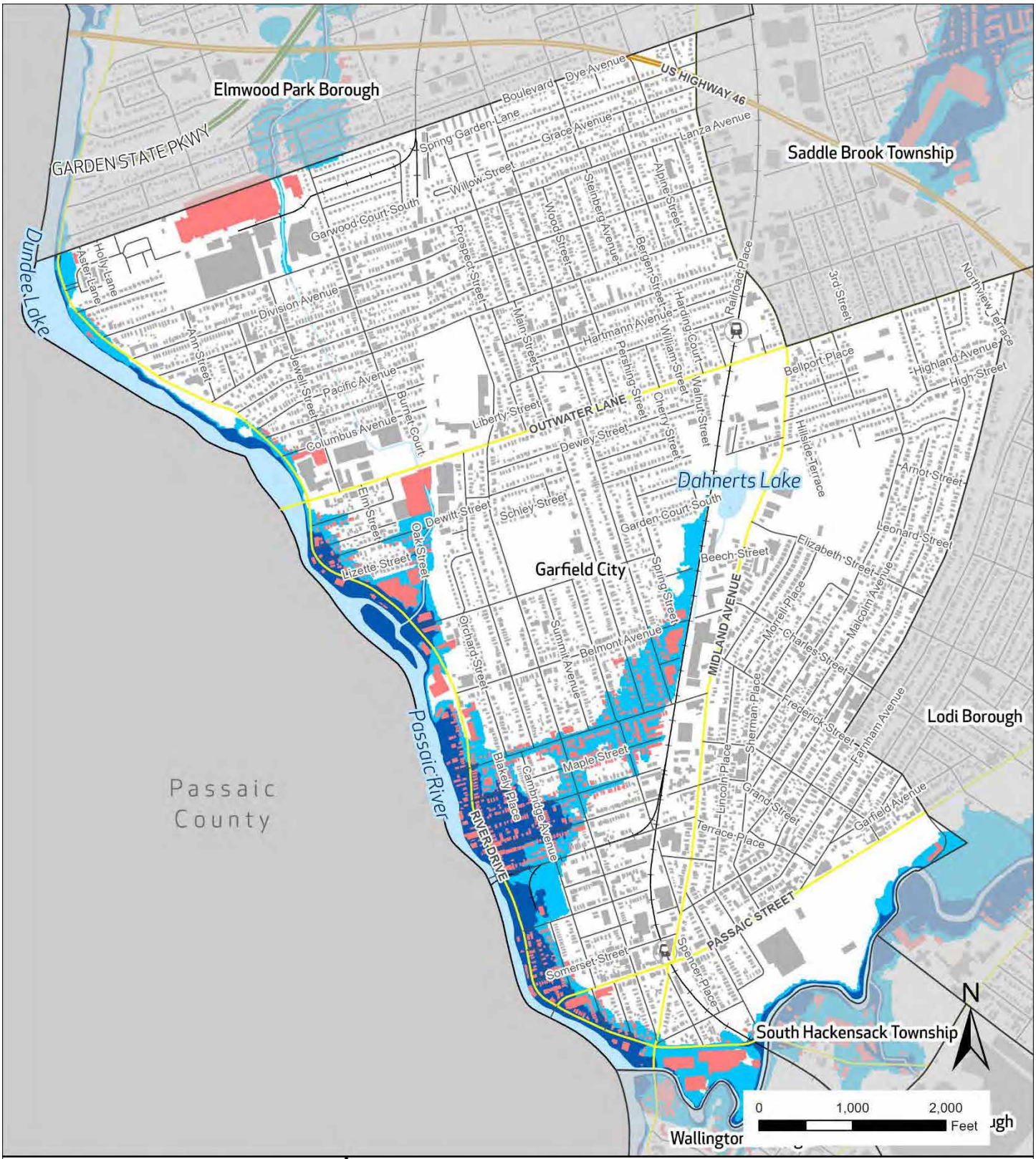
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- US Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Garfield City

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- US Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Garfield City 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		1/2025	
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		1/2025	
Floodplain Development Ordinance		X		
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X		1/2025	
Evacuation Plan	X		1/2025	
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			
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		

Administrative and Technical Capabilities

Garfield City has the following Administrative and Technical capabilities:

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

Education and Outreach Capabilities

Garfield City has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Garfield City 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

We plan to speak with County officials and work to make necessary repairs/renovations to the bridge to allow for debris to better flow down river. We recently raised the riverbank in the area of River Dr and Passaic St during construction to help prevent flooding to that area.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
21-01	Purchase and Install Folding Stop Signs at Signalized Intersections	Mount folding stop signs at all signalized intersections to be available to open in a timely manner during power outages affecting traffic signals.	All Hazards	Mediu m	Garfield OEM	Municipal Finances, CDBG-DR	TBD	1 year	Completed	City decided to use portable signs instead.
21-02	Establish Emergency No-Parking Routes for Snow Emergencies	Establish emergency no parking routes for snow emergencies. These routes would be decided by primary and secondary routes throughout the city.	Nor'easter, Winter Storm, Severe Weather	Low	Garfield OEM	Municipal Finances	TBD	1 year	Completed	Adopted by ordinance.
21-03	Upgrade and Install a Police Station Server System	Upgrade and install new police station server system backed up at city hall, and city hall backed up at police station.	Cyber Attack	Mediu m	Garfield	Homeland Security grants, Municipal budget	TBD	1 year	Completed	
21-04	Acquire Mobile Generators with Connections at Critical Facilities for Continuity of Operations	Acquire mobile generators with connections at senior and recreation centers (both Red Cross designated shelters) for emergencies and special events.	All Hazards	Mediu m	Garfield	FEMA HMA, Municipal Finances, CDBG-DR	$200,000 .00	1 year	Completed	
21-05	Acquire an Additional Facility to Store Emergency Management Equipment	Acquire an additional facility to store emergency management equipment.	All Hazards	Low	Garfield	Municipal Finances	$350,000 .00	1 year	Completed	City wishes to add Outwater lane for flood risk reduction by working with county, although specifics remain to be planned. Additionally, city recently completed stormwater management study to scope lines and redid Columbus Park retention basin systems.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
21-06	Coordinate with County to Replace Bridge with a Higher, Wider-span Bridge to Prevent Debris Accumulation that causes the River to Flood	Replace the Saddle River and Maurcellus Place County bridge with a higher, wider span bridge to prevent debris accumulation that causes the river to back up.	Flood	Medium	City of Garfield	FEMA HMA, Municipal Finances, County budget	$10,000,000	1 year	Ongoing	Affects Lodi and South Hackensack. Action is low priority for county and state.
21-07	Install Flood Gates along the Passaic River	Install flood gates along the Passaic River to prevent high tide from reaching outfalls. Coordinate with adjoining towns to ensure the flood gates will not impact their community.	Flood	High	City of Garfield	FEMA HMA, Municipal Finances	TBD	1 year	Ongoing	
21-08	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	City OEM and Homeowners	FEMA HMA, NJDEP Blue Acres	TBD	5 + years	Ongoing	A few properties opted for Blue Acres. Most properties are rental.
21-09	Reestablish Eligibility in the NFIP's CRS Program	Garfield rescinded their participation in the CRS program; reestablish eligibility to complete pro-active floodplain management and assist residents with flood insurance costs.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	City of Garfield	Municipal budget	TBD	2 years	Ongoing	

22 – GLEN ROCK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Thomas Jennings	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Edward Snieckus	Borough Planner	Municipal Meeting
Tracy Jeffery	Planning Board Secretary	Municipal Meeting
Lenora Benjamin	Borough Administrator	Municipal Meeting
Joanne Perry	Deputy OEM Coordinator	Municipal Meeting
Gregory Carter	Deputy OEM Coordinator	Municipal Meeting
Dave Nizborski	Construction Official	Municipal Meeting
Dean Ackerman	Police Chief	Municipal Meeting
Tracey Jeffery	Zoning Official	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Glen Rock spans approximately 2.72 square miles and is located in western Bergen County, New Jersey. The Diamond Brook traverses the borough from north to south on the western side while the Ho-Ho-Kus Brook runs along the eastern border of the borough. Glen Rock has a population of approximately 12,086 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Glen Rock is a predominantly residential community with residential (including apartment) use accounting for 71% of its area, covering nearly 1,022 acres of land in 2022. In the same year, civic/public (tax exempt) land also made up a significant portion, covering 20% of the borough's land use. Commercial land, railroad property, industrial land, and vacant land made up 4%, 2%, 1%, and 1%, respectively, of its area.

The significant share of residential use, followed by civic/public (tax exempt), and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 92% of the borough's total land. Wetlands, forest land, and water followed, accounting for 5%, 3%, and 1% respectively of Glen Rock's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	3.5	3.5	<1%
Forest	45.1	43.8	-3%
Urban	1597.7	1599.3	<1%
Water	11.0	11.0	<1%
Wetlands	81.9	81.6	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Key developments in the borough since 2021 include two apartment complexes and one mixed-use building together comprising 69 units at 175 Rock Road (in the borough's Central Business District), and an 11-unit affordable housing project at 261 Rock Road. Neither of these developments fall within a regulatory floodplain.

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

Two mixed-use buildings and two apartment buildings are planned on Lincoln Avenue. These do not fall within a regulatory floodplain.

Demographics & Vulnerable Populations

Glen Rock Borough's total population is estimated at 12,086. Of this population, an estimated 7.9% is under age 5 and 12.25% is over age 65. The borough saw a modest 1.04% population growth estimated in the periods between ACS's 2013-2017 and 2018-2022 surveys. To be most effective in the face of social vulnerabilities, Glen Rock's hazard mitigation efforts may focus on both aging populations (with potential mobility, resource allocation, and communication challenges), *and* on younger populations, where residents under five may present additional challenges for evacuation, as well as continuity of education and services post-disaster.

Glen Rock has a single block group which meets criteria for overburden (OBC) based on characteristics of *Minority* population overburdens. There are no parts of Glen Rock Borough which have been designated as potentially vulnerable under CEJST or CDRZ criteria.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	12,086
Population Change since 2017	1.0%
Percent of Population Age < 5	7.9%
Percent of Population > 65	12.3%

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 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 Temperatures	Dam Failure
Nor'easter	Extreme Wind	Storm Surge
Winter Storm	Flood	Tornado
	Lightning	Drought
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Terrorism	Economic Disruption
	Power Failure	
	Pandemic	

Coastal erosion, landslide, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked extreme weather events including hurricane/tropical storm, lightning, nor'easter, and winter storm as hazards of high concern; a few areas in the borough are prone to flooding owing to these hazards. However, flood is a hazard of medium concern, because flooding in the borough is typically short-lived as the water recedes quickly. Areas prone to flooding include Maple Avenue and Durham. Maple Avenue experiences flooding when there is run-off from Wilde Memorial Park. Durham floods when Diamond Brook overflows.

The borough ranked pandemic as a hazard of high concern because its senior population experienced substantial hardship during the COVID-19 pandemic.

Significant Hazard Events Since Last Plan Update

Hurricane Ida in 2021 was the most recent hazard event experienced by the borough.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Glen Rock. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 12% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Glen Rock Borough	
Number of Policies In-Force:	35
Total Losses:	39
Total Payments:	$297,823.61
Number of RL Properties:	1
Number of Mitigated RL Properties:	0
RL – Total Losses:	2
RL – Total Paid:	$9,229.62
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

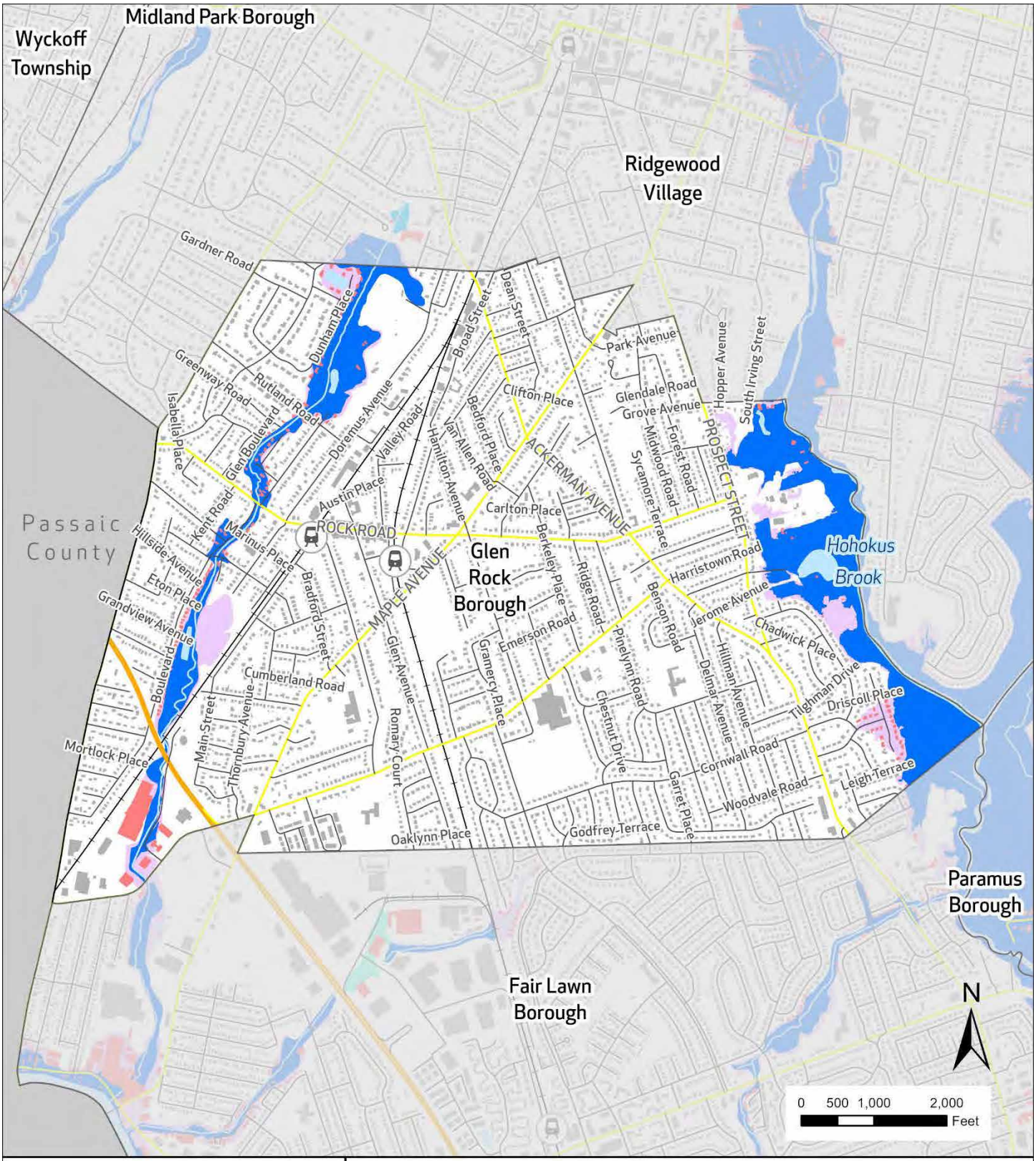
The Special Flood Hazard Area (SFHA) in the Borough of Glen Rock is primarily located adjacent to the waterbodies of the town: Ho-Ho-Kus Brook and Diamond Brook. Approximately 8.2 percent of the total area of Glen Rock lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 75.1 percent of Glen Rock is considered developed. Of the developed parcels of the town, 4.5 percent fall at least partially within the 1% annual chance floodplain and 5.2 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	4.5	5.2
Exposed Land Area	8.2	2.7

During the planning process, Glen Rock Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

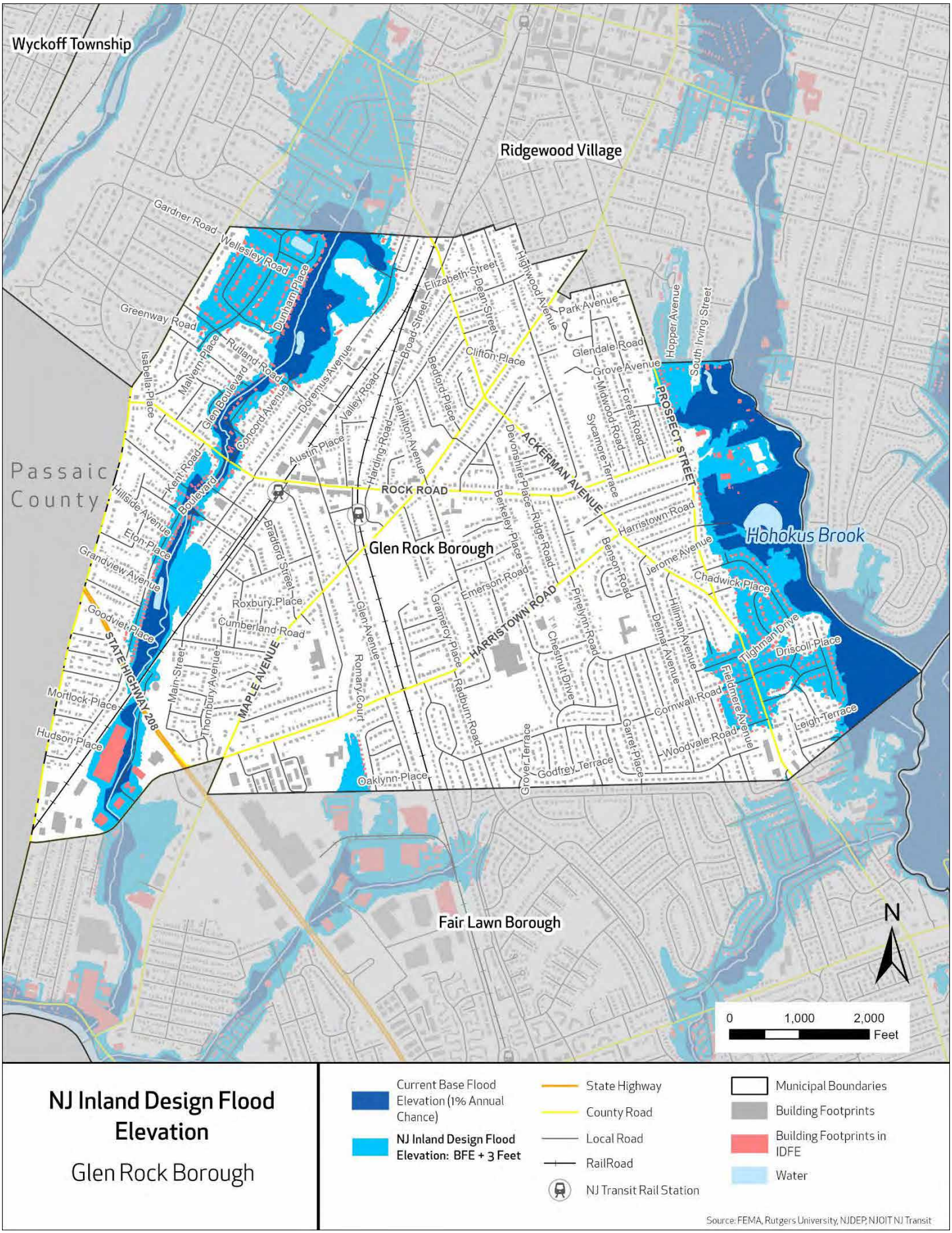
Glen Rock Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Glen Rock Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Glen Rock Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X			
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X			
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		

Administrative and Technical Capabilities

Glen Rock Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Engineer
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		Food collection center at St. Catharine Parish

Education and Outreach Capabilities

Glen Rock Borough 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, Glen Rock Borough 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		

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan, the Borough of Glen Rock has worked on improving its emergency response to incidents, focused on improving flood areas and will continue to look at ways to improve and mitigate natural hazard risks. The borough will do all of this with a commitment to keeping the residents of Glen Rock safe.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
22-01	Purchase Additional Light Towers and Variable Message Signs	Purchase additional light towers and variable message signs to provide for continuity of operations during a disaster. During Sandy, this equipment had to be borrowed from the county.	All Hazards	Low	Glen Rock Borough	Municipal Finances	TBD	1 year	Completed	
22-02	Upgrade Senior Center Facility to Serve as Shelter	Glen Rock currently relies on Bergen County for shelters and would like to upgrade the annex, which currently is an important resource for a vulnerable senior population, to be assessed by Red Cross for a location for an official shelter.	All Hazards	Mediu m	Glen Rock Borough	Municipal Finances, CDBG-DR	TBD	1 year	Withdrawn	Use of building was changed.
22-03	Upgrade Portable Radios for all Emergency Services	Portable and cross band radios can promote public safety and interoperability.	All Hazards	Mediu m	Glen Rock Borough	Homeland Security grants, municipal budget	TBD	2 years	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
22-04	Continue to Dredge Diamond Brook	Use capital funds and coordinate with the county to address sand deposits in Diamond Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Glen Rock DPW, DEP	Municipal and County budget	TBD	3 years	Ongoing	Diamond Brook needs periodic maintenance.
22-05	Replace Remaining Sewer Pumps	Some sewer pumps have been completed recently, but three old pumps remain that need to be replaced.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	DPW	Municipal budget	$1,200,000.00	1 year	Ongoing	
22-06	Reroute Water Drainage from Train Overpass	Consult with engineer to find appropriate way to reroute water during heavy rain at Bridge on Rutland Road and Rock Road near Diamond Brook. Roadways cannot handle drainage. May consider abandoning the twin pipes and tying it into the new main line.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm	Medium	Borough of Glen Rock	FEMA HMA, Municipal Finances, CDBG-DR	TBD	3 years	Ongoing	
22-07	Educate Vulnerable Populations on Risk of Hazards	Goal is to go to schools and senior programs and offer tours of municipal facilities to teach the general public all forms of mitigation and hazard awareness. This might also include touring the fire truck, offering coffee with cops, and targeting events near Cornwall where people may lack flood insurance.	All Hazards	Medium	Glen Rock OEM	Municipal Finances, CDBG-DR	Municipal Staff	5 + years	Ongoing	
22-08	Increase Fire Awareness to Residents	Hold a town hall meeting and hold a condensed version of the Citizen's Fire Academy lecture.	Wildfire	Medium	Glen Rock Borough	Municipal Finances	TBD	2 years	Ongoing	Townhall meetings conducted annually.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
22-09	Purchase and Install Flood Gates and Purchase Variable Message Signage for Maple Avenue Underpass	Variable message signage would alert drivers before arriving at the underpass and suggest alternate routes. Coordinate with adjoining towns to ensure the flood gates will not impact their community.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Glen Rock Borough	FEMA HMA, Municipal Finance	TBD	2 years	Ongoing	
22-10	Install Generator Hookups for Traffic Lights and Construct Storage Facility	Have the ability to hook up traffic lights to generators, at least on the main light owned by the municipality. On the county lights, need to pay $3k each to have a connection and wanted community to pay, not county. No 4-hour battery backup, but a short backup on the main traffic light. 2 antique traffic lights that Ridgewood signal maintains, includes an old clock wheel. Need a facility to store these materials.	All Hazards	Medium	Glen Rock Borough	County budget, Municipal budget	$200,000.00	1 year	Ongoing	Borough-owned traffic lights run on generators, county-owned traffic lights lack generators.
22-11	Purchase Additional Generators for Critical Facilities to Support Continuity of Operations	Various sizes of generators are needed to provide continuity of operations at the Department of Public Works, Police Station, and Fire House.	All Hazards	Medium	Glen Rock Borough	FEMA HMA, Municipal Finances	$200,000.00	1 year	Ongoing	Purchased a few portable generators for several critical facilities.
22-12	Purchase Facility to Store Emergency Equipment	A storage facility is needed to protect emergency response equipment and should be located adjacent to the Fire House and Borough Hall.	All Hazards	Low	Glen Rock Borough	Municipal Finances	TBD	2 years	Ongoing	
22-13	Upgrade Traffic Lights at Harristown/Mapl	Traffic lights at Harristown/Maple and Maple/Ackerman are	All Hazards	Medium	Glen Rock Borough,	Homeland Security grants,	$200,000.00	2 years	Ongoing	County is responsible for the implementation of this action.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	e and Maple/Ackerman to Include Cameras and Generators	antiques yet are on one of the main routes to Valley Hospital and at the intersection of two county roads. The lights should be updated and include cameras and backup generators.			Bergen County	municipal budget				
22-14	Target Harden Critical Facilities by Installing Surveillance Cameras, Fencing, and Bollards	Install fencing, bollards, cameras, and secure municipal facilities, including surveillance equipment at transit facilities.	All Hazards	Medium	Glen Rock Borough	Homeland Security grants, municipal budget	TBD	3 years	Ongoing	Cameras were installed in Wilde Memorial Park, and guard rail is currently being installed in park parking lot. Borough spent $90,000 on these installations. It is now looking to install security systems in Borough Hall and at the railway station.
22-15	Provide Active Shooter Training at Schools, Business, Municipal Facilities	There are increasing requirement for active shooter training and the overtime is more expense than the equipment that has already been purchased.	Terrorism	Low	Glen Rock Borough	Homeland Security grants, municipal budget	TBD	5 + years	Ongoing	Training provided in Police Department. Schools have their own training programs. Borough will undertake program annually.
22-16	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	No elevations or acquisitions have taken place yet.

23 – HACKENSACK CITY

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Keith Rosazza	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Michael Thomasey	Deputy OEM Coordinator	Municipal Meeting
Ryan Westra	City Project Manager	Internal Meetings
Kris Wheaton	City Engineer	Internal Meetings
Ernest Sisco	City Construction Official/Flood Administrator	Internal Meetings

COMMUNITY PROFILE

Overview

The City of Hackensack spans approximately 4.35 square miles and is located in southern Bergen County, New Jersey. The city is an inner suburb of New York City and is located approximately 12 miles northwest of Midtown Manhattan, The Hackensack River flows from north to south along its eastern border. The Hackensack University Medical Center, part of Hackensack Meridian Health, is the primary healthcare provider and hospital for the city, which has a population of approximately 45,748 residents. Most of Hackensack is developed and allocated to residential, commercial, and mixed-use development and is home to considerable public property, such as the County Courthouse. This makes the city vulnerable to flooding.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In Hackensack, residential (including apartment) use is the predominant land use, accounting for 40% of its total area, covering nearly 700 acres of land in 2022. In the same year, other significant land uses included civic/public (tax exempt) and commercial uses, that made up 26%, and 23% respectively of the city. Between 2016 and 2022, there was a 38%, or 22-acre, decrease in Hackensack's vacant land. During this period, commercial land decreased by 7%, falling from 433 acres to 402 acres. On the other hand, the area under civic/public (tax exempt) use increased by 56 acres, going from 404 acres to 460 acres, a jump of nearly 14%. Residential land increased by 20 acres.

NJDEP's Land Use/Land Cover data reflects the significant share of residential, civic/public (tax exempt), and commercial land; in 2020, urban/developed land accounted for 91% of the city's total area. The remaining 9% was made up of water, forest land, barren land, and wetlands.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	22.7	41.7	84%
Forest	66.8	67.7	1%
Urban	2554.2	2534.4	-1%
Water	113.1	113.1	<1%
Wetlands	23.0	23.0	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Major development since 2021 includes The Jefferson, a mixed-use development located in a floodplain at 2 Kinderkamack and consisting of 400 units. The Jefferson is raised and includes a retention pond on its premises. Additionally, the city noted also that a few buildings on River Street have been raised.

Other significant developments include The Brick, a 14-story mixed-use complex of 200 apartment units, located at 150 Main Street, and complexes of a total of 300 units at 1 and 2 Park Place. These developments are not located in a flood zone.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
The county has proposed a transportation center in the city, comprising a NJ Transit bus depot, a 14-story residential complex of moderate- and low-income units, county offices, and a County Wellness Center at 133 River Street. Additionally, on Green Street and Essex Street, 210 residential units and parking lots are undergoing construction. All of these developments will be located in a regulatory floodplain.

Furthermore, the city is now in the process of separating its sewer system, located in a marshland, which gives rise Combined Sewer Overflow (CSO). It is in the process of applying for NJOEM and HMGP grants.

Demographics & Vulnerable Populations

Hackensack City has a total population of an estimated 45,758. The city's residents are estimated to be 5.2% under age 5, and 16.4% over age 65. The city saw an estimated 2.43% growth in the periods between the last two ACS surveys (2013-2017, 2018-2022). With an aging population making up over sixteen percent of the city's population, Hackensack may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The entirety of Hackensack (thirty-eight block groups) meets criteria as potentially overburdened (OBC) according to the State of New Jersey, by indicators of *Minority* (twenty-five block groups), *Low Income and Minority* (twelve block groups), and *Low Income, Minority, and Limited English* (one block group) communities. The city also has two census tracts noted as potentially vulnerable by CEJST data related to *Workforce Development, Climate Change, Housing, Legacy Pollution, Transportation, and Water and Wastewater.*

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	45,748
Population Change since 2017	2.4%
Percent of Population Age < 5	5.2%
Percent of Population > 65	16.4%

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 high, medium, low, or no concern. The following include the city'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 Temperatures	Extreme Wind
Nor'easter	Lightning	Tornado
Flood	Winter Storm	Landslide
Storm Surge	Dam Failure	Drought
		Earthquake
		Wildfire
	Human-made Hazards	
	Civil Unrest	Economic Disruption
	Cyber Attack	
	Pandemic	
	Power Failure	
	Terrorism	

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

The city ranked flood and hurricane/tropical storm because there is high population density in its regulatory floodplain. In addition to Coles Brook, which flows into the Hackensack River and floods during heavy rainfall, there are several undocumented creeks in the city. These creeks are also prone to flooding. It is challenging to drain water in the city during flood events.

The city also ranked dam failure as high, because it is located close to the Oradell Dam, its source of drinking water supply. Storm surge was ranked as high because the city experiences flooding from the Hackensack River. Pandemic was ranked as high because there are three nursing homes located within Hackensack. Power failure was also ranked high because the city has experienced frequent power outages during storms and because of disruption of the overhead wires by animals. Lastly, terrorism was ranked high because the city is home to the Hackensack Medical Center, along with multiple train and bus stations.

The city ranked extreme temperatures as medium, because cooling centers, located in county buildings and the city's own civic center have been used a few times since the last plan update. The civic center also functions as a disaster shelter. Additionally, the city ranked civil unrest as medium because, as home to the County Courthouse, it has previously experienced demonstrations, particularly during the George Floyd protests.

Significant Hazard Events Since Last Plan Update

The last significant hazard experienced by the city was Hurricane Ida in 2021.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Hackensack. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding the floodplain running through the city's eastern part. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the city's over 16% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Hackensack City	
Number of Policies In-Force:	483
Total Losses:	504
Total Payments:	$19,804,440.99
Number of RL Properties:	60
Number of Mitigated RL Properties:	0
RL – Total Losses:	159
RL – Total Paid:	$7,621,156.66
Number of SRL Properties:	15
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	68

Hackensack City	
SRL – Total Paid:	$2,547,601.81

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

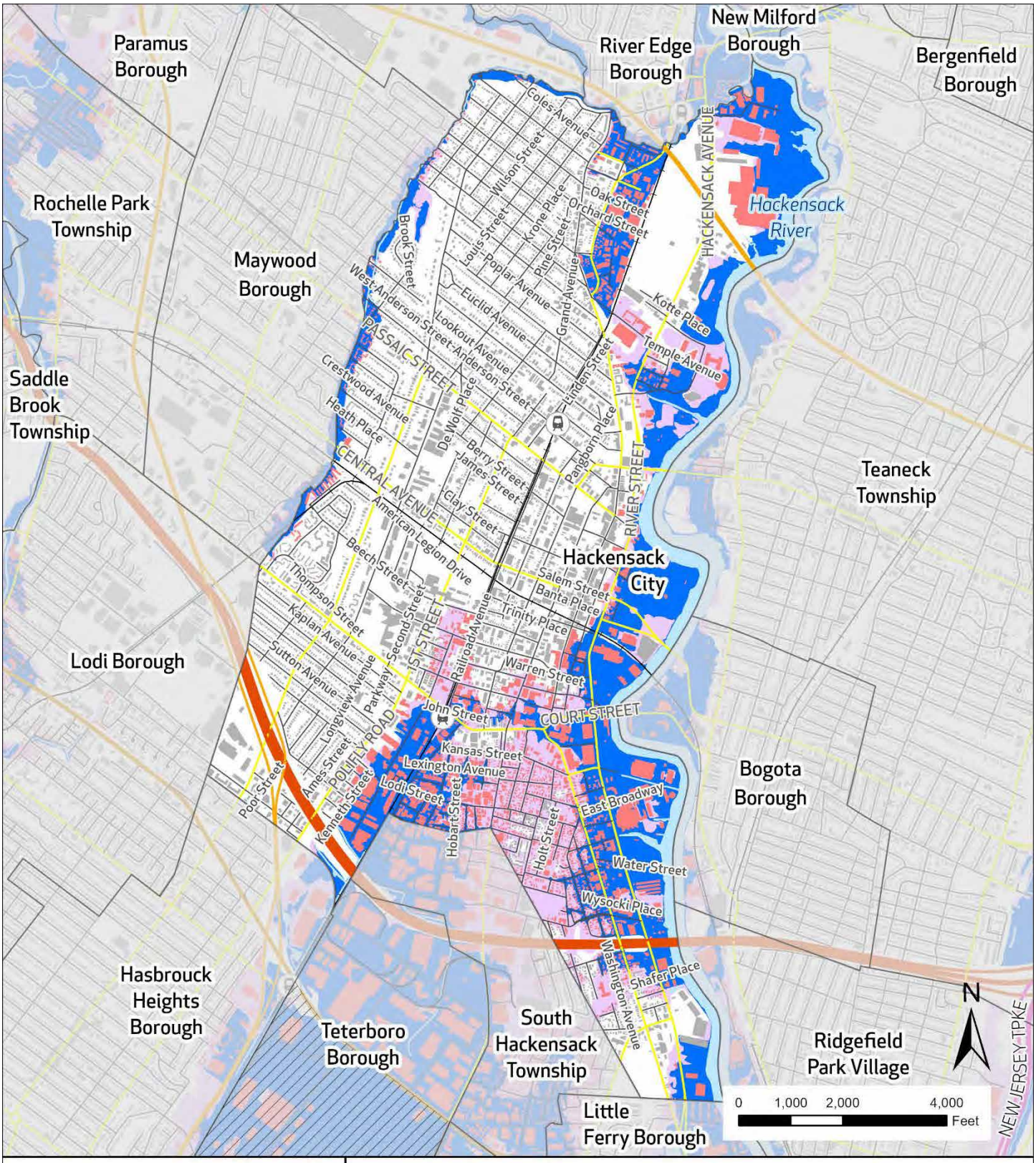
The Special Flood Hazard Area (SFHA) in the City of Hackensack is primarily located adjacent to the waterbodies of the town: the Passaic River and Coles Brook, as well as the low-lying portion of town in the south. Approximately 24.6 percent of the total area of Hackensack lies within the 1% annual chance floodplain as defined by FEMA. An additional 12.3 percent of the area of the municipality is in the 0.2% annual chance floodplain.

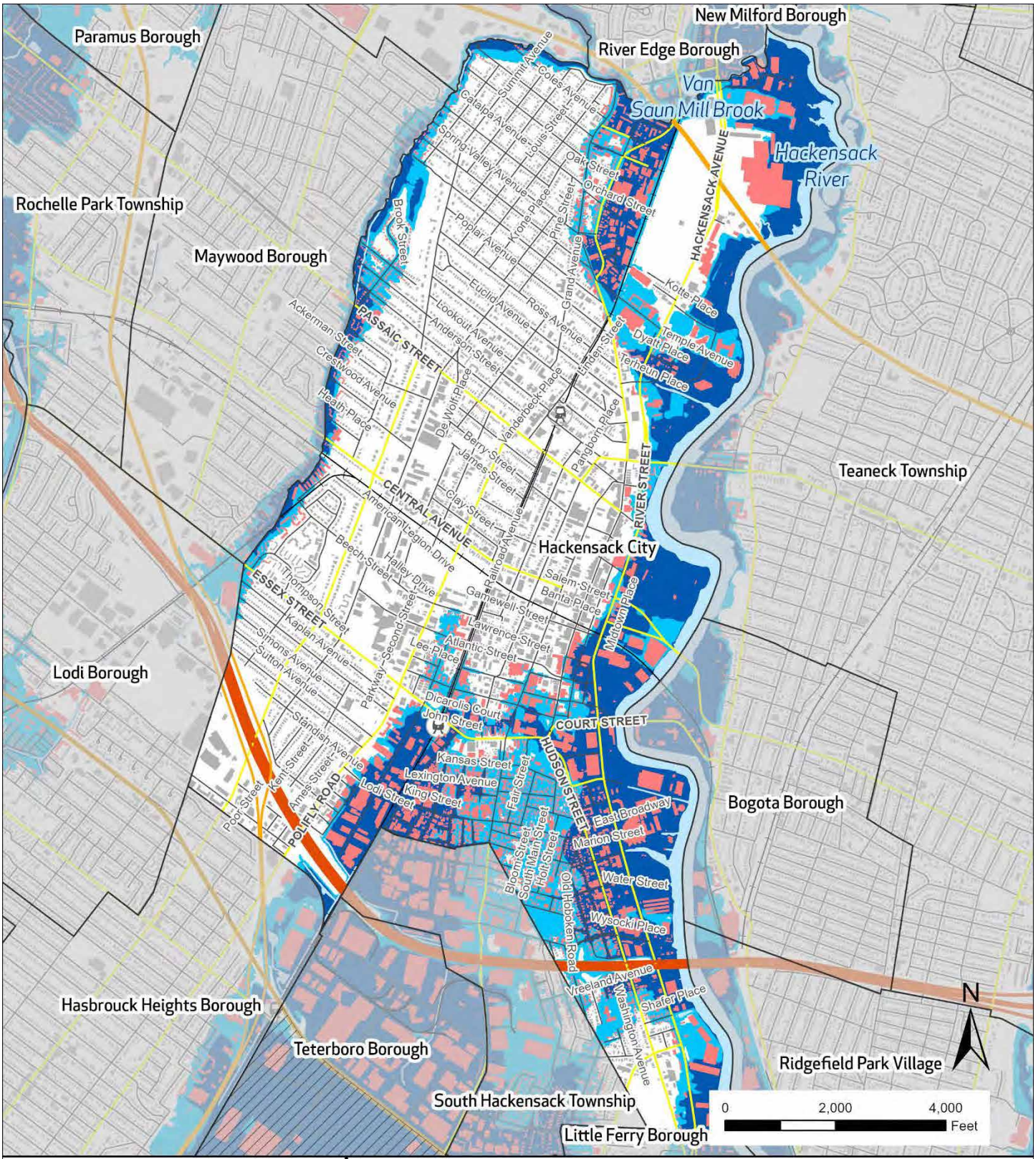
About 70.2 percent of Hackensack is considered developed. Of the developed parcels of the town, 15.3 percent fall at least partially within the 1% annual chance floodplain and 16 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

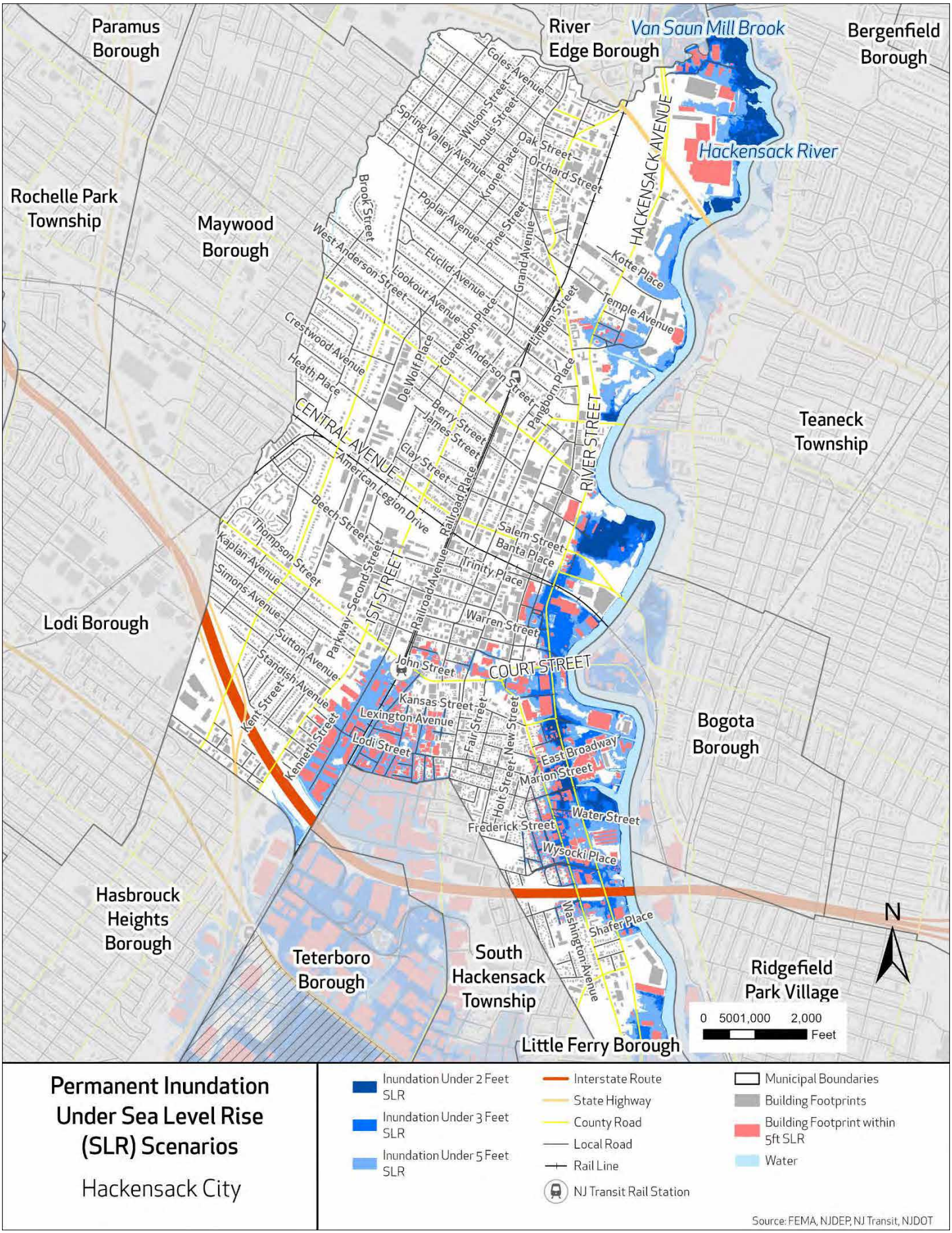
	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	15.3	16
Exposed Land Area	24.6	12.3

During the planning process, Hackensack City 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


Paramus Borough
River Edge Borough
New Milford Borough
Bergenfield Borough
Rochelle Park Township
Maywood Borough
Saddle Brook Township
Teaneck Township
Hackensack City
Lodi Borough
Bogota Borough
Hasbrouck Heights Borough
Teterboro Borough
South Hackensack Township
Ridgefield Park Village
Little Ferry Borough
Hackensack River
HACKENSACK AVENUE
PASSAIC STREET
CENTRAL AVENUE
RIVER STREET
COURT STREET
POLIFLY ROAD
NEW JERSEY TPKE
Coles Avenue
Wilson Street
Brook Street
Louis Street
Krone Place
Orchard Street
Oak Street
Pine Street
Poplar Avenue
Grand Avenue
Kotte Place
Temple Avenue
Linden Street
Euclid Avenue
Lookout Avenue
West Anderson Street
Anderson Street
Crestwood Avenue
Heath Place
De Wolf Place
Berry Street
James Street
Clay Street
Pangborn Place
American Legion Drive
Beech Street
Thompson Street
Kaplan Avenue
Second Street
Railroad Avenue
Salem Street
Banta Place
Trinity Place
Warren Street
John Street
Sutton Avenue
Longview Avenue
Parkway
Ames Street
Kenneth Street
Poor Street
Kansas Street
Lexington Avenue
Lodi Street
Hobart Street
Holt Street
East Broadway
Water Street
Wysocki Place
Washington Avenue
Shafer Place
N
0 1,000 2,000 4,000
Feet
Flood Hazard
Hackensack City
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
Interstate Route
State Highway
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NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


Paramus Borough
New Milford Borough
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Van Saun Mill Brook
Hackensack River
Rochelle Park Township
Maywood Borough
Teaneck Township
Hackensack City
Lodi Borough
Bogota Borough
Hasbrouck Heights Borough
Teterboro Borough
Ridgefield Park Village
South Hackensack Township
Little Ferry Borough
PASSAIC STREET
CENTRAL AVENUE
ESSEX STREET
COURT STREET
HUDSON STREET
RIVER STREET
HACKENSACK AVENUE
POLIFLY ROAD
Summit Avenue
Coles Avenue
Catalpa Avenue
Spring Valley Avenue
Louis Street
Oak Street
Orchard Street
Brook Street
Poplar Avenue
Krone Place
Pine Street
Grand Avenue
Ackerman Street
Crestwood Avenue
Heath Place
Euclid Avenue
Lookout Avenue
Anderson Street
Ross Avenue
Linden Street
Kotte Place
Dyatt Place
Temple Avenue
Terhune Place
De Wolf Place
Vanderbeck Place
Pangborn Place
Barry Street
James Street
Clay Street
Railroad Avenue
Salem Street
Banta Place
Midtown Place
Americant Legion Drive
Beech Street
Halley Drive
Thompson Street
Second Street
Parkway
Gamewell Street
Lawrence Street
Atlantic Street
Lee Place
Kaplan Avenue
Simons Avenue
Sutton Avenue
Standish Avenue
Dicarolis Court
John Street
Kansas Street
Lexington Avenue
King Street
Lodi Street
Kent Street
Ames Street
Post Street
Fair Street
East Broadway
Marion Street
Bloom Street
South Main Street
Holt Street
Water Street
Old Hoboken Road
Wysocki Place
Vreeland Avenue
Washington Avenue
Shafer Place
N
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4,000
Feet
NJ Inland Design Flood Elevation
Hackensack City
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
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Municipal Boundaries
Building Footprints
Building Footprints in IDFE
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Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


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Rochelle Park Township
Maywood Borough
Teaneck Township
Lodi Borough
Bogota Borough
Hasbrouck Heights Borough
Teterboro Borough
South Hackensack Township
Ridgefield Park Village
Little Ferry Borough
HACKENSACK AVENUE
RIVER STREET
CENTRAL AVENUE
1ST STREET
COURT STREET
Coles Avenue
Wilson Street
Louis Street
Spring Valley Avenue
Krone Place
Oak Street
Orchard Street
Brook Street
Poplar Avenue
Pine Street
Grand Avenue
West Anderson Street
Euclid Avenue
Lookout Avenue
Clarendon Place
Linden Street
Kotte Place
Temple Avenue
Crestwood Avenue
Heath Place
De Wolf Place
Clarendon-Anderson Street
Pangborn Place
Berry Street
James Street
Clay Street
American Legion Drive
Railroad Place
Railroad Avenue
Beech Street
Salem Street
Banta Place
Trinity Place
Warren Street
Thompson Street
Kaplan Avenue
Simons Avenue
Sutton Avenue
Standish Avenue
Kent Street
Kenneth Street
Parkway - Second Street
John Street
Kansas Street
Lexington Avenue
Lodi Street
Fair Street
New Street
Holt Street
East Broadway
Marion Street
Water Street
Frederick Street
Wysocki Place
Washington Avenue
Shafer Place
N
0 5001,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Hackensack City
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
Interstate Route
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Hackensack City 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		2020	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X			Draft is in process of being approved by NJDEP.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2021	In process of being updated.
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Responsibility of the Construction official.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Building Department is responsible for tracking.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		City has several designated redevelopment zones.
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		

Administrative and Technical Capabilities

Hackensack City has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Current Floodplain Administrator is also a construction official, and a full-time municipal employee.
Grant Writer	X		Grant Writer is outsourced contractor, Millenium
Staff trained to support mitigation		X	
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Sanzari Companies (Private Contractor) and Bergen County
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Bergen County Utility Authority controls municipal sewer systems and treatment plants.
Organizations that work with socially vulnerable or underserved populations		X	Director of Safety Hackensack Medical Center/Mayor of Hackensack, Northern NJ Community Foundation

Education and Outreach Capabilities

Hackensack City has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Hackensack City 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		NJ I-Bank, Other grants
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Public complaint
Other ongoing efforts to build additional financial capabilities	X		

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 update to its hazard mitigation plan, the City of Hackensack has made measurable progress in strengthening its resilience to natural disasters, specifically flooding. The city has undertaken a large sewer separation project, modernizing drainage infrastructure and separating waste and stormwater systems to reduce impacts on treatment facilities. Moving forward, Hackensack is committed to confronting emerging climate risks—such as more intense rainfall and the threat of rising water levels—by refining flood risk assessments, enhancing emergency communication tools, and bolstering the safety and readiness of community shelters and first responders. These proactive measures highlight Hackensack's dedication to protecting its residents and infrastructure.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
23-01	Remove Historic WWII Submarine from Waterway	Remove the historic WWII submarine that is currently resting on the bottom of the waterway.		Mediu m	City of Hackensack	Municipal Budget		1 year	Withdrawn	No progress has been made on action. This is not a city project.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimat e	Time-line	Action Status	Notes
23-02	Conduct Sewer Maintenance and Upgrades	Debris removal from city-owned storm sewers. Continue to obtain funding sources to maintain pump stations in order to prevent flooding in low lying areas. Separate sewer system, especially down by Main St. Upgrade stormwater system with larger pipes.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	City of Hackensack	Municipal Budget	TBD	3 years	Ongoing	Action is public-driven. Entire neighborhoods were affected due to flooding and sewer outflow. Upgrades and maintenance activities are ongoing daily. City is in the process of getting its own sewer system.
23-03	Expand Hazard Mitigation Education for Residents	Maintain, improve, and expand education and awareness programs to provide effective and relevant information to community members.	All Hazards	Low	City of Hackensack	Municipal Budget	TBD	1 year	Ongoing	City has conducted public meetings.
23-04	Implement Stricter Floodplain Regulations	Implement stronger development regulations within the floodplain.	Flood	Medium	City of Hackensack	Municipal Budget	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
23-05	Retrofit Pumps at Kennedy St and River St, East Broadway and Bossy Creek, and Anderson St.	Retrofit pumps at Kennedy St and River St, East Broadway and Bossy Creek, and Anderson St.	Flood	Medium	City of Hackensack	FEMA HMA, Municipal Budget	TBD	1 year	Ongoing	Bonds worth $6,000,000 are being raised. City also wants to add an additional pump.
23-06	Purchase and Install Flood Control Measures for South Newman St near Riser Ditch	Purchase and Install flood control measures for South Newman St near Riser Ditch.	Flood	High	City of Hackensack	FEMA HMA, Municipal Budget	TBD	1 year	Ongoing	City is seeking grants for this action.
23-07	Purchase and Install Generators for Pump Stations	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	City of Hackensack	FEMA HMA, Municipal Budget	$150,000.00	1 year	Ongoing	
23-08	Develop a Riverfront Walkway with Flood Control Measures Along Hackensack River	Funding for installation and maintenance of a riverfront walkway along the Hackensack River.	Flood, Coastal Erosion	Medium	City of Hackensack, Developers	Green Acres previously funded renovation of Foschini Park and Johnson Park (both on the riverfront)	TBD	1 year	Ongoing	City has met with developers.
23-09	Acquire a High-water Vehicle to Facilitate Emergency Operations	Acquire a high-water vehicle to facilitate pre and post hazard operations.	Flood	Medium	City of Hackensack	Municipal Budget	$250,000.00	1 year	Ongoing	City has applied for high-water vehicle grant. It currently uses a high-water vehicle loaned by County.
23-10	Purchase Additional Protective Equipment for Firefighters	Acquire additional protective equipment for firefighters.	All Hazards	Low	City of Hackensack	Municipal Budget	TBD	1 year	Ongoing	City uses flood suits frequently. Needs four additional winter suits.
23-11	Conduct Waterway Restoration and	Waterway restoration and flood management of Riser Ditch and Coles	Flood	Medium	City of Hackensack	Municipal Budget	TBD	1 year	Ongoing	No progress has been made on action.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Flood Management of Riser Ditch and Coles Brook	Brook to resolve the flooding problems.								
23-12	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	City OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	No progress has been made on action. Three properties are on Court Street and River Street are considering opting for Blue Acres buyouts.

24 – HARRINGTON PARK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Hunken	**Emergency Management Coordinator**	**Primary Contact, Municipal Meeting**
Kunjesh Trivedi	Borough Administrator	Reviewer for Capability Assessment Survey
Michael Marsh	Emergency Planner	Coordination, Input, and Review
Greg Polyniak	Borough Engineer	Coordination, Input, and Review
Scott Wikershiam	Construction Code Official	Coordination, Input, and Review

COMMUNITY PROFILE

Overview

Harrington Park Borough is a community in northeastern Bergen County, formed in 1904 from portions of neighboring townships. The borough has an area of just over two square miles (2.06mi^2), including 10.5% water area and is bordered by Closter, Emerson, Norwood, Old Tappan, and River Vale municipalities. The borough is primarily residential, with neighboring municipalities of River Vale and Norwood containing much of the commercial land uses required by Harrington Park residents.

Harrington Park has an estimated 26.66 miles of roadway, of which 21.04 are maintained by the Borough and 5.6 are maintained by Bergen County. County Rote 502 (Old Hook Road, east-to-west) and County Route 505 (north-to-south, Livingston Street) are the most significant roads crossing through Harrington Park. Each of these roads forms a southern and southeastern boundary of Harrington Park with neighboring municipalities and Pascack Brook.

The borough is bounded by abundant green space, including Beachwood Park to the west, George Street Park, the Trautwein Property to the east, and northern Harrington Park / Old Tappan Woods. Oradell Reservoir, a damming of the Hackensack River, is just south of the borough, where Harrington Park borders Duck Pond and an outlet of Pascack Brook. Both the Hackensack River and Pascack Brook feed into the Oradell Reservoir. The Dorotockey's Run cuts through the eastern portion of Harrington Park as it runs north-to-south.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Harrington Park is a primarily residential community – as of 2022, 46% of the borough's land area (over 500 acres) was used for single or multi-family housing. Vacant land also makes up a notable portion of Harrington Park's area according to MOD-IV, and over 412 acres (37% of Harrington Park) were classified as vacant in 2022. This number rose 18% since 2016's estimate of vacant acreage within the borough. Just 3% of Harrington Park (under 30 acres) is designated for commercial land uses, a drop of 65% from 2016 estimates.

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, the area classified as urban land occupied the largest share, making up 60% of the borough in 2020. Forest makes up 18%, and water 13%. Wetlands geography make up an additional 9% (116 acres, as of 2020). No LULC categories saw significant change between estimates in 2015 and 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	-	-	-
Barren Land	2.8	4.4	57%
Forest	237.7	236.9	<1%
Urban	792.5	791.7	<1%
Water	170.8	170.8	0%
Wetlands	115.5	115.5	0%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

There has been no major development within Harrington Park in recent years; the borough is largely built out. One noted development project was completed in early 2021; a redevelopment of a former water company property along Old Hook Road, which is now a senior living and assisted care apartment building.

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

There is no known development coming to Harrington Park over the next several years.

Demographics & Vulnerable Populations

Harrington Park Borough has a total population estimated at 4,826, of which 6.78% is estimated to be under age 5 and 19.3% over age 65. The borough experienced a slight growth in population (an estimated 0.15%) in the periods between 2013-2017 and 2018-2022 ACS surveys. With an aging population making up over nineteen percent of the borough's residents, Harrington Park may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Harrington Park has one block group noted as potentially vulnerable due to overburden (OBC) of *Minority* populations. There are no areas of Harrington Park which have been designated as potentially vulnerable under CEJST or CDRZ criteria.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	4,826
Population Change since 2017	.14%
Percent of Population Age < 5	6.8%
Percent of Population > 65	19.3%

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 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	
	Hurricanes / Tropical Storms	Winter Storms
	Nor'easter	Wildfire
	Dam & Levee Failure	Flood
	Power Failure	Earthquake
		Drought
		Extreme Temperatures
		Extreme Wind
		Tornado
		Lightning
		Landslide
	Human-made Hazards	
Cyber Attack	Terrorism	
	Pandemic	
	Economic Disruption	
	Civil Unrest	

Natural hazards of storm surge, sea level rise, coastal erosion, and wave action were ranked as N/A for this inland community.

Hazard Ranking Explanation

Harrington Park notes a recent history free of any major hazard declarations or local hazards requiring emergency response or management. Much of the existing hazard profile of the community centers on some low-lying areas which have seen intermittent flooding (detailed below) and general concern about the impacts of future hurricanes/tropical storms, as well as the risk of dam failure (as Harrington Park is sited just north of the Oradell Reservoir). Most hazards profiled in the plan are noted as of low concern for the borough.

Some flooding has been noted along Knickerbocker Road, at a bridge crossing to the pond at the outflow of Dorotockey's Run. Debris management issues which cause flooding have also been noted at that retention pond near the outfall at Pondside Park.

Significant Hazard Events Since Last Plan Update

The borough has not seen significant hazard events, nor any disaster declarations, since the impacts of Superstorm Sandy in 2012.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Harrington Park. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion. Harrington Park may experience increased storm events, already a noted hazard of concern for their community (ranking hurricanes / tropical storms, nor'easters, and resulting power failure as hazards of medium concern). Additionally, the borough's location at Oradell Reservoir, the damming of the Hackensack River, presents vulnerabilities to climate change including increased risk of dam and levee failure, flooding, and erosion impacts.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 20% population over 65. Aging infrastructure could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Harrington Park Borough	
Number of Policies In-Force:	19
Total Losses:	18
Total Payments:	$174,108.29
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	4
RL – Total Paid:	$52,127.05
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

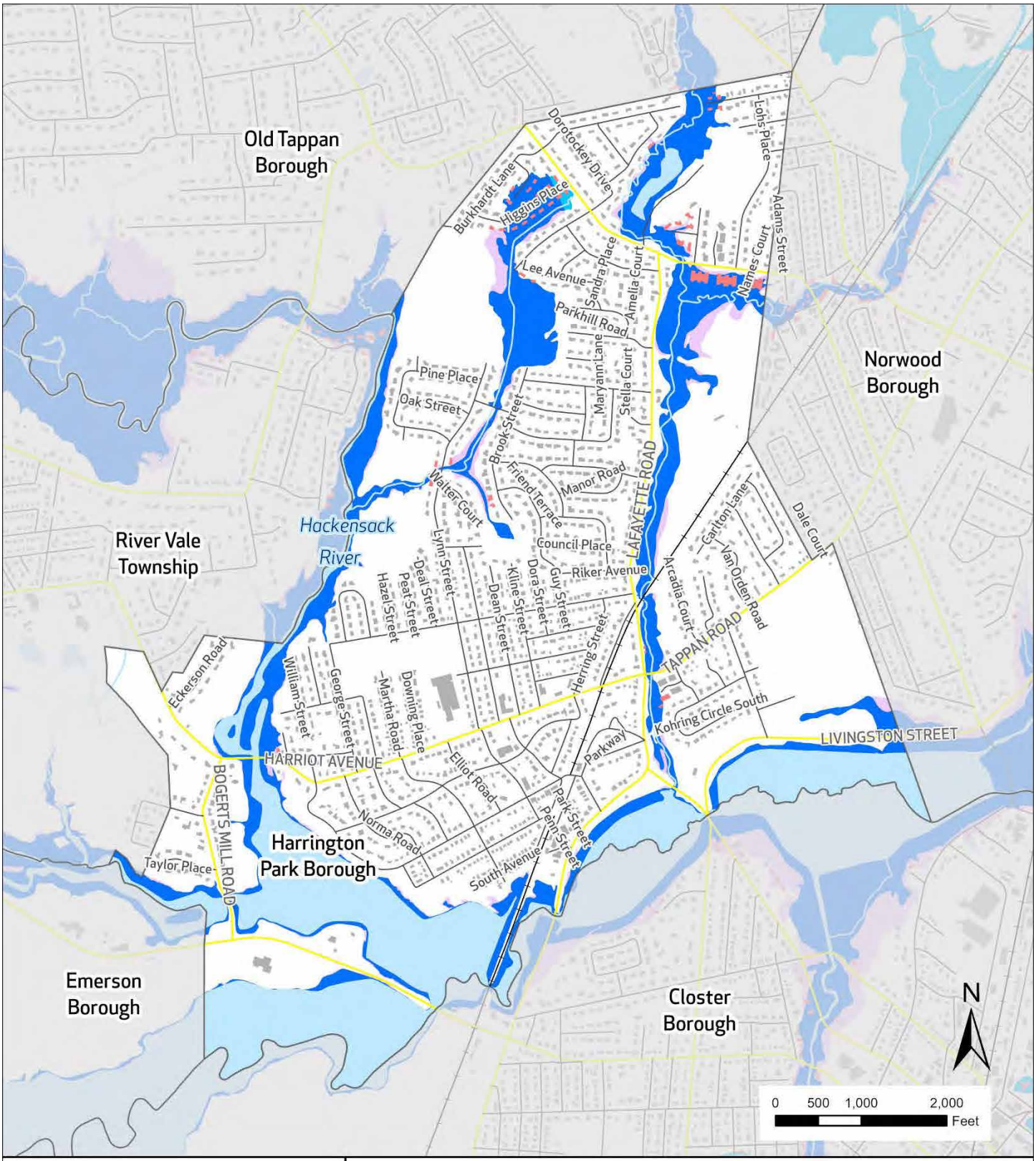
The Special Flood Hazard Area (SFHA) in the Borough of Harrington Park is primarily located adjacent to the waterbodies of the town: the Oradell Reservoir, Hackensack River, and Dorotockey's Run. Approximately 23.7 percent of the total area of Harrington Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.3 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 76.9 percent of Harrington Park is considered developed. Of the developed parcels of the town, 12.9 percent fall at least partially within the 1% annual chance floodplain and 6.1 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	12.9	6.1
Exposed Land Area	23.7	1.3

During the planning process, Harrington Park Borough 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 nine total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



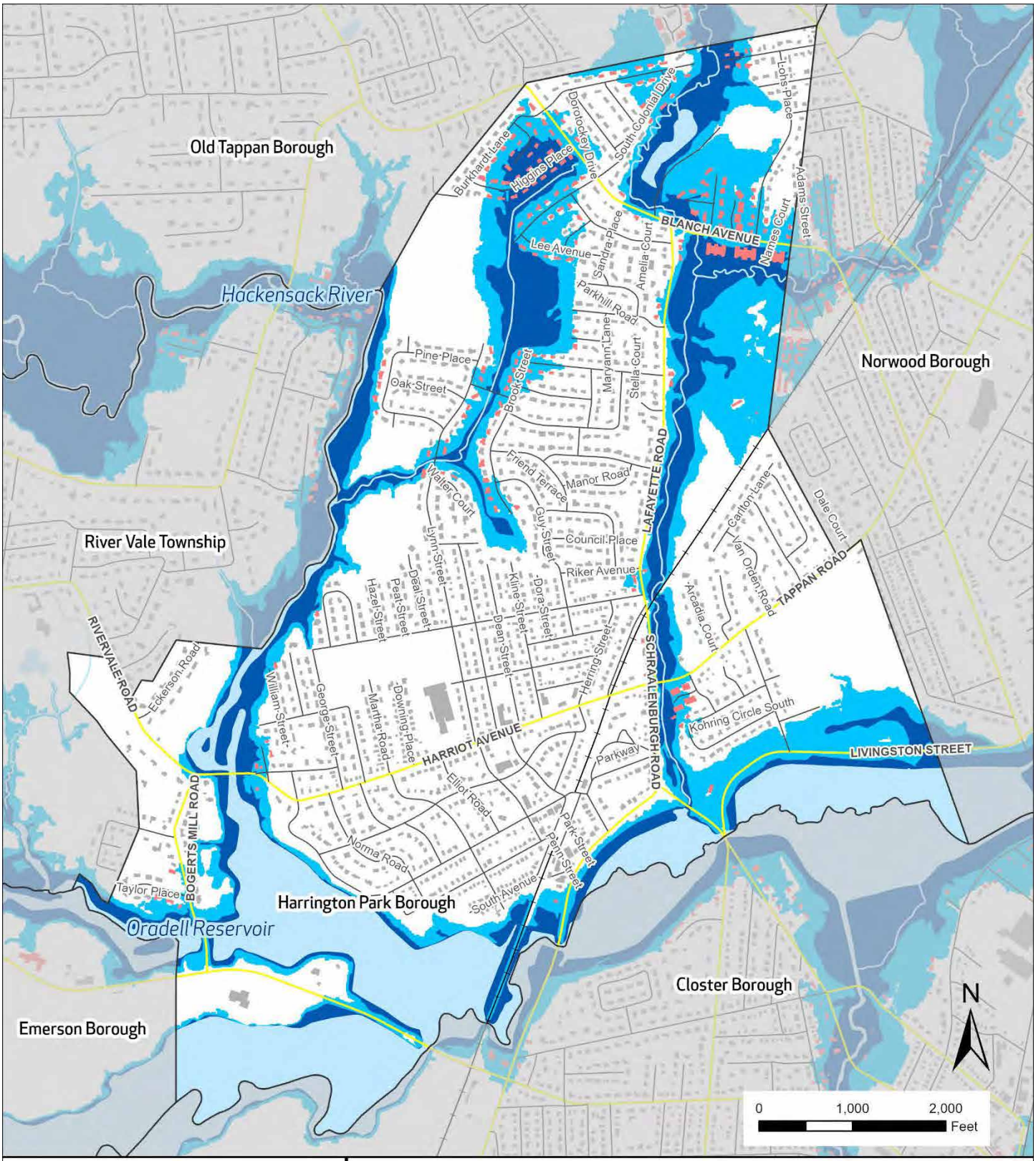
Flood Hazard

Harrington Park Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- County Road
- Local Road
- Rail Line
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

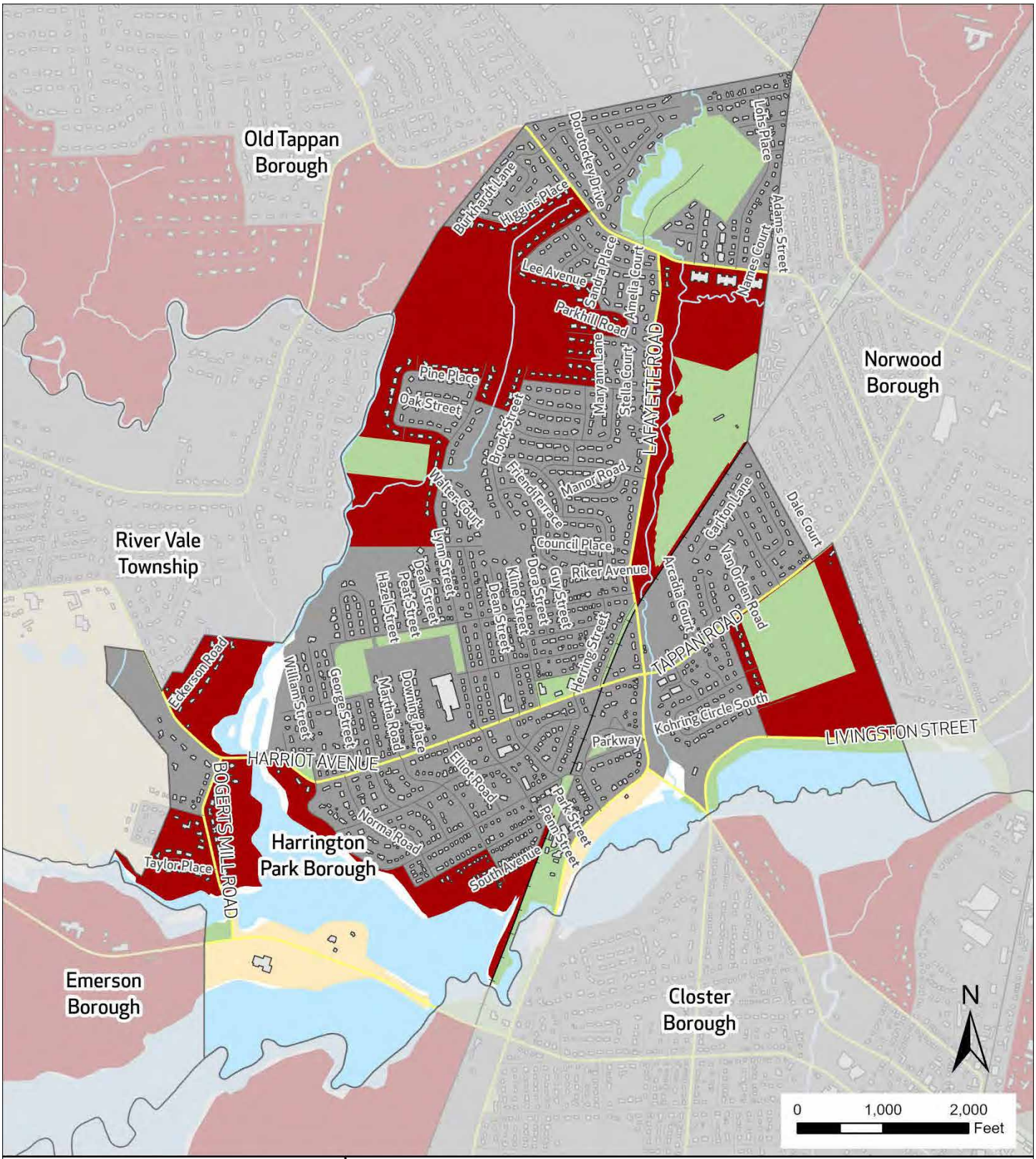


NJ Inland Design Flood Elevation

Harrington Park Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Old Tappan Borough
Norwood Borough
River Vale Township
Harrington Park Borough
Emerson Borough
Closter Borough
Dorotockey Drive
Lohs Place
Burkhardt Lane
Higgins Place
Adams Street
Lee Avenue
Sandra Place
Amelia Court
Names Court
Parkhill Road
LAFAYETTE ROAD
Pine Place
Oak Street
Maryann Lane
Stella Court
Brook Street
Friend Terrace
Manor Road
Walter Court
Carlton Lane
Dale Court
Council Place
Riker Avenue
Lynn Street
Deal Street
Pearl Street
Hazel Street
Dean Street
Kling Street
Dora Street
Guy Street
Arcadia Court
Van Orden Road
TAPPAN ROAD
Herring Street
Edgerson Road
William Street
George Street
Martha Road
Downing Place
Kohring Circle South
LIVINGSTON STREET
Parkway
HARRIOT AVENUE
Elliot Road
Norma Road
Park Street
South Avenue
BOGERTS MILL ROAD
Taylor Place
0
1,000
2,000
Feet
N
Wildland Urban Interface (WUI) Classification
Harrington Park Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Harrington Park Borough 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			Re-examination is done soon
Capital Improvement Plan	X			NA
Local Emergency Operations Plan/Continuity of Operations Plan	X			OEM
Floodplain Development Ordinance	X			Will be done in June of 2025
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Harrington Park Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Soon we will pass the ordinance
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

Harrington Park Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Harrington Park Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Harrington Park has focused on increasing flood resilience and upgrading essential infrastructure to reduce risks from natural hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
24-01	Improve Communication Between Police and Fire Departments	Purchase portable radios for police and fire departments.	All Hazards	Medium	Borough Fire and Police Departments	Homeland Security Grants	TBD	1 Year	Withdrawn	This was withdrawn as a priority for Harrington Park due to the responsibility falling to Bergen County and cost restrictions.
24-02	Purchase Fire Trucks and High-Water Vehicles	Purchase fire trucks and high-water vehicles.	All Hazards	Low	Borough Fire Department, OEM	Municipal Budget	TBD	1 Year	Completed	Purchased 1 high-water vehicle, stored at the fire department.
24-03	Dredge Pondside Park Pond	Pondside Park can act as a retention basin if deeper.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough Engineering, DPW	Municipal Budget	$3,000,000	1 Year	Withdrawn (Merged)	Duplicate of previous mitigation action (24-05), withdrawn and merged into that action.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
24-04	Purchase and Install Emergency Generator for Shelter	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Harrington Park Building Department	FEMA HMA	$200,000	1 Year	Ongoing	
24-05	Dredge and Place Rip Rap at Outfall at Pondside Park Pond	Dredge the pond and place rip rap at the pipe outfall to reduce the impact of water traveling over it and washing away the banks.	Flood, Nor'easter, Hurricane/Tropical Storm, Severe Weather	Medium	Borough of Harrington Park	Municipal Budget	$3,000,000	1 Year	Ongoing	Working on this currently

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
24-06	Purchase and Install Five Natural Gas Generators at Critical Facility Locations	The following critical facilities need generators: Library, Borough Hall, Public School, DPW Building, Fire Department.	All Hazards	Low	Borough of Harrington Park	FEMA HMA	$1,000,000	1 Year	Ongoing	Generators currently at DPW, Borough Hall, and Fire Department.
24-07	Elevate Bridges and Roadways Above 100-Year Floodplain	Coordinate with county to raise bridges and roads to fix drainage issues.	Flood, Nor'easter, Hurricane/Tropical Storm, Severe Weather	Medium	Borough of Harrington Park, Bergen County	FEMA HMA	$10,000,000	1 Year	Ongoing	Have raised Knickerbocker Road Bridge but some flooding issues remain. County roadways requiring county coordination.
24-08	Coordinate with Bergen County to Elevate Blanch Avenue Bridge	Coordinate with county to raise bridges and roads to fix drainage issues.	Flood, Nor'easter, Hurricane/Tropical Storm, Severe Weather	High	Bergen County, Borough of Harrington Park	FEMA HMA, County Budget, Municipal Budget	$10,000,000	2 Years	Ongoing	Has not been coordination, yet, to address this need.
24-09	Purchase and Install Security Cameras at all Municipal Buildings	Purchase and install security cameras at the Municipal Center, and DPW. Increase internal security with ballistic film and access control system.	Terrorism, Cyber Attack	Medium	Borough of Harrington Park	Homeland Security Grants	TBD	1 Year	Ongoing	Still a high priority, no action taken to date. This is in the works and will be done soon in 2025.
24-10	Purchase Equipment to Handle Hazardous Materials and Improve Communication Systems	The borough needs immediate help to evacuate people if hazardous material is exposed to the public, a communication system to notify residents of a hazard event, and self-contained breathing apparatus for emergency responders.	All Hazards	Low	Borough of Harrington Park	Municipal Budget	TBD	1 Year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
24-11	Purchase and Install Generator for High School	Purchase and install a generator for the high school which will serve as a shelter and heating/ cooling center.	All Hazards	Medium	Borough of Harrington Park, School Board	FEMA HMA	$200,000	1 Year	Ongoing	
24-12	Clear Dead Trees and Conduct Controlled Burnings	Clear dead trees and conduct controlled burnings	Wildfire	Low	Fire Department	Municipal Budget	TBD	1 Year	Ongoing	Ongoing and requires ongoing maintenance.
24-13	Develop Active Shooter Training at Critical Facilities	Develop an active shooter training program at critical facilities such as schools and religious institutions.	Terrorism	Low	Borough Police Department, Schools	Homeland Security Grants	TBD	1 Year	Ongoing	Ongoing and requires ongoing maintenance / continuation of programs. Has been implemented at public school only.
24-14	Acquire, Elevate, or Floodproof Structures in Flood-Prone Areas	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation action.	Flood, Nor'easter, Hurricane/Tropical Storm	High	Borough OEM, Homeowners	FEMA HMA	TBD	5+ Years	Ongoing	Has not moved forward yet, but still a priority for the few RL properties within Harrington Park.

25 – HASBROUCK HEIGHTS BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Joe Rinke	**OEM Coordinator / Chief**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Barry Leventhal	Deputy OEM Coordinator	Reviewed Appendix

COMMUNITY PROFILE

Overview

The Borough of Hasbrouck Heights spans approximately 1.53 square miles and is located in southcentral Bergen County, New Jersey. Teterboro Airport is located on the eastern border of Hasbrouck Heights. NJ Transit bus routes 161, 163, and 164 provide service to and from the Port Authority Bus Terminal in Midtown Manhattan; the 76 line serves Newark and Hackensack. The local bus service is offered on the 709 and 780 routes. Additionally, NJ Transit provides rail service via the Pascack Valley Line's Teterboro – Williams Avenue station. The station is four stops from the line's northern terminus at Hoboken Terminal. Although the rail line lies entirely within Hasbrouck Heights, NJ Transit considers the station to be in bordering Teterboro because passenger boarding, passenger shelter, parking lot, and access roads all lie within that municipality. The borough has a population of 12,080 residents. Hasbrouck Heights is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Hasbrouck Heights is a predominantly residential community with residential (including apartment) use accounting for 72% of its area, covering nearly 502 acres of land in 2022. In the same year, commercial land, civic/public (tax exempt) land, industrial land, and vacant land made up 14%, 11%, 2%, and 2% respectively of its total area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 95% of the borough's total area. Forest followed, accounting for 3% of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.2	0.0	-100%
Forest	32.9	32.8	-<1%
Urban	930.1	930.3	<1%
Water	2.8	2.8	0%
Wetlands	13.5	13.5	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Office building was demolished to be replaced by a warehouse facility in 2025. The address is 611 Rt 46 West.

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

There are plans to do a project with hundreds of units in towns of Woodridge and Lodi. While not in the borough, Hasbrouck Heights would be affected, primarily because of increased traffic.

Demographics & Vulnerable Populations

Hasbrouck Heights Borough has a total estimated population of 12,080. This population is made up of an estimated 4.7% residents under age 5 and 17.4% residents over age 65. The borough saw a slight population decline (an estimated -1.02%) in the periods between 2013-2017 and 2018-2022 ACS surveys. With an aging population making up over seventeen percent of the borough's residents, Hasbrouck Heights may focus hazard mitigation efforts on populations with mobility

needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023). Additionally, though population loss in Hasbrouck Heights may to date be slight, an ongoing population loss trend may highlight vulnerabilities of the built environment related to changing landscape conditions.

Hasbrouck Heights has eight block groups which meet criteria for overburden (OBC) under *Minority* (six block groups) and *Low Income and Minority* (two block groups) indicators. There are no parts of Hasbrouck Heights which are designated as potentially vulnerable under CEJST or CDRZ criteria.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	12,080
Population Change since 2017	-1.0 %
Percent of Population Age < 5	4.7%
Percent of Population > 65	17.4%

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 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	
Hurricanes / Tropical Storms	Extreme Wind	Extreme Temperatures
Winter Storm	Nor'easter	Lightning
Flood	Landslide	Tornado
		Dam Failure
		Drought
		Storm Surge
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Power Failure	
	Terrorism	

Hazard Ranking Explanation

Winter storms sit at a high level of concern. The borough sits on a hill and is unable to store sufficient salt due to the lack of a salt shed, affecting its ability to mitigate the risk posed by winter storms. Landslides are at a medium level of concern; recently, a landslide damaged a resident's home. Cyber attacks also present a medium level of concern, with the borough recently experiencing one. Storm surge is at a low level of concern, as opposed to not applicable, because of the presence of one Borough pipe that would be affected by storm surge. Power failure and extreme wind are both at a medium level of concern due to the power outages caused by strong gusts. Terrorism sits at a medium level of concern due to the presence of Route 17, the train, and hotels in the borough, as well as its proximity to Teterboro Airport.

Significant Hazard Events Since Last Plan Update

In August 2024, Tropical Storm Debby brought flooding to the borough and closed its northbound Route 17. The DPW facility also flooded, leading to significant delays in emergency response and cleanup operations.

In January 2024, there was a major tanker fire on Route 17. It crashed into a car and burned for a significant period of time, causing severe traffic disruptions and necessitating a large-scale evacuation in the surrounding areas.

Hurricane Ida in September 2021 also affected the borough, resulting in extensive property damage and prolonged power outages that highlighted the vulnerabilities in the borough's infrastructure.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, Hasbrouck Heights. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This is likely to exacerbate existing vulnerabilities, particularly flooding in the borough's eastern side bordering the Meadowlands. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 17% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding, landslides and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Hasbrouck Heights Borough	
Number of Policies In-Force:	14
Total Losses:	25
Total Payments:	$708,567.20
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	9
RL – Total Paid:	$456,608.27
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

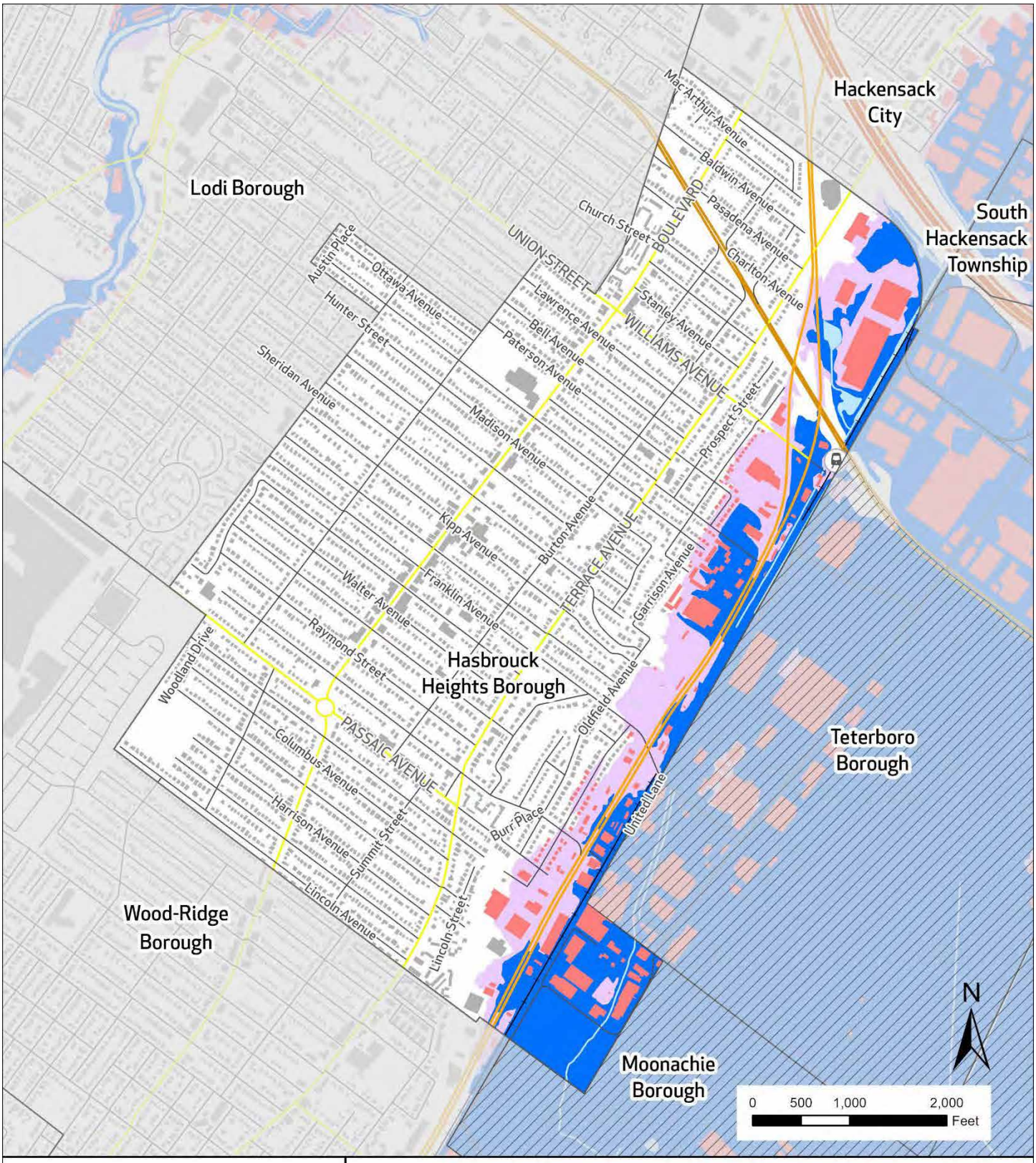
The Special Flood Hazard Area (SFHA) in the Borough of Hasbrouck Heights is primarily located along the western border of the town near what is considered the Meadowlands District. Approximately 2.8 percent of the total area of Hasbrouck Heights lies within the 1% annual chance floodplain as defined by FEMA. An additional 9.3 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 73 percent of Hasbrouck Heights is considered developed. Of the developed parcels of the town, 2.1 percent fall at least partially within the 1% annual chance floodplain and 4.3 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	2.1	4.3
Exposed Land Area	2.8	9.3

During the planning process, Hasbrouck Heights Borough 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 13 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the 1% annual chance floodplain, however, four facilities are within the 0/2% annual chance area. One of these facilities is also within the area of the borough at risk from sea level rise. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Energy	0	1



Flood Hazard

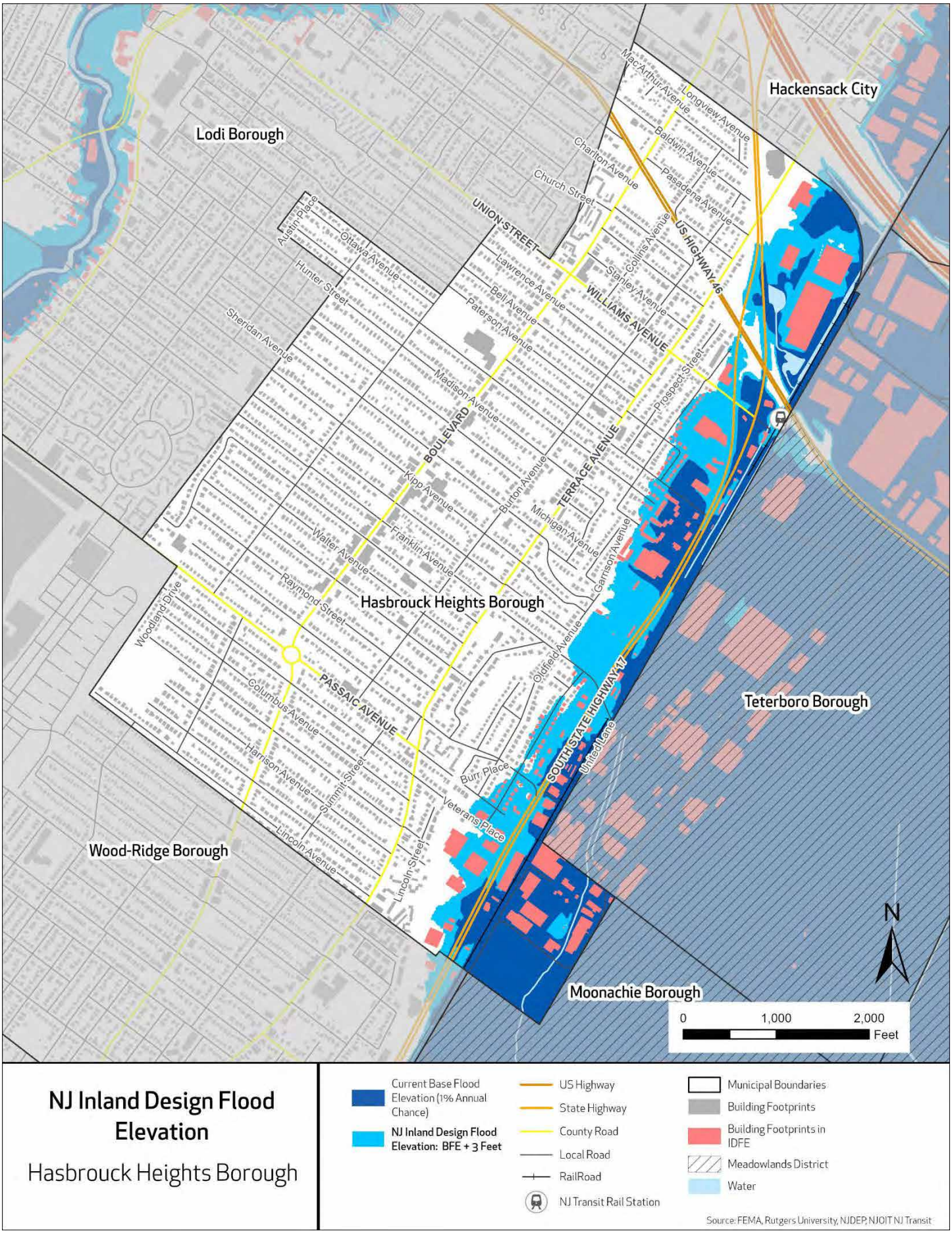
Hasbrouck Heights Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- US Highway
- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Hasbrouck Heights Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- US Highway
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Hasbrouck Heights Borough 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		01/01/2025	Identifies key infrastructure, vulnerabilities, projected borough planning vision
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		08/15/2023	All hazards EOP for borough
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X		08/15/2023	Included in EOP
Evacuation Plan	X		08/15/2023	Included in EOP
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		TBA	To be included in next EOP revision
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X		TBA	To be included in next EOP revision
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Hasbrouck Heights Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	
Grant Writer	X		Private contractor
Staff trained to support mitigation	X		Municipal administration, borough engineer and DPW agency
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Agreement with County of Bergen
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations	X		Volunteer and religious organizations

Education and Outreach Capabilities

Hasbrouck Heights Borough 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, public outreach, community events
StormReady	X		NWS certified
Firewise USA		X	
Severe Weather Awareness Week	X		Social media, public outreach, community events
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Hasbrouck Heights Borough 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		West Culvert reconstruction project – Franklin Ave through Madison Avenue (100 Block)
FEMA HMGP	X		Through Bergen County
Non-FEMA Federal Funding Programs		X	
Other FEMA resources		X	
NJ Infrastructure Bank			
Other state municipal assistance or grant programs		X	However, there are attempted mitigation efforts with State agencies to mitigate flooding from Riser's Ditch & Berry's Creek
Evaluation process on the prioritization of risk reduction projects against other local activities		X	
Other ongoing efforts to build additional financial capabilities	X		Borough officials are always exploring other avenues since the mitigation funding

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan update in 2021 Hasbrouck Heights Borough has performed concerted efforts to improve its drainage system capability. The borough plans to be more proactive with the operation of illegal wastewater systems, i.e. sump pumps in both residential and commercial properties. The borough continues to enhance the public's awareness of flood prone areas and their hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
25-01	Purchase and Install Generator with Automatic Transfer Switch	Purchase and install generator with automatic transfer switch to support critical facilities.	All Hazards	Mediu m	Harrington DPW	FEMA HMA	$200,000 .00	1 year	Completed	This action was completed at police headquarters (diesel and battery system) and Borough Hall (natural gas). The generators are tested weekly.
25-02	Purchase Mobile Generators for DPW	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Mediu m	Borough DPW	LESO	$0.00	1 year	Completed	The borough received a free generator from the Law Enforcement Support Office (LESO)/1033 Program.
25-03	Develop an Internal Warning System	Develop a PA system throughout the buildings for announcements.	All Hazards	Low	Borough OEM	Municipal budget	$750,000 .00	2 years	Completed	The borough obtained a new phone system in 2022 that can serve as an internal warning system.
25-04	Replace and Upgrade Culverts in the Borough's West End	The roads in the West End section of the borough, such as The Hollows, support critical routes to the High School, which is a shelter. The culverts under these roads flood and prevent access to the shelter.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Mediu m	Borough Engineering	FEMA HMA	$500,000 .00	2 years	Completed	This was completed in 2024.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
25-05	Increase Communication and Purchase Safety Equipment at the Police Station and Fire House	Purchase variable message signs, light towers, movable barriers at the Police Station and Fire House.	All Hazards	Low	Borough Police and Fire	Homeland Security grants, municipal budget	TBD	2 years	Ongoing	All of this has been completed with the exception of acquisition of one more variable message sign (one has been obtained).
25-06	Purchase and Install Additional Cameras for Borough Hall, DPW, and Police Station	Upgrade to a ALDR system for a clearer picture; focus cameras on the streets surrounding NJ Transit and critical intersections/street corners.	Terrorism	Medium	Borough Police	Municipal budget	$70,000.00	2 years	Ongoing	The borough has additional cameras at DPW and the Police Station. It is the process of doing so at Borough Hall.
25-07	Purchase and Install Battery Backups for Lights at Critical Intersections	Coordinate with NJDOT on purchasing and installing backup battery lights at three critical intersections along Route 17.	All Hazards	Medium	NJDOT	Homeland Security grants, FEMA HMA, municipal budget	$150,000.00	2 years	Ongoing	Still ongoing
25-08	Install a Backup Server for Police and Fire House	Install a Backup Server for Police and Fire House.	Cyber Attack	Medium	Borough Engineering	Homeland Security grants	$80,000.00	1 year	Ongoing	A data transfer is the next step.
25-09	Draft a Flood Prevention Ordinance	Adopt a floodplain ordinance that supports effective floodplain development.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough OEM, Planning	Municipal budget	$500.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
25-10	Coordinate with NJDEP to Clean and Restore Riser Ditch	Coordinate with NJDEP on cleaning the Riser Ditch and purchase and install a pump to remove stormwater over the flood gate.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	NJDEP, Borough	Municipal budget	TBD	2 years	Ongoing	The borough is working with the State on this issue. It is tidal water and is an ongoing issue. There are tidal gates, but they do not help with the debris.
25-11	Purchase Equipment to Support the Continuity of Operations along Critical Evacuation Routes	Purchase Equipment to Support the Continuity of Operations along Critical Evacuation Routes During and Post-Severe Hazard Events.	Winter Storm, Severe Weather	Low	Borough DPW	Municipal budget	TBD	1 year	Ongoing	
25-12	Update and Replace Sanitary Sewer System	Update and Replace Sanitary Sewer System.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Borough Engineering	Municipal budget	TBD	5 + years	Ongoing	Portions of it near Route 17 have been replaced.
25-13	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	
25-14	Conduct a Dam Risk Study	Conduct a study of future risks due to possible dam failure.	Dam and Levee Failure	Low	Borough of Hasbrouck Heights	Municipal budget	TBD	2 years	Ongoing	There are drainage ponds that fail. One is the State's responsibility. The other crests over when it floods. The main drainage pond of concern is in front of 611 Rt 46 West.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
25-15	Flood-proof DPW Yard	The DPW Yard is located in a SFHA.	Flood, Hurricane and Tropical Storm	High	Borough of Hasbrouck Heights	FEMA HMA	TBD	2 years	Ongoing	
25-16	Construct a Salt Shed.	Construct a new, larger salt shed for the borough. Due to the borough's location on a hill, it uses significant amounts of salt during inclement weather events. The borough needs a large salt shed to store the needed amount.	Winter storm, Icy conditions	High	DPW	Municipal Budget	TBD	2 years	Ongoing	Contract Bid was just awarded to a contractor to start the foundation and projected completion date the week of September 1st, 2026.

26 – HAWORTH BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Emily Venezio	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
Heather Wasser	Mayor	Reviewed Appendix
Glenn Poosikian	Council President	Reviewed Appendix
Greg Zagaja	Municipal Clerk	Reviewed Appendix
Lauren Roehrer	Chief Financial Officer	Reviewed Appendix
Andrew Rosenberg	Councilmember	Reviewed Appendix
Dina Siciliano	Councilmember	Reviewed Appendix
Alanna Davis	Councilmember	Reviewed Appendix
Michele Di Iorgi	Councilmember	Reviewed Appendix
Peter Laub	Councilmember	Reviewed Appendix
Thomas Reinecke	Assistant OEM Coordinator	Reviewed Appendix
Craig Layne	Assistant OEM Coordinator	Reviewed Appendix
Michael Gracey	Chief of Police	Reviewed Appendix

COMMUNITY PROFILE

Overview

Haworth is a roughly 2.33 square mile borough located in north-central Bergen County. Removed from highways, Haworth is 20 miles from Midtown Manhattan. It is bordered by Oradell, Dumont, Demarest and, on the west, by the Oradell Reservoir, a regional drinking-water source. The borough was incorporated in 1904 and named by in honor of the hometown of the Brontë sisters of English literature. The borough is serviced by NJ Transit bus route 167, and closest rail station, on NJ Transit's Pascack Valley Line, is in Oradell. According to the US Census 2022 American Community Survey (ACS) 5-year estimates, the population of Haworth is 3,342.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In Haworth Borough, commercial land use is the predominant land use, with the MOD-IV dataset showing it accounting for 43% of the total land area in 2022. Residential land use (including apartment land use) accounts for the second-largest share of the land area at 33%. From 2016 to 2022, the land use composition of the borough remained largely unchanged.

Additionally, according to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, the share of urban/developed land and forest land showed negligible change and accounted for roughly 57% and 18% respectively of the total land area. During the same period, water made up 18% of the total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	2.7	2.7	0%
Forest	273	272	-<1%
Urban	857.6	858.5	<1%
Water	266.8	266.9	<1%
Wetlands	102.1	102.1	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Lakeshore Estates, a 32-unit townhouse development including 9 affordable units and located at 281 Lakeshore Drive, was completed in 2022. This development is not located in the floodplain.

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

The Massachusetts Avenue Housing Development is anticipated. Currently not in the floodplain, and as of now we are anticipating 35 units, 14 affordable housing and 21 market value. Possibly senior housing but nothing is concrete as of now.

Demographics & Vulnerable Populations

Haworth Borough's total population is estimated at 3,342 residents. Of this population, an estimated 4.2% are under age 5, and 16.5% are over age 65. The borough experienced a nearly 4% (an estimated -3.8%) population decline in the periods between 2013-2017 and 2018-2022. A notable population loss of nearly four percent during these survey periods may highlight potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and, potentially, mismatched reliance on local resources.

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	3,342
Population Change since 2017	-3.8%
Percent of Population Age < 5	4.2%
Percent of Population > 65	16.5%

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

Hazard Ranking Explanation

Ranking was based upon past conditions and the impact it had on the town.

Significant Hazard Events Since Last Plan Update

During Hurricane Ida in September 2021, our borough was significantly impacted. The entire town experienced severe flooding, with streets such as Haworth Avenue and Owatonna Street completely submerged. Even our Borough Hall was not spared, as it too suffered flooding.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Haworth Borough	
Number of Policies In-Force:	11
Total Losses:	7
Total Payments:	$45,136.21
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	4
RL – Total Paid:	$29,595.34
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

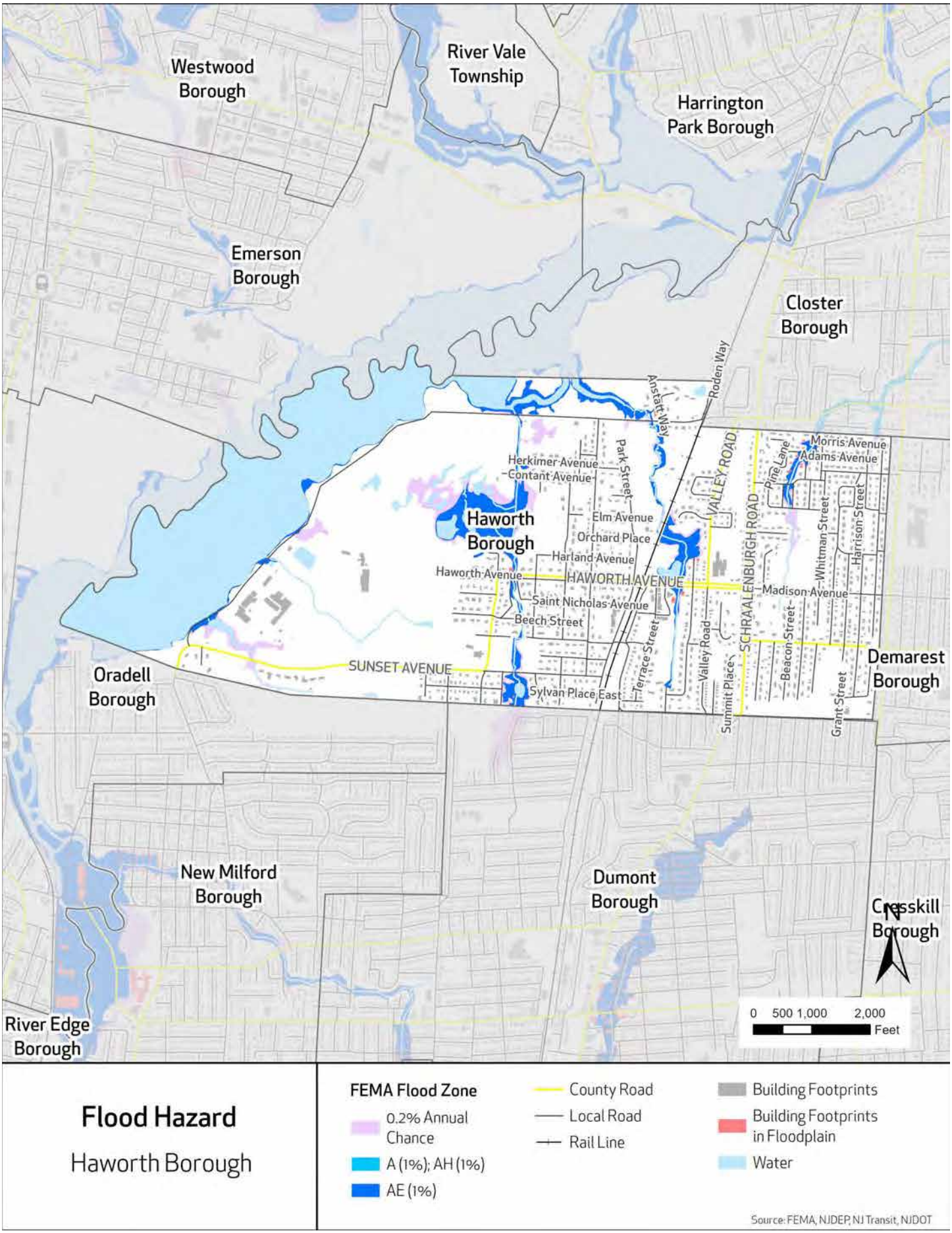
The Special Flood Hazard Area (SFHA) in the Borough of Haworth is primarily located adjacent to the waterbodies of the town including Oradell Reservoir and the smaller tributaries which enter the reservoir passing through town. Approximately 21.1 percent of the total area of Haworth lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

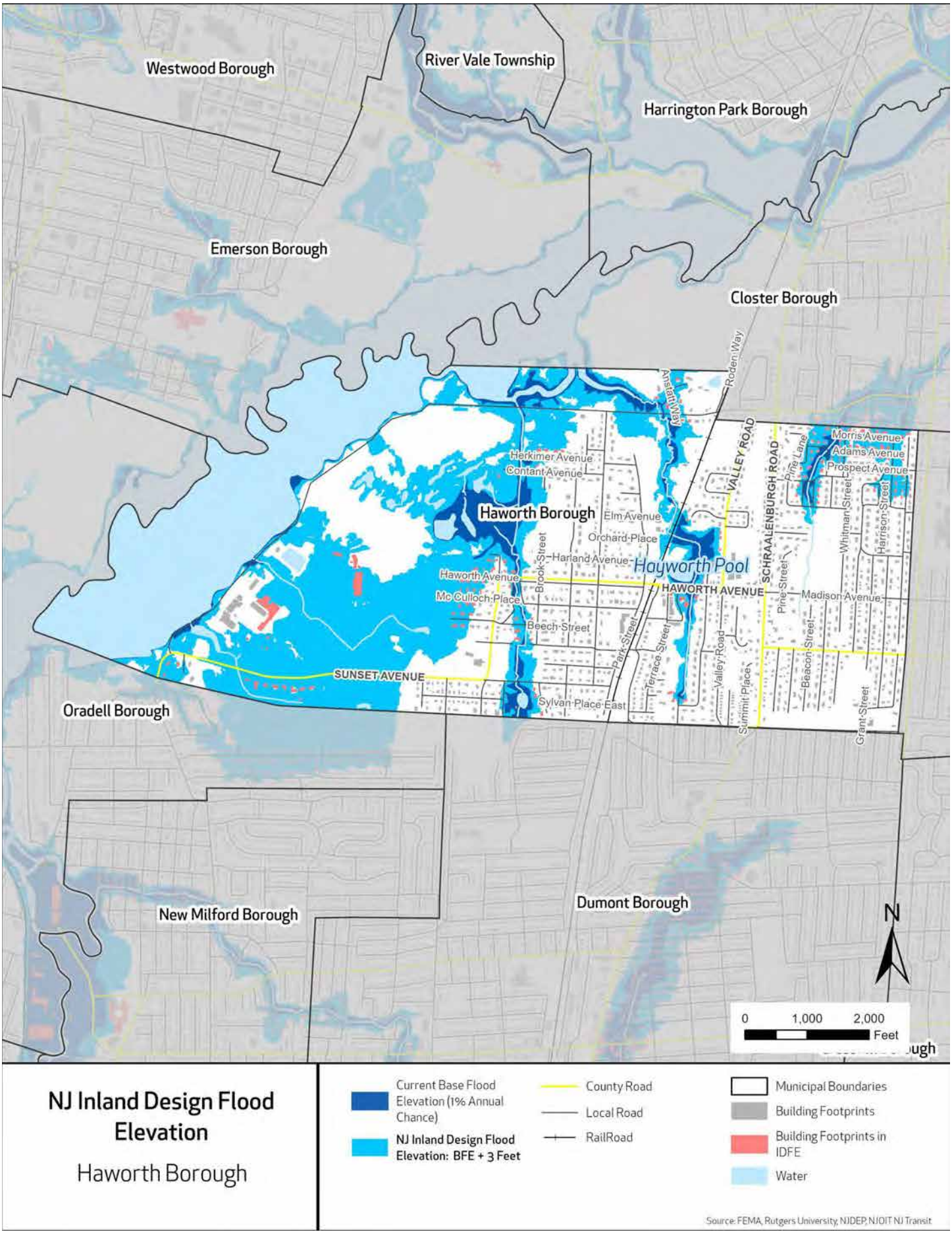
About 80.2 percent of Haworth is considered developed. Of the developed parcels of the town, 5 percent fall at least partially within the 1% annual chance floodplain and 6.5 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development in the municipality has generally occurred in areas that are less prone to flooding.

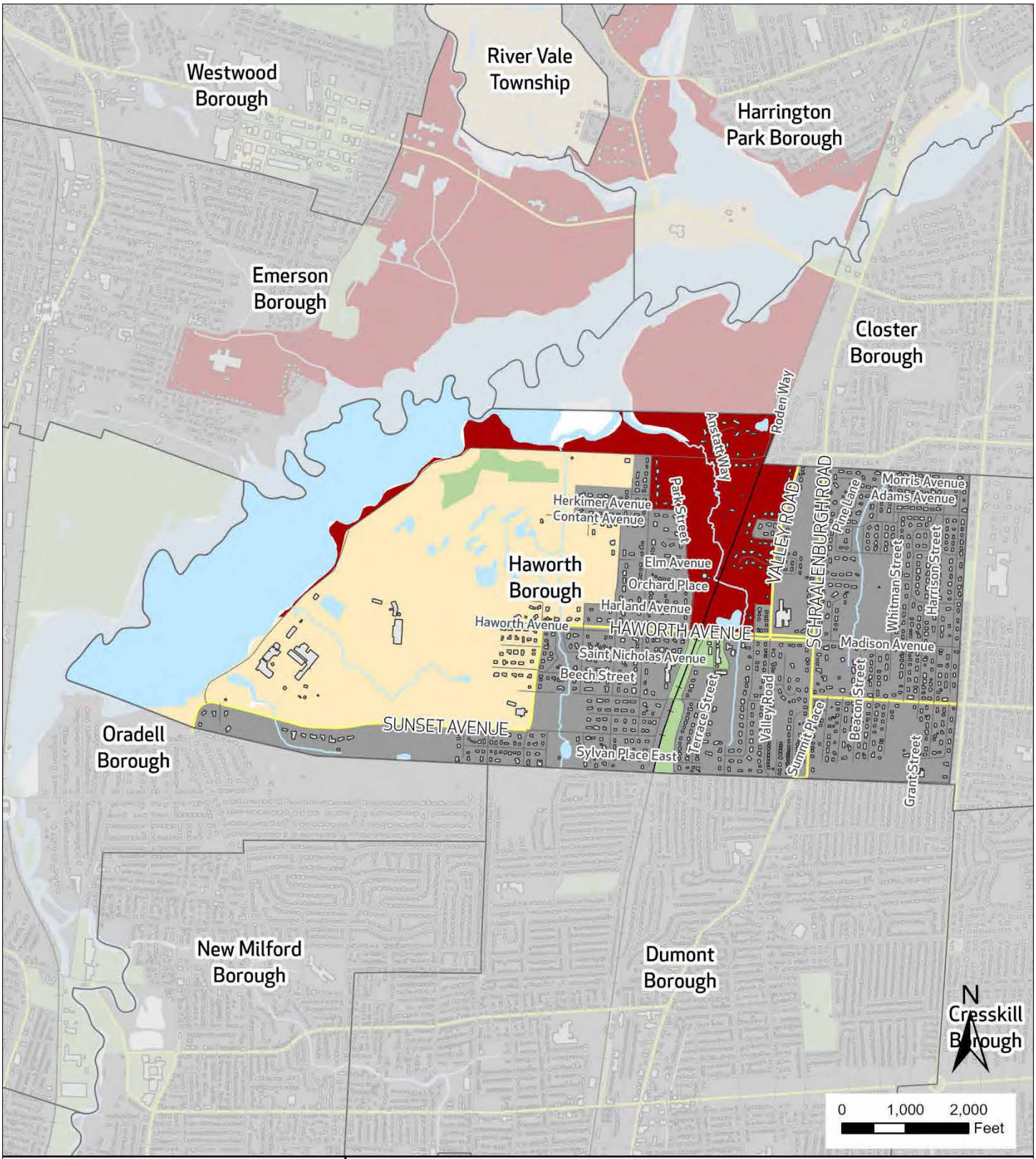
	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	5%	6.5%
Exposed Land Area	21.1%	2.7%

During the planning process, Haworth Borough 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 nine total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


Westwood Borough
River Vale Township
Harrington Park Borough
Emerson Borough
Closter Borough
Haworth Borough
Oradell Borough
Demarest Borough
New Milford Borough
Dumont Borough
Cresskill Borough
River Edge Borough
Roden Way
Anstat Way
Herkimer Avenue
Contant Avenue
Park Street
Elm Avenue
Orchard Place
Harland Avenue
Haworth Avenue
HAWORTH AVENUE
Saint Nicholas Avenue
Beech Street
SUNSET AVENUE
Sylvan Place East
Terrace Street
Valley Road
VALLEY ROAD
SCHRAALENBURGH ROAD
Summit Place
Pine Lane
Morris Avenue
Adams Avenue
Whitman Street
Harrison Street
Madison Avenue
Beacon Street
Grant Street
N
0 500 1,000 2,000
Feet
Flood Hazard
Haworth Borough
FEMA Flood Zone
0.2% Annual Chance
A (1%); AH (1%)
AE (1%)
County Road
Local Road
Rail Line
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


Westwood Borough
River Vale Township
Harrington Park Borough
Emerson Borough
Closter Borough
Haworth Borough
Oradell Borough
New Milford Borough
Dumont Borough
Hayworth Pool
HAWORTH AVENUE
SUNSET AVENUE
VALLEY ROAD
SCHRAALENBURGH ROAD
Roden Way
Anstatt Way
Herkimer Avenue
Contant Avenue
Elm Avenue
Orchard Place
Harland Avenue
Haworth Avenue
Mc Culloch Place
Beech Street
Brook Street
Park Street
Terrace Street
Sylvan Place East
Valley Road
Summit Place
Pine Street
Beacon Street
Madison Avenue
Morris Avenue
Adams Avenue
Prospect Avenue
Pine Lane
Whitman Street
Harrison Street
Grant Street
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Haworth Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


Westwood Borough
River Vale Township
Harrington Park Borough
Emerson Borough
Closter Borough
Oradell Borough
Haworth Borough
New Milford Borough
Dumont Borough
N Cresskill Borough
Roden Way
Anstatt Way
Park Street
Herkimer Avenue
Contant Avenue
Elm Avenue
Orchard Place
Harland Avenue
Haworth Avenue
HAWORTH AVENUE
Saint Nicholas Avenue
Beech Street
SUNSET AVENUE
Sylvan Place East
Terrace Street
Valley Road
Summit Place
Beacon Street
Grant Street
Madison Avenue
Whitman Street
Harrison Street
Pine Lane
Morris Avenue
Adams Avenue
VALLEY ROAD
SCHRAALENBURGH ROAD
0 1,000 2,000 Feet
Wildland Urban Interface (WUI) Classification
Haworth Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Haworth Borough 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		10/2024	
Capital Improvement Plan	X		Annual	
Local Emergency Operations Plan/Continuity of Operations Plan	X		10/2024	
Floodplain Development Ordinance	X		06/2025	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Municipalities building department identifies.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		Green areas being developed for residential housing. No, these areas do not flood or have any exposures 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			Code Coordinated Ordinance (improved Flood Damage Prevention Ordinance as approved by FEMA and NJDEP)

Administrative and Technical Capabilities

Haworth Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Greg Zagaja, Part-Time Municipal Employee, Also Serves as Borough Admin/Clerk
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

Haworth Borough 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, town wide email and nixel.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Haworth Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Haworth's hazard mitigation strategy aligns with the New Jersey State Hazard Mitigation Plan, which emphasizes reducing risks from natural hazards through proactive measures. The state plan outlines strategies to address various hazards, including flooding, and serves as a framework for local municipalities to develop their mitigation strategies.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Borough has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
26-01	Coordinate with the County on a Tree Maintenance Program	Trim and prune trees along major access routes (Sunset Avenue, Lake Shore Drive, Haworth Avenue, etc.) to prevent tree fallings during wind and ice events.	Flood, Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm, Severe Weather	Low	Haworth Borough DPW and Bergen County	Municipal budget	TBD	3 years	Ongoing	
26-02	Repair and Replace Pipe Culvert at Prospect Avenue Stream Crossing	Repair and Replace Pipe Culvert at Prospect Avenue Stream Crossing.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Borough of Haworth	Municipal budget	$45,000.00	2 years	Ongoing	
26-03	Replace and Widen Culvert at the Haworth Brook	Replace and widen the deteriorating culvert (Haworth Brook at Haworth Ave).	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Borough of Haworth Engineering	Municipal budget	$50,000.00	5 + years	Ongoing	
26-04	Replace Damaged Foot Bridge and Clear Debris at the	The footbridge was replaced in 2010-2011, however ongoing maintenance at the	Flood, Nor'easter, Hurricane and Tropical	Medium	Borough of Haworth	Municipal budget	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Crescent Stream Crossing	Crescent Stream crossing is still needed.	Storm, Severe Weather							
26-05	Replace and Widen Culvert at the Kip's Brook	Replace and widen the deteriorating culvert (Kip's Brook at Haworth Ave).	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Haworth Borough Engineering	Municipal budget	TBD	5 + years	Ongoing	
26-06	Create a Maintenance Program to Clear Debris from Kips Brook, Charlie Creek, and Haworth Brook	Debris build-up is an ongoing within these streams which lead to flooding on streets and on property.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough of Haworth DPW	Municipal budget	TBD	5 + years	Ongoing	
26-07	Establish an Emergency Response Center at DPW	Provide emergency equipment and supplies to support DPW as a shelter.	All Hazards	High	Borough of Haworth	Municipal budget	$15,000.00	1 year	Ongoing	
26-08	Purchase and Install Generators for the DPW Building #2 and Haworth School	Purchase and install generator to continue critical community shelter and services during utility interruptions and storm events.	All Hazards	Low	Haworth DPW and Board of Education	FEMA HMA	$150,000.00	5 + years	Ongoing	
26-09	Improve Ingress and Egress of Emergency Access Roads throughout the Borough	Improve ingress and egress of emergency access roads for emergency vehicles, especially at railroad intersections.	All Hazards	Low	Haworth Borough and Bergen County	Municipal budget, DOT	TBD	5 + years	Ongoing	
26-10	Purchase and Install a Generator for Library	Purchase and install a generator for Library which will serve as a shelter and cooling center.	All Hazards	Low	Borough of Haworth	FEMA HMA	$150,000.00	1 year	Ongoing	
26-11	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space,	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	or other type of mitigation.								
26-12	Construct Flood Reduction Measures Along the Kips Brook and Haworth Brook	Construct minor structural projects (e.g., floodwalls or small berms) along Kips Brook and Haworth Brook to protect properties located within the Regulatory Floodway.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering, OEM	FEMA HMA	TBD	3 years	Ongoing	

27 – HILLSDALE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jon Najarian	**Emergency Management Coordinator**	**Primary Contact**
Matt Buesser	Deputy Coordinator	Internal Meetings
Mike Ghassali	Boro Administrator	Internal Meetings
Barry Peterson	DPW Superintendent	Internal Meetings

COMMUNITY PROFILE

Overview

The Borough of Hillsdale is a suburban community located in the Pascack Valley Region of northern Bergen County and lies within the Pascack Brook watershed, part of the larger Hackensack River basin. The borough's topography features hills and valleys, with the Pascack Brook running through the center of the borough, contributing to the area's scenic and ecological value. Notable landmarks include Beechwood Park, Memorial Field, and the historic Hillsdale Train Station, which connects the borough to the NJ Transit Pascack Valley Line. Land use is primarily residential, with a vibrant downtown area centered around Broadway, which offers local shops, dining, and community services. Hillsdale also includes recreational and educational facilities that contribute to a strong suburban character.

The borough borders Woodcliff Lake Reservoir to the north and is located directly south of the Church Road Dam at the southern terminus of the reservoir. The borough is also home to other green spaces and parks including the Hillsdale Centennial Recreation Field, Beechwood Park, Brookside Park, and bordering Wood Dale County Park and Lincoln Park. Parts of the Musquapsink Brook flow through Hillsdale, flowing from north to south in the borough's far western portion.

Hillsdale is bisected by the Garden State Parkway, running north to south in the western portion of the borough. The Parkway toll road has access points outside of Hillsdale's boundary. The main east to west road in Hillsdale is Hillsdale Avenue, along which much of the borough's commercial density is found, particularly at the interchange with north-to-south Patterson Street. Other main roads in Hillsdale include Pascack Road, Broadway, and Wierimus Road.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Hillsdale is a predominantly residential community, with 74% of the borough, nearly 1,083 acres, defined as residential land use (including single and multi-family housing) in 2022. Civic/public (tax exempt) land uses accounted for an additional 14% (202 acres) and commercial land uses accounted for 7% of Hillsdale at this time (105 acres). Land use experienced some changes between 2016 and 2022 data releases; vacant land saw a drop of -31% (to a total of 51 acres) and apartment (multi-family) housing saw an increase of 1022% (to 10 total acres).

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area of Hillsdale classified as urban (developed) occupied the largest land area share, making up 84% of the borough. Forest (8%) and wetlands (5%) make up other significant shares of land classification in the borough. Hillsdale saw no significant land classification changes between 2015 and 2020; growth of just 0.4 of an acre of barren land constituted an 11% increase, while a loss of 10 acres of forest land constituted a 6% loss in that category.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	8.8	8.8	0%
Barren Land	3.5	3.9	11%
Forest	159.8	149.7	-6%
Urban	1572.3	1582.2	1%
Water	33	33	0%
Wetlands	100.8	100.6	0%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

The borough reports some recent development impacting the community, particularly a new (ongoing) residential development on previously industrial land at Brookside Place and Knickerbocker Avenue in central Hillsdale. This development includes affordable units within the 255 residential units developed.

The central area between Lake Street and Kinderkamack Road has experienced development in recent years; the borough also reports new residential development at 305 Patterson Street, a 40-unit development with luxury apartments, built within the floodplain.

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

The aforementioned 255-unit (inclusive of affordable units) development in central Hillsdale has broken ground about two years ago, and work remains ongoing.

No other major development plans are anticipated by Hillsdale Borough in upcoming years.

Demographics & Vulnerable Populations

Hillsdale Borough's total population is estimated at 10,125. This population is made up of 5.3% residents estimated under age 5, and 14.7% residents over age 65. The borough saw a population decline of an estimated 3.76% in the periods between 2013-2017 and 2018-2022. A notable population loss of nearly four percent during these two survey periods highlights potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

Hillsdale has one block group noted as potentially overburdened (OBC) due to *Minority* characteristics. There are no portions of the borough which meet criteria under CEJST or CDRZ designations of vulnerability.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	10,125
Population Change since 2017	-3.8%
Percent of Population Age < 5	5.3%
Percent of Population > 65	14.7%

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 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	
Lightning	Extreme Wind	Extreme Temperatures
Nor'easter	Hurricane/Tropical Storm	Landslide
Dam Failure	Tornado	Wildfire
	Winter Storm	
Flood	Earthquake	
	Human-made Hazards	
Cyber Attack	Civil Unrest	
Pandemic	Economic Disruption	

High	Medium	Low
Natural Hazards		
Power Failure		
Terrorism		

Coastal erosion, storm surge, and wave action hazards were ranked as N/A due to the borough's location and geography.

Hazard Ranking Explanation

Hillsdale Borough ranked storm related hazards (lightning, nor'easter, flood) as hazards of high concern. These risks are assessed in relation to likelihood of occurrence as well as Hillsdale's capacity to respond to each risk – for example, the borough notes a desire to replace their current lightning protection system, which can help to mitigate lightning risk during storm events.

As Woodcliff Lake is dammed at Church Road just north of town, Hillsdale also ranks the resulting hazards coming from a potential dam failure as of high concern.

The borough notably ranked certain human-made hazards (cyber-attack, pandemic, power failure, terrorism) as of high concern. Hillsdale reports more likelihood of cyberattack in recent years, and a risk of substation power failure/infrastructural failure at the site of the local Verizon substation.

Other hazards that have not presented recent risk for the borough and are ranked as low concern include landslide, wildfire, and extreme temperatures.

Significant Hazard Events Since Last Plan Update

The most significant storm event experienced by the borough in recent years was Hurricane Ida, in 2021. Local flooding from Ida caused damage to the municipality's DPW building and caused closure of the local recycling center. The storm caused all counties within the state (including Bergen) to be under a state of emergency and caused widespread flooding throughout the flood-prone Pascack Valley.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Hillsdale Borough, and the surrounding Pascack Valley region of Bergen County. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding, and may place increased pressure on existing infrastructure including dams and levees. The current drainage system, which already struggles to handle severe storms with heavy rainfall, may become even more overwhelmed, leading to more frequent and severe flooding events throughout the community. Additionally, higher temperatures and prolonged heatwaves could increase the risk of extreme heat events, which may become more frequent and harder to mitigate. Aging infrastructure, already at risk of more widespread power failures, could be further strained by more severe storms, leading to prolonged outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Hillsdale Borough	
Number of Policies In-Force:	67
Total Losses:	409
Total Payments:	$7,090,635.84
Number of RL Properties:	27
Number of Mitigated RL Properties:	0
RL – Total Losses:	90

Hillsdale Borough	
RL – Total Paid:	$2,218,811.80
Number of SRL Properties:	21
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	123
SRL – Total Paid:	$2,810,042.59

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

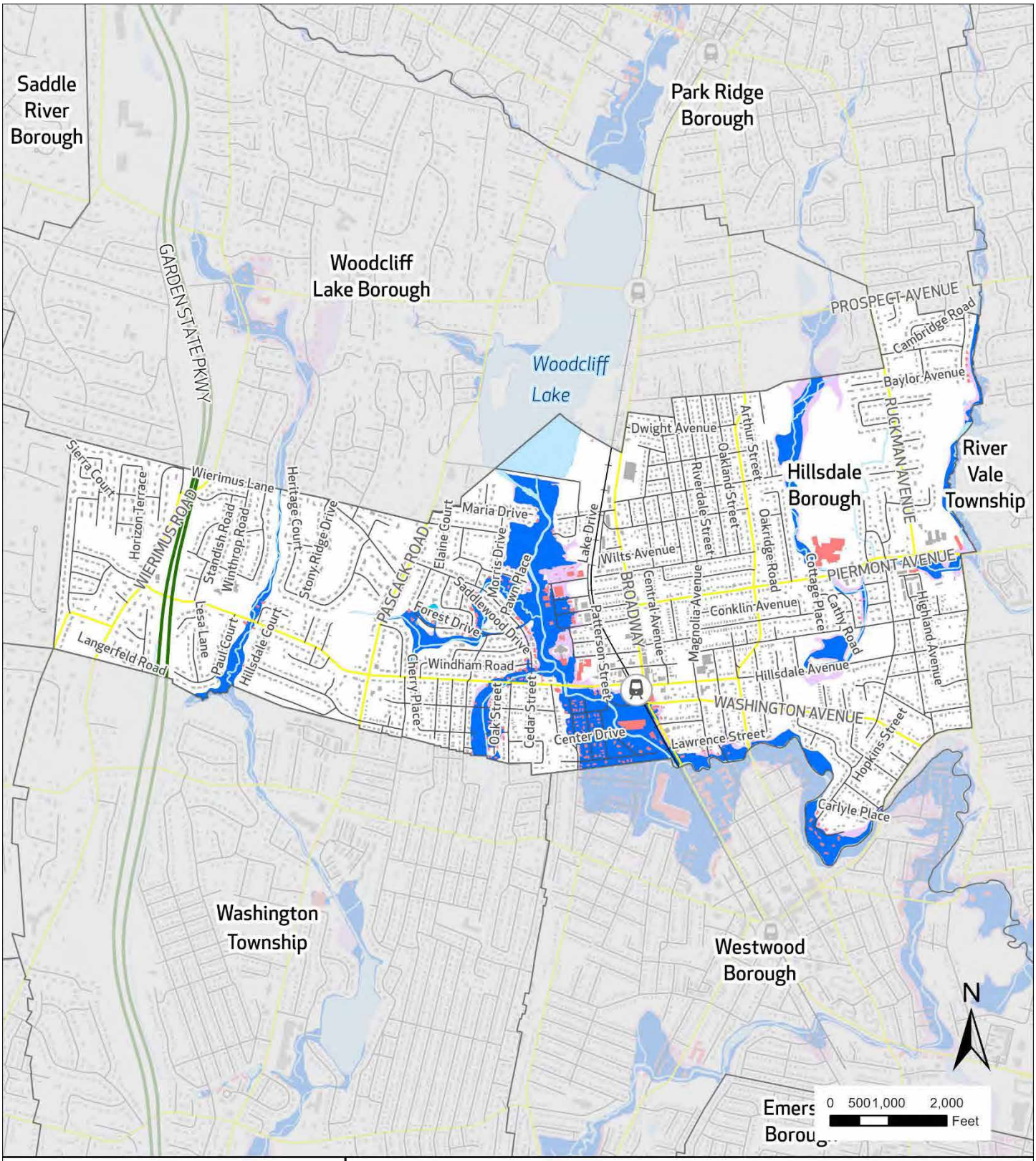
The Special Flood Hazard Area (SFHA) in the Borough of Hillsdale is primarily located adjacent to the waterbodies of the town including Holdrum Brook, Musquapsink Brook, and Pascack Brook. Approximately 11.2 percent of the total area of Hillsdale lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 84% of Hillsdale is considered developed. Of the developed parcels within the borough 11.9% fall at least partially within the 1% floodplain, and 6.2% are at least partially within the 0.2% annual chance floodplain. This illustrates that the development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	11.9	6.2
Exposed Land Area	11.2	2.5

During the planning process, Hillsdale Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is located within the 1% annual chance floodplain. None are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	1	0



Flood Hazard

Hillsdale Borough

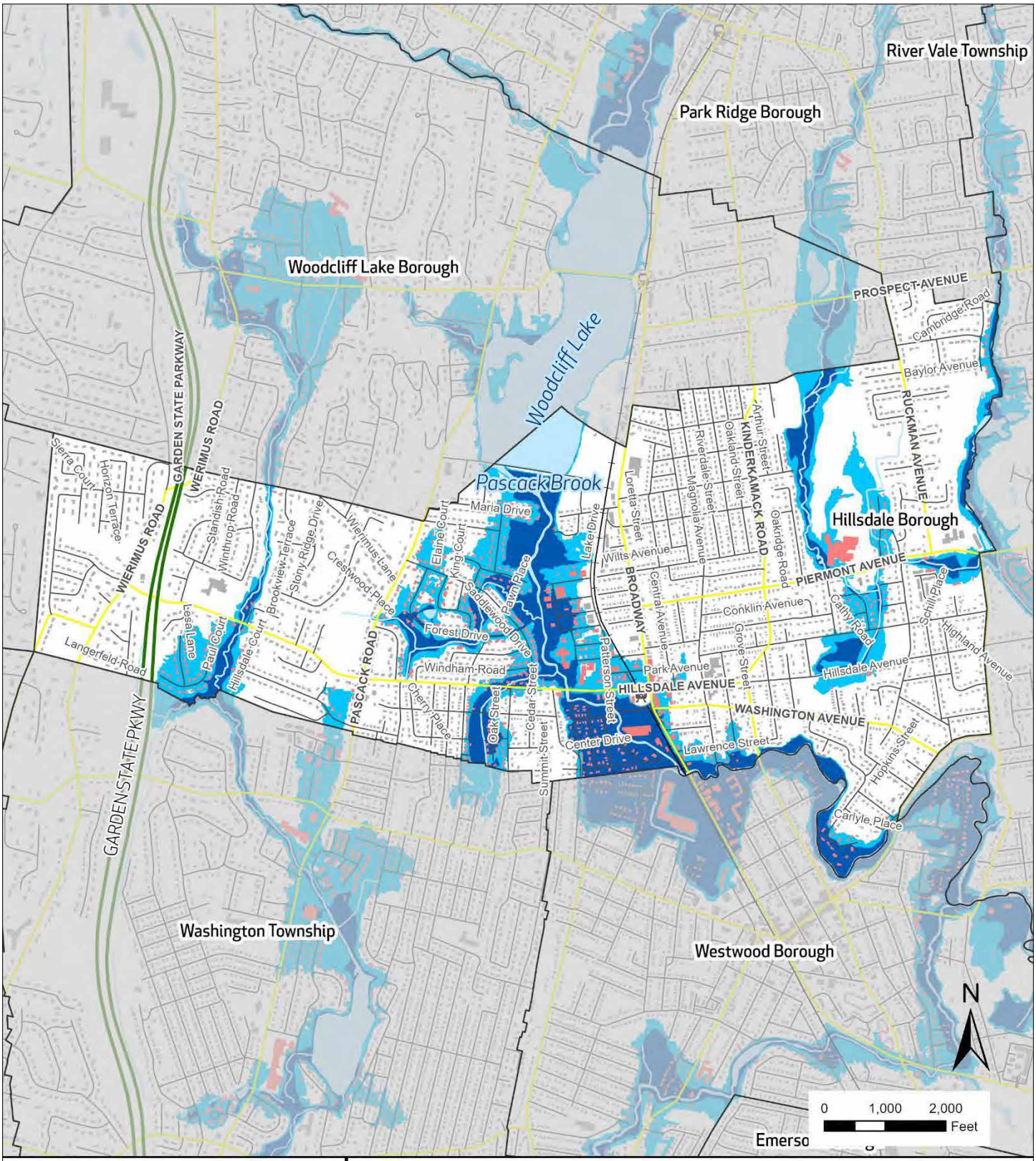
FEMA Flood Zone

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

- Garden State Pkwy
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Hillsdale Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Saddle River Borough
Park Ridge Borough
Woodcliff Lake Borough
Hillsdale Borough
Washington Township
Westwood Borough
Emerson Borough
Cambridge Road
Baylor Avenue
RUCKMAN AVENUE
Arthur Street
Oakland Street
Riverdale Street
Oakridge Road
Cottage Place
Gary Road
Highland Avenue
Hillsdale Avenue
WASHINGTON AVENUE
Lawrence Street
Hopkins Street
Carlyle Place
Conklin Avenue
Magnolia Avenue
Central Avenue
BROADWAY
Patterson Street
Wilts Avenue
Lake Drive
Maria Drive
Elaine Court
PASCACK ROAD
Saddlewood Drive
Queen Court
Forest Drive
Windham Road
Cherry Place
Oak Street
Cedar Street
Center Drive
WIERIMUS ROAD
Wierimus Lane
Sierra Court
Horizon Terrace
Standish Road
Winthrop Road
Heritage Court
Stony Ridge Drive
Lee Lane
Pat Court
Hillsdale Court
Langerfeld Road
N
0 1,000 2,000 Feet
Wildland Urban Interface (WUI) Classification
Hillsdale Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
Garden State Pkwy
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Hillsdale Borough 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		2019	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Inspection by Borough Engineer and Building Department
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			
Community Wildfire Protection Plan		X		
Climate Adaptation Plan	X			
Other Plans that discuss hazard mitigation	X			Borough is looking to address flooding issues in Pascack Brook in the next five years
Other ordinance and regulation that mitigate the impacts of natural hazards	X			

Administrative and Technical Capabilities

Hillsdale Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer, Part-time
Grant Writer	X		Contractor
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		Board of Education
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Hillsdale Borough 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, Hillsdale Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan update, Hillsdale has purchased a new flood warning siren, updated communication plans with residents in flood prone areas, secured a new mass alert system to notify residents of emergency events in town & OEM staff members have taken classes offered by FEMA & the NJSP for further their education & improve on their responses to emergencies. We also implemented our own interoperability radio channel to communicate with all of our emergency services during any type of event or drill. Several homes in town are taking advantage of the Blue Acres program to buy out their homes. In the next five years, we will continue to take more classes to better educate our staff, improve flood management & communication with residents. Work with Veolia Water to manage the reservoir & its water levels.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
27-01	Purchase and Install Generator for School and Church as Shelter	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough of Hillsdale BOE	FEMA HMA	$200,000.00	1 year	Completed	
27-02	Relocate the DPW Facility Out of the Floodplain	Relocate the DPW out of the floodplain. Potentially repurpose property.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Hillsdale	Municipal budget, FEMA HMA	$25,000.00	5 + years	Completed	Retrofitted facility by raising equipment, relocating machines to higher ground garage. Add capacity to building to offset elevation (door dams & drainage).
27-03	Coordinate with the County to Enlarge Three Bridges and Culverts	The borough seeks to replace drainage infrastructure, Wierimus Lane Culvert (*repaired post-Ida)*, and Riverside culvert.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Hillsdale Engineering	FEMA HMA, County budget, Municipal budget	$84,150.00	2 years	Completed	

27-04	Purchase and Install Generator for Smith School	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	High	Smith School	FEMA HMA	$200,000.00	1 year	Withdrawn	Have reevaluated need for this project. Have acquired other options.
27-05	Purchase and Install Redundancy System for Emergency Service Communications	Create a redundancy communication system for emergency services.	All Hazards	Medium	Borough Emergency Response Departments	Homeland Security grants, FEMA HMA	$150,000.00	1 year	Completed	
27-06	Purchase Light Towers, Variable Message Signs	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, a light tower for rescues at night or during a power outage, and a message board and it notifies persons of hazardous conditions and unsafe situations.	All Hazards	Medium	Borough	Homeland Security grants	$100,000.00	1 year	Completed	Previously included Automated License Plate Readers; these are being pursued outside of Hazard Mitigation process.
27-07	Target Harden Critical Facilities by Installing Surveillance Cameras and Access Control Systems	Install cameras at the Hillsdale Train Station, Borough Hall, Fire, Ambulance Core, DPW, and Schools and secure access to these facilities.	Terrorism, Cyber Attack	Medium	Borough	Homeland Security grants	$150,000.00	2 years	Completed	
27-08	Repair, Remove, or Rehabilitate the	Repair, remove, or rehabilitate the Lake Vreeland	Dam and Levee Failure	High	Borough	Municipal budget, NJDEP Bureau of Dam	TBD	3 years	Completed	Completed by Veolia with 2018

	Woodcliff Lake Dam	Dam, a High-Hazard Potential Dam, located on the Pascack Brook.				Safety and Flood Control				Rehab of dam.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
27-09	Continue to Remove Debris and De-Snag Brooks	The borough last completed a complete cleaning and desnagging in 2005. Stream snags are a continuous problem.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Hillsdale	Municipal budget	TBD	5 + years	Ongoing	Ongoing, have drone study to identify snags and working on identifying funding sources for project.
27-10	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	The borough seeks to mitigate the Glendale Park and Over Brook Park sections.	Flood, Hurricane and Tropical Storm	High	Borough and its residents	FEMA HMA	TBD	2 years	Ongoing	Homeowners are largely doing this on their own.
27-11	Purchase and Install Battery Backups and Generators for Lights	Install battery backups and generators to allow traffic signal to operate without power.	All Hazards	Medium	Borough and County	Municipal budget	$100,000.00	3 years	Ongoing	Have 3 currently, looking into more.
27-12	Purchase and Install Generators for Borough Hall, Fire House, Ambulance Core, and DPW	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough	FEMA HMA	$800,000.00	1 year	Ongoing	All done except for DPW site.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
27-13	Purchase and Install Generator for Smith School	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	High	Smith School	FEMA HMA	$200,000.00	1 year	New	
27-14	Consider Opportunities to Include Future Conditions in Long-Term Planning Efforts.	Incorporate resiliency into the community's Master Plan as its own element or incorporated throughout the entire plan.	All Hazards	Medium	Borough Planning Department	Municipal budget	$10,000.00	3 years	Ongoing	Master Plan to be updated next year (2026).
27-15	Elevate Hillsdale and Taylor Road, Which Are Evacuation Routes, That Flood Frequently	Elevate Hillsdale and Taylor Road to mitigate flood related hazards.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	County and Borough of Hillsdale	FEMA HMA	$10,000,000.00	2 years	Ongoing	
27-16	Lightning Detection System	Purchase a system to better protect residents	Lightning	High	Borough of Hillsdale	Municipal budget	$75,000	1 year	New	
27-17	Public Health Emergencies	Preparing for future pandemics & heath emergencies	Public Health Emergencies	Medium	Borough of Hillsdale	Municipal budget	N/A	1 year	Ongoing	We have stockpiled PPE & other equipment

28 – HO-HO-KUS BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jay T. Ludwig	**OEM Coordinator**	**Primary Contact; Attended Local OEM Meeting, Municipal Meeting, Public Meeting 2**
John Hanlon	OEM HHK	Attended Municipal Meeting, Public Meeting 1, Public Meeting 2
David Hals	Engineer	Attended Municipal Meeting
Ed Snieckus	Planner	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Ho-Ho-Kus spans 1.7 square miles in central Bergen County, New Jersey. The Saddle River and Rt 17 cross the borough from north to south, and the Ho-Ho-Kus Brook flows through the borough's western edge. Major landmarks include The Hermitage Museum, and 18th-century house where several founding fathers stayed during the Revolutionary War, and the Ho-Ho-Kus viaduct, a stone railroad bridge rising 70 ft above the Ho-Ho-Kus Brook. The borough has a population of 4,234. Ho-Ho-Kus is not considered a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Ho-Ho-Kus Borough is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 80% of the total land use, and covering nearly 739 acres of land. Civic/public (tax exempt) and vacant uses also accounted for significant portions, comprising 12% and 5% respectively of the total land use in the same year. From 2016 to 2022, there was negligible change in the land use composition in the borough.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 62% of the area in 2020. The forest category followed, accounting for 27% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	-	-	-
Barren Land	0.2	3.9	1850%
Forest	124.4	122.6	-1%
Urban	921.4	919.4	0%
Water	18.7	18.7	0%
Wetlands	55.7	55.7	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

A four-story apartment building with 62 apartments has been developed at 619 North Maple Ave. It is located in the floodplain.

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

The Borough has a long-standing interest in implementing planned upgrades to the Maple Avenue bridge. Many years ago, Bergen County introduced an ordinance to appropriate funds for the replacement of various bridges, including the Maple Avenue bridge over the Ho-Ho-Kus Brook. Work on the project has been delayed almost thirty years. This Project

is in our Master Plan and in the prior Bergen County Hazard Mitigation Plan. Other anticipated needs are de-snagging Tributary One to the Saddle River (along the North Field on Hollywood Ave), Saddle Brook (from Brewster Pond to the Saddle River, and the Saddle River of all debris and trees, and continuing maintenance of the Zabriskie Brook.

Demographics & Vulnerable Populations

Ho-Ho-Kus Borough's total population is an estimated 4,234. Of this population, an estimated 7.1% is under age 5, and 13.5% is over age 65. The borough saw a moderate 1.7% population growth estimated in the periods between 2013-2017 and 2018-2022. With an aging population making up over thirteen percent of borough residents, Ho-Ho-Kus may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	4,234
Population Change since 2017	1.7%
Percent of Population Age < 5	7.1%
Percent of Population > 65	13.5%

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 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	
Flood	Extreme Wind	Extreme Temperatures
	Hurricane/Tropical Storm	Landslide
	Lightning	Drought
	Nor'easter	Earthquake
	Tornado	Wildfire
	Winter Storm	
	Dam Failure	
	Human-made Hazards	
Cyber Attack	Pandemic	Civil Unrest
	Terrorism	Economic Disruption
	Power Failure	

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked most hazards as high or medium because it is highly capable of managing the associated risks. There is some concern for potential failure of the upstream dam in neighboring Waldwick, as well as failure of dams in NY across the northern border of Bergen County. Wildfire is a low concern because there is not enough vegetation or understory in Ho-Ho-Kus to fuel substantive wildfires.

Significant Hazard Events Since Last Plan Update

Hurricane Ida impacted the borough in 2021.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Ho-Ho-Kus Borough	
Number of Policies In-Force:	35
Total Losses:	56
Total Payments:	$562,048.32
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	9
RL – Total Paid:	$66,550.08
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$33,701.44

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

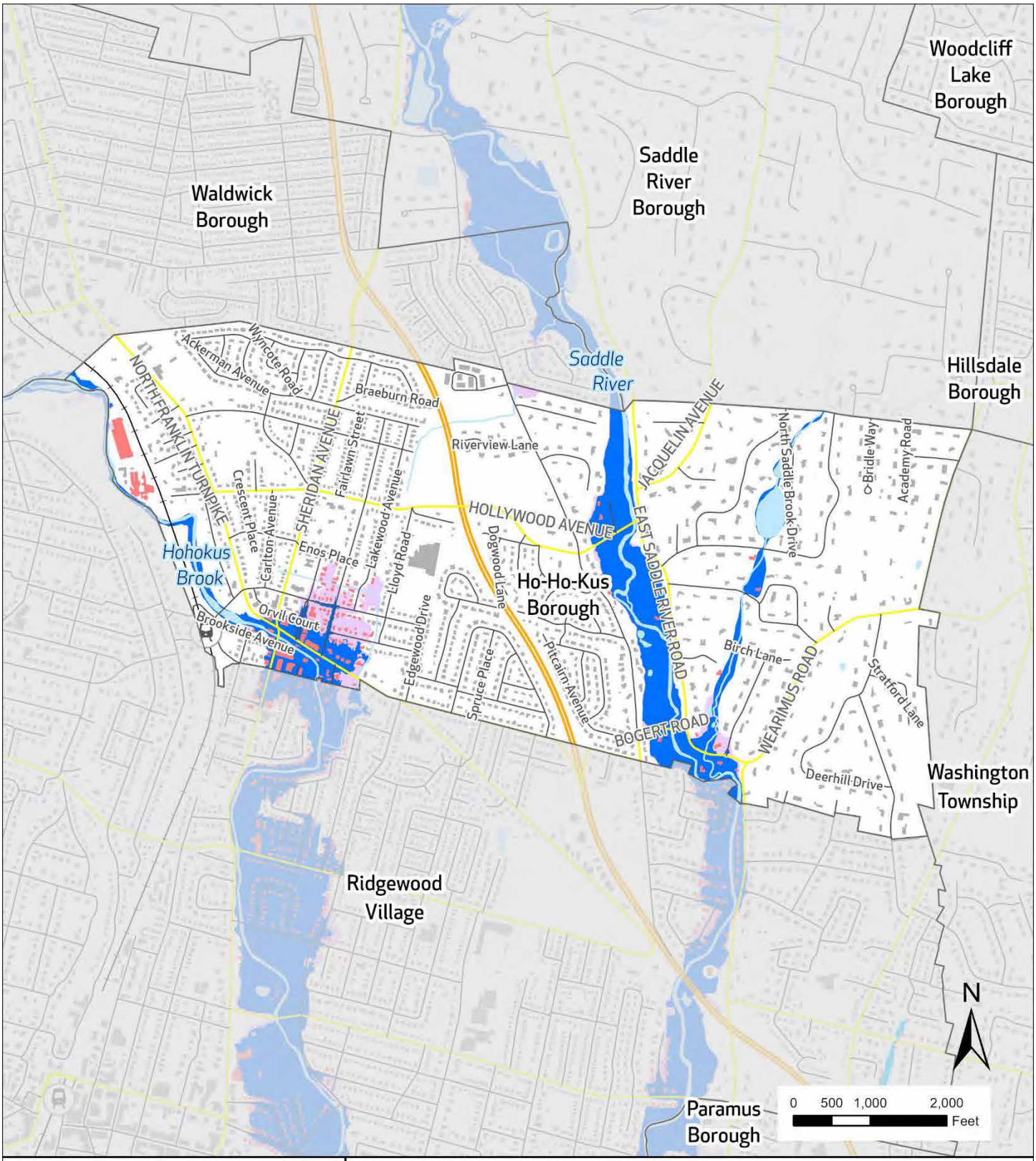
The Special Flood Hazard Area (SFHA) in the Borough of Ho-Ho-Kus is primarily located adjacent to the waterbodies of the borough including Ho-Ho-Kus Brook and the Saddle River. Approximately 8.7 percent of the total area of Ho-Ho-Kus lies within the 1% annual chance floodplain as defined by FEMA. An additional 2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 81 percent of Ho-Ho-Kus is considered developed. Of the developed parcels of the borough, 10.3 percent fall at least partially within the 1% annual chance floodplain and 10.1 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	10.3	10.1
Exposed Land Area	8.7	2.0

During the planning process, Ho-Ho-Kus Borough 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 24 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is located within the 1% annual chance floodplain, and one is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Water Systems	1	1



Flood Hazard

Ho-Ho-Kus Borough

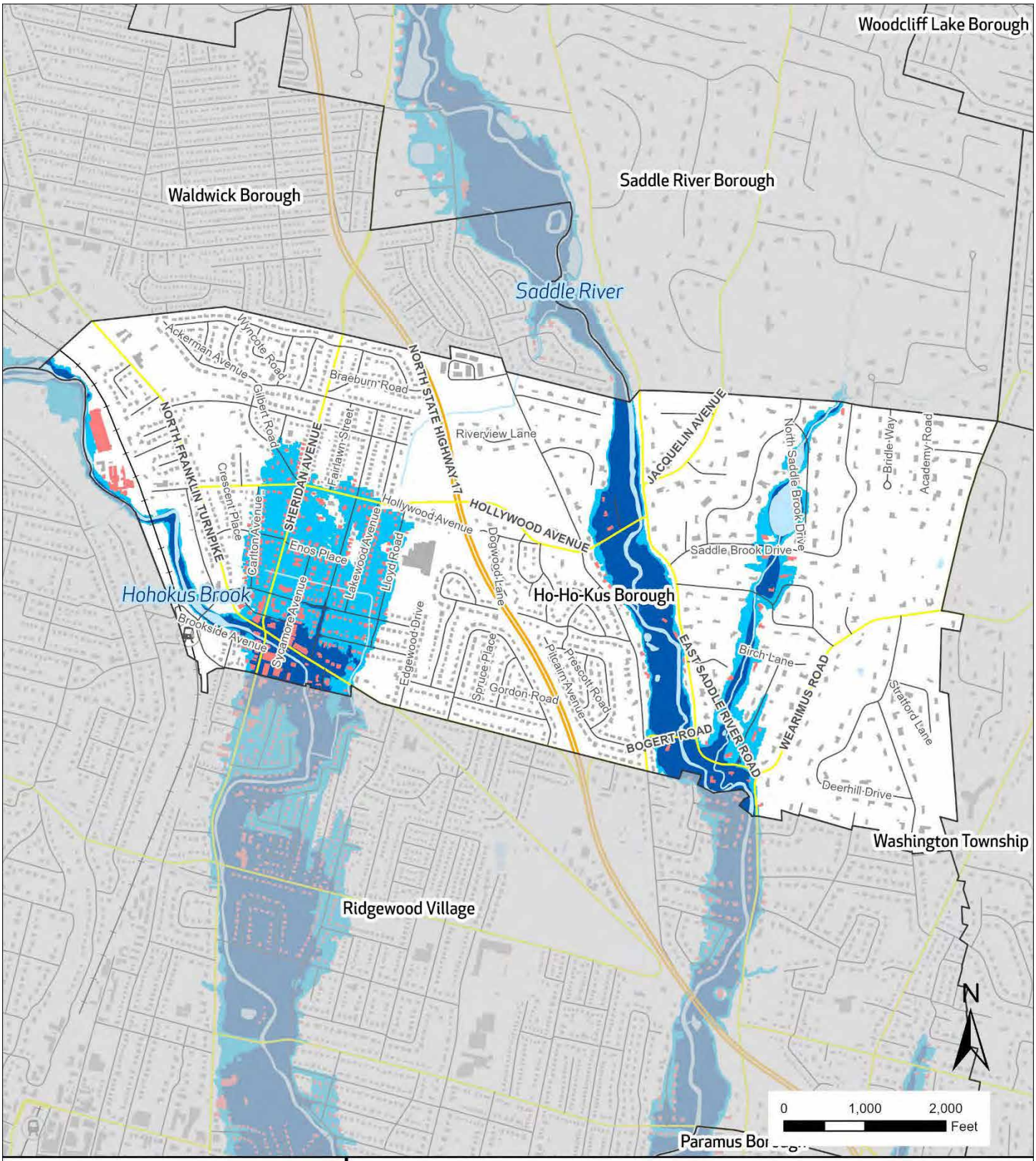
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

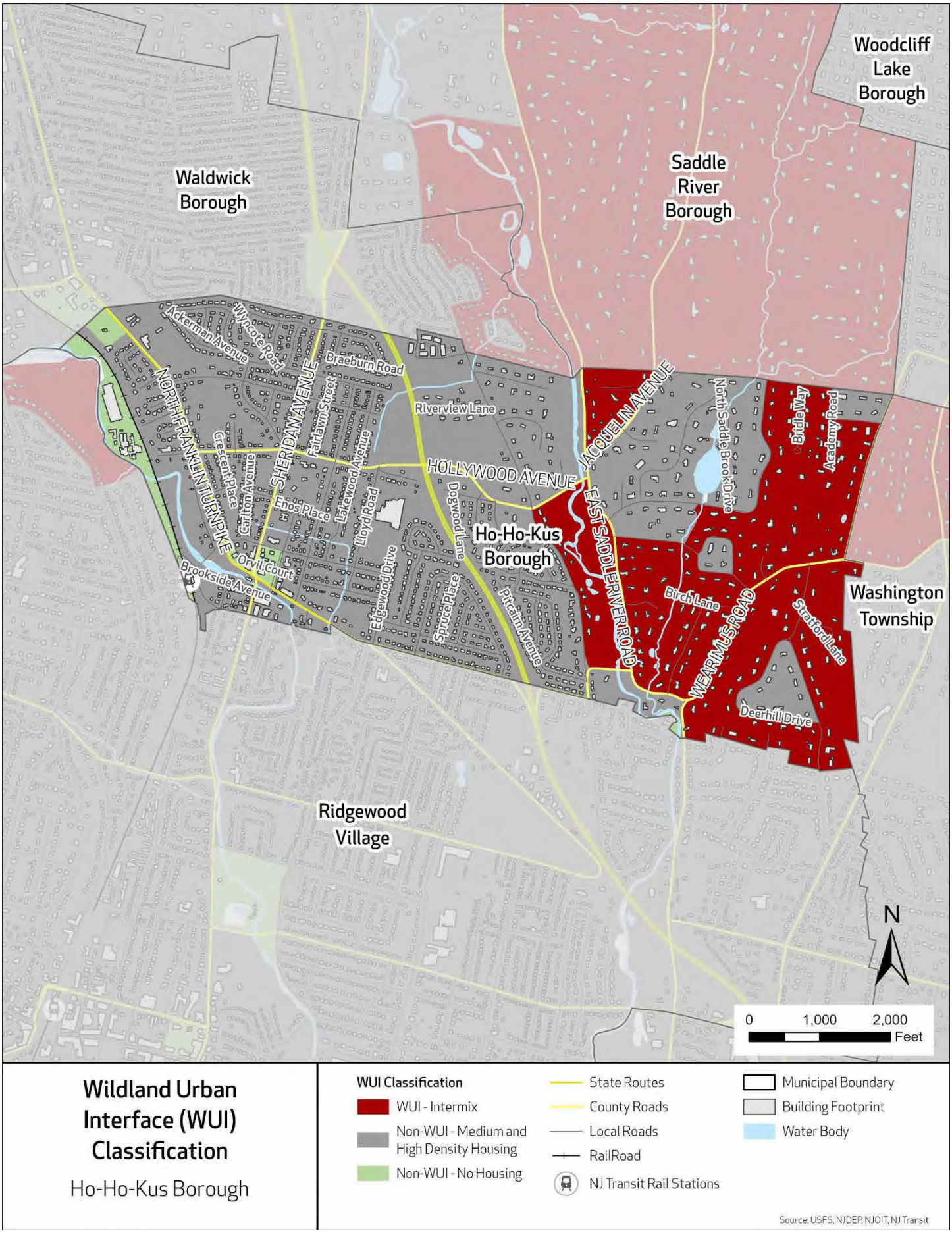


NJ Inland Design Flood Elevation

Ho-Ho-Kus Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Woodcliff Lake Borough
Waldwick Borough
Saddle River Borough
Ho-Ho-Kus Borough
Washington Township
Ridgewood Village
HOLLYWOOD AVENUE
JACQUELIN AVENUE
EAST SADDLE RIVER ROAD
WEARIMUS ROAD
SHERIDAN AVENUE
NORTH FRANKLIN TURNPIKE
Riverview Lane
Braeburn Road
Wynnore Road
Ackerman Avenue
Fairlawn Street
Lakewood Avenue
Lloyd Road
Dogwood Lane
Pitcairn Avenue
Edgewood Drive
Spruce Place
Crescent Place
Carlton Avenue
Elios Place
Orvil Court
Brookside Avenue
North Saddle Brook Drive
Bridle Way
Academy Road
Birch Lane
Stratford Lane
Deerhill Drive
N
0
1,000
2,000
Feet
Wildland Urban Interface (WUI) Classification
Ho-Ho-Kus Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non-WUI - No Housing
State Routes
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Ho-Ho-Kus Borough 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		2019	
Capital Improvement Plan		X		Not available
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan				
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Preliminary damage assessments are performed during disasters only
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Elevation certificates are homeowners' responsibility. LOMCs sent to the borough Clerk HVAS
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Hazard Vulnerability Assessment Study was recently adopted in 2024

Administrative and Technical Capabilities

Ho-Ho-Kus Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
Grant Writer	X		Consultant, Part-time
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		Edward Snieckus, Planner from Burgis Associates
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Ho-Ho-Kus Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Rave (reverse 911, Nixle, Social Media)
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Ho-Ho-Kus Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Ho-Ho-Kus has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include improving drainage systems. Over the next five years, Ho-Ho-Kus aims to prioritize projects that address emerging climate challenges, adopting advanced emergency alert systems, and de-snagging Borough's waterways. These efforts underscore the Borough of Ho-Ho-Kus's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-01	Expand Detention System by 3.5 Million Gallons	Obtained County grant to do project. The recreation Commission and Board of Education participated in the completion of the project.	Collect storm water	-	Ho-Ho-Kus OEM	-	-	-	Completed	Project completed 2010 timeline, priority & funding N/R
28-02	Purchase and Acquire Three Portable Generators for Emergency Sewer Operation and One Fixed Generator for Emergency Operation of Fire House	Acquire 3 portable generators for emergency sewer operation and acquire 1 fixed generator for emergency operation of Fire House	Upgrade of equipment	-	DPW and OEM	-	-	-	Completed	Project completed 2010 timeline, priority & funding N/R
28-03	Construct a Detention System on Gordon Road	Design and construct a detention system to alleviate flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	-	OEM, DPW and Borough Engineer	-	-	-	Completed	Project completed 2006 timeline, priority & funding N/R
28-04	Lower Field East of Tributary #1 and Landscape for Public Use	Obtained County grant to complete landscaping of lower field, install stone wall seating and soil protection, and install lightning detection system	Flood	-	Ho-Ho-Kus OEM	-	-	-	Completed	28-04 and 20-01 are part of the same Projects completed in 2010
28-05	Purchase and Install a Narrow Radio Band Transmission System	Narrow radio band transmission system redesigned for Fire Dept., Police Dept., Department	All Hazards	-	Ho-Ho-Kus OEM	-	-	-	Completed	Project completed 2000 timeline, priority & funding N/R

	Redesigned for Fire Dept., Police Dept., Department of Public Works and Ambulance Corp	of Public Works and Ambulance Corp								
28-06	Purchase and Install a Siren/PA System	Purchase and Install a Siren/PA System	All Hazards	Low	Local OEM and Municipal Staff	Municipal budget	Unknown	None	On hold at this time	Use of Nixle and Swiftreach found to be not needed at this time.
28-07	Install Backup Servers and Provide Off-site Data Storage	Install Backup Servers and Provide Off-site Data Storage	Cyber Attack	High	Local OEM and Municipal Staff	Municipal budget, Homeland Security grants	$180,000	Done	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-08	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5+ years	New	
28-09	Construct Flood Reduction Measures Along the Saddle River, Ho-Ho-Kus Brook, and Zabriskie Brook	Construct minor structural projects (e.g., floodwalls or small berms) along the Saddle River, Ho-Ho-Kus Brook, and Zabriskie Brook to protect properties located within the Regulatory Floodway, including three Repetitive Loss properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough OEM, Engineering	FEMA HMA	TBD	3 years	New	

29 – LEONIA BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Dave Haenelt	**Fire Marshal**	**Primary Contact; Municipal Meeting**
Karlie Sonne	Emergency Management Coordinator	Virtual Meeting
Marisa Mesropian	Borough Administrator	Survey, Questionnaire

COMMUNITY PROFILE

Overview

The Borough of Leonia spans approximately 1.63 square miles and is located in southeastern Bergen County, New Jersey. The Overpeck Creek runs from the north to south, along the western border of the borough. Leonia has a vibrant arts and cultural scene, home to The Leonia Chamber Musicians Society established in 1973, and the Players Guild of Leonia, New Jersey's oldest continuing theatre. Route 93, Interstate 95, along with U.S. Route 1/9 and U.S Route 46 serve Leonia. The borough has a population of around 9,304 residents. Leonia is not a coastal community, as it is situated inland and bordered by Overpeck Creek rather than the ocean.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Leonia is a predominantly residential community with residential (including apartment) use accounting for half of its area, covering nearly 419 acres in 2022. In the same year, civic/public (tax exempt) use came a close second to residential (including apartment) use, accounting for 44% of the land in the borough. The remaining 6% of the borough was made up of commercial land, industrial land, railroad property, and vacant land. Commercial land, and railroad property made up 11%, 7%, and 6% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of residential use, followed by civic/public (tax exempt) use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 77 of the borough's total land, covering 806 acres. Forest land, water, barren land, and agricultural land followed, accounting for 11%, 7%, 2%, and 2% respectively of Leonia's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	21.8	23.5	8%
Barren Land	11.6	25.8	122%
Forest	125.8	114.5	-9%
Urban	810.2	805.5	-1%
Water	68.2	68.2	<1%
Wetlands	4.9	4.9	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified by the borough.

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

Potential redevelopment plan on Fort Lee Road.

Demographics & Vulnerable Populations

Leonia Borough has a total estimated population of 9,273. This population is made up of an estimated 5.8% residents under age 5, and 17.8% residents over age 65. The borough saw consistent population (an estimated 0.89% change) across the ACS survey periods between 2013-2017 and 2018-2022.

There are eight block groups within Leonia, nearly the borough's entire area, which meet criteria as potentially overburdened (OBC) communities by categories of *Minority* (seven block groups) and *Low Income and Minority* (one block group) populations. There are no areas of Leonia noted as potentially vulnerable by CEJST or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9,273
Population Change since 2017	0.9%
Percent of Population Age < 5	5.8%
Percent of Population > 65	17.8%

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 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	Dam Failure
	Lightning	Storm Surge
	Nor'easter	Tornado
	Winter Storm	Landslide
	Extreme Temperatures	Drought
	Extreme Wind	Earthquake
	Flood	Wildfire
	Human-made Hazards	
	Cyber Attack	Terrorism
	Pandemic	Civil Unrest
	Power Failure	Economic Disruption

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

Isolated areas in the borough are prone to flooding during extreme weather events. As a result, it ranked hurricane/tropical storm, nor'easter, winter storm, and flood as hazards of medium concern. The areas prone to flooding in include Lakeview Avenue at Eastwood Avenue, Wood Terrace, Leonia High School, Grand Avenue, and Willow Tree Road. It also ranked extreme temperatures as a medium because the borough opened their public library for use as a cooling station a few times since 2021. Additionally, it ranked extreme wind as medium because of experience with high-speed winds at least once a year.

Amongst the human-made hazards, cyber attack was ranked medium because of the borough's experience with phishing attempts. Pandemic was also ranked medium because the borough faced challenges addressing the Covid-19 pandemic. Furthermore, power failure was ranked medium because a few homes, typically isolated to a block, have experienced power outages caused by trees falling on wires.

Significant Hazard Events Since Last Plan Update

The most recent significant hazard event experienced by the borough was Hurricane Ida in 2021.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Leonia. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from Overpeck Creek, and the floodplain running along the western boundary of the borough. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 18% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Leonia Borough	
Number of Policies In-Force:	26
Total Losses:	20
Total Payments:	$795,708.35
Number of RL Properties:	1
Number of Mitigated RL Properties:	0
RL – Total Losses:	2
RL – Total Paid:	$79,591.90
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 Borough of Leonia is primarily located adjacent to the Overpeck Creek on the western side of the borough. Approximately 25.2 percent of the total area of Leonia lies within the 1% annual chance floodplain as defined by FEMA. An additional 6.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

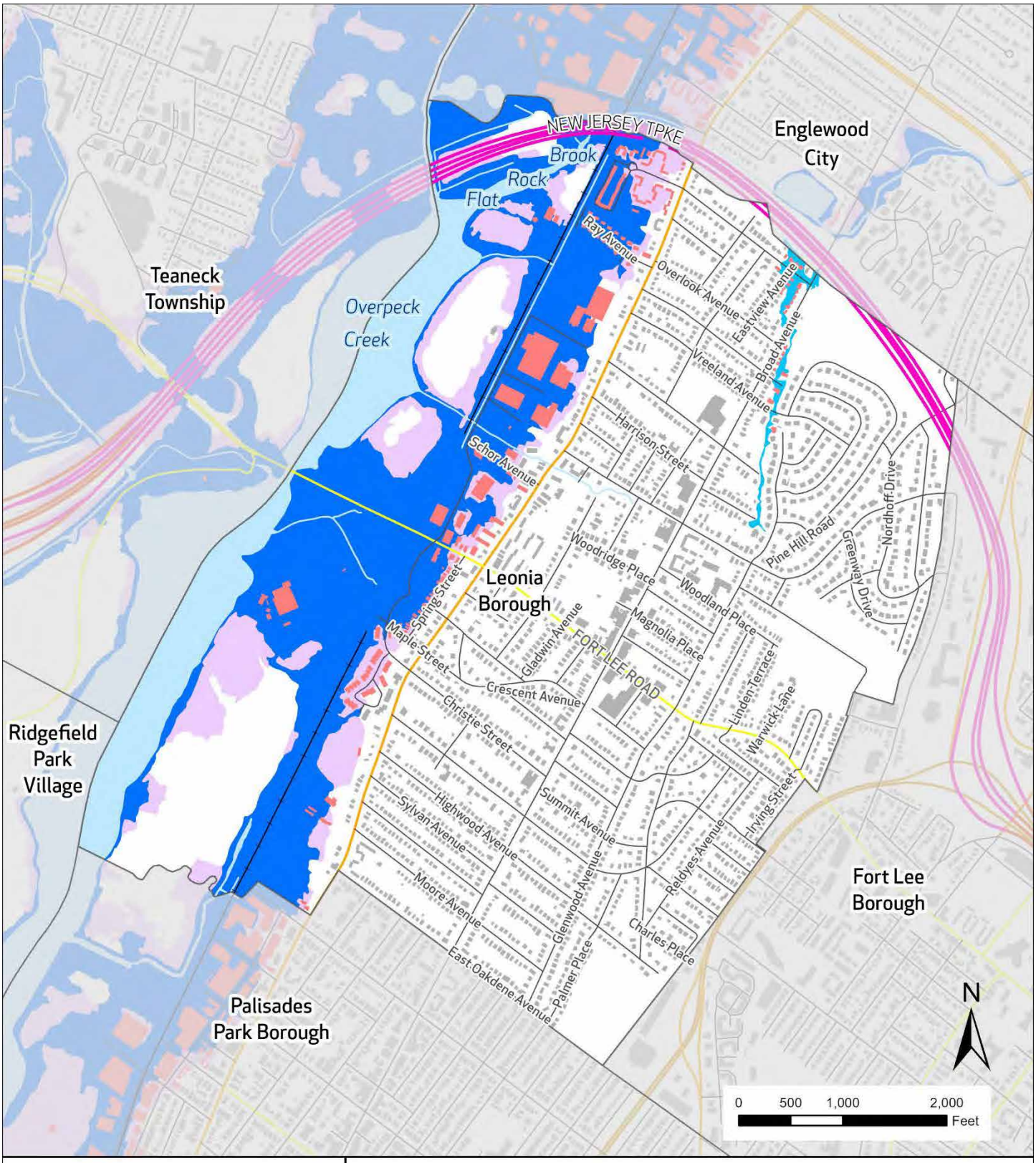
About 54.1 percent of Leonia is considered developed. Of the developed parcels of the borough, 7.9 percent fall at least partially within the 1% annual chance floodplain and 6.4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	7.9	6.4
Exposed Land Area	25.2	6.5

During the planning process, Leonia Borough 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 eight total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 1% annual chance floodplain. These two

facilities are also within the area of the borough at risk from sea level rise. No facilities are within the 0.2% annual chance floodplain. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5' of Sea Level Rise
Energy	1	0	1
Safety and Security	1	0	1



Flood Hazard

Leonia Borough

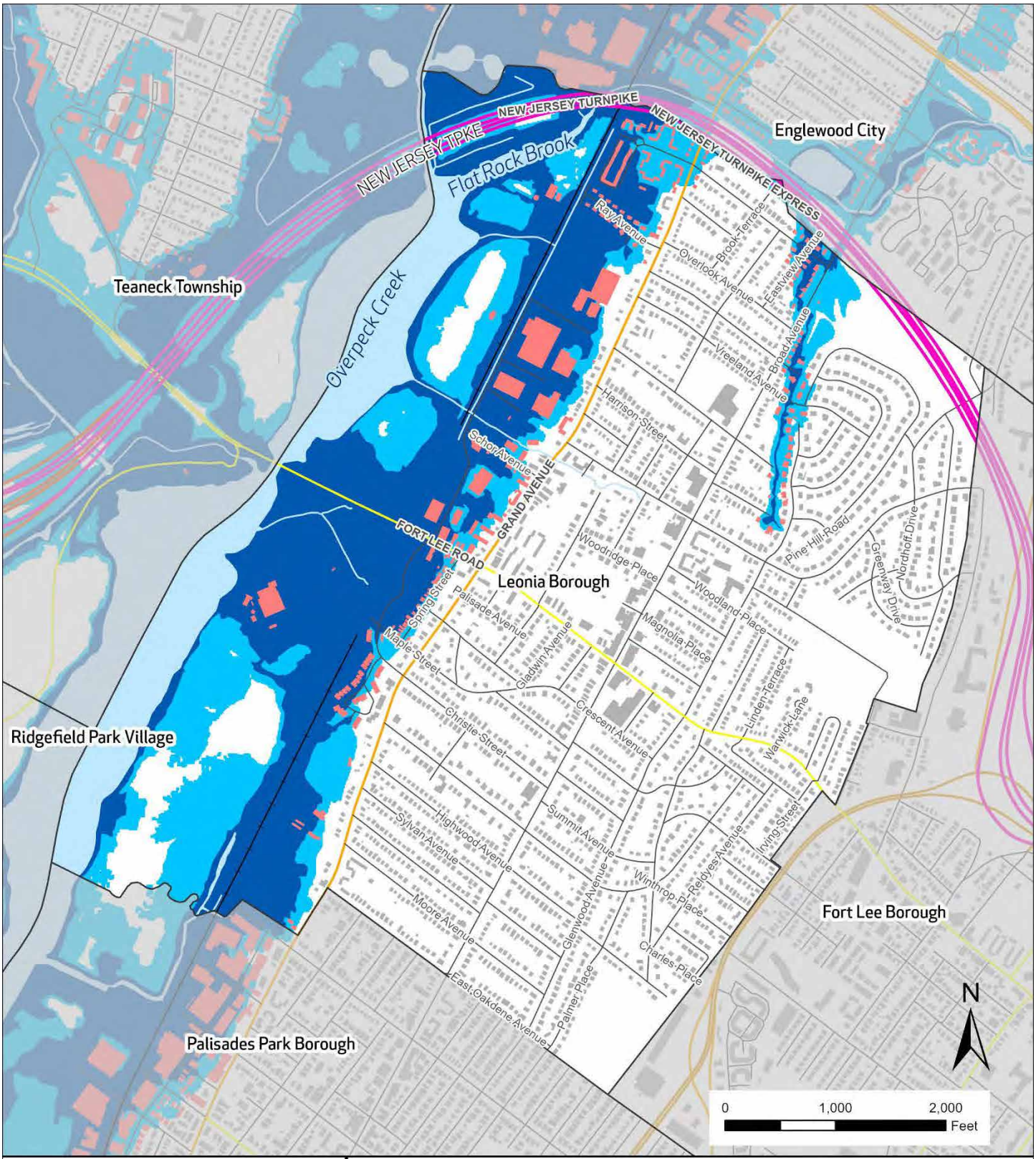
FEMA Flood Zone

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

- New Jersey Tpke
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Leonia Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Leonia Borough 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		3/2025	
Capital Improvement Plan	X		3/2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X		3/2025	
Floodplain Development Ordinance	X		3/2025	
Floodplain Management Plan	X		3/2025	
Stormwater Management Ordinance	X		3/2025	
Stormwater Management Plan	X		3/2025	
Watershed Management Plan		X		
Sheltering Plan	X		3/2025	
Evacuation Plan	X		3/2025	
Substantial Damage/Improved Structures Response	X		3/2025	
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		3/2025	
Tracking elevation certificates and/or Letter of Map Change	X		3/2025	
Post-Disaster Recovery Plan	X		3/2025	
Current/recent redevelopment plans or studies	X		3/2025	
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		3/2025	

Administrative and Technical Capabilities

Leonia Borough 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		Food pantry at St. John the Evangelist Church

Education and Outreach Capabilities

Leonia Borough 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, Leonia Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

One of the most critical and urgent emergency situations for the borough to address is stormwater mitigation. The borough has established a Flood Committee comprised of the Council President, the Mayor, a Councilman and the Borough Administrator to develop and implement a strategy. This year we have engaged NJIT to do a comprehensive hydraulic analysis, the results of which will identify the location, size and cost of stormwater retention basins. The Borough of Leonia has also applied for grant funding through H2Loans and Congressional funding through Senator Booker's office. Furthermore, the borough has established a webpage entirely devoted to Stormwater Resilience for Homeowners, detailing how homeowners can retrofit their homes to prevent serious flood damage and what to do if they incur serious flood damage. Stormwater management is our top priority for the foreseeable future.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
29-01	Purchase and Install Emergency Generators for the Borough Hall	Purchase and Install Emergency Generators for the Borough Hall	All Hazards		Borough Admin Jack Terhune				Withdrawn	--
29-02	Purchase and Install Generator for Municipal Recreation Center	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Borough Admin Jack Terhune	FEMA HMA	$120,000 .00	1 year	Completed	
29-03	Emergency Generator for 105,000 sq. ft Leonia High School	Generator for high school	All Hazards		Leonia Board of Education				Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimat e	Time-line	Action Status	Notes
29-04	Purchase and Install a Lightning Detection and Warning System	Purchase and Install a warning alarm at the high school, middle school, elementary school, swimming pool, and community center and expand the lightning detection system.	Severe Weather	Low	Borough Administrat or	Municipal budget	TBD	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
29-05	Deepen Drainage Ditch at Leonia High School	Widen ditch to deepen ditch between railroad & Willow Tree Dr.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Leonia Board of Education, Engineering, railroad company	Municipal budget	TBD	2 years	Ongoing	
29-06	Dredge Moore Creek	Coordinate with NJDEP and Bergen County on creek dredging.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough Engineering, DEP, Bergen County	Municipal budget, Grant Funding	TBD	2 years	Ongoing	
29-07	Target Harden Critical Facilities by Installing Surveillance Cameras, a Fiber-optic Network, Bollards, and Safety Glass Film	Increase security at the following critical facilities: elementary, middle, and high schools; Borough Hall; and main thoroughfares (connections to major highways). Implement bollards, security camera surveillance system, a fiber- optic network, and safety	Terrorism	Medium	Borough Administration	Homeland Security grants	TBD	2 years	Ongoing	Cameras installed in schools, and on Fort Lee Road, Grand Avenue, and Broad Avenue. Borough building needs upgrades.
29-08	Purchase and Install Amplifiers (buy directional amplifiers) to Three Schools that Have Dead Zones in the Radio Coverage Study (2019)	Add amplifiers (buy directional amplifiers) to three schools that have been tested for dead zones in the Radio Coverage Study (2019). Goal is 90% coverage.	All Hazards	Medium	Police	Homeland Security grants	$600,000.00	1 year	Ongoing	
29-09	Develop District-wide Mantraps and Monitor Entrance into Critical Facilities by Access Control	Monitor entrance into critical facilities by access control. The borough is meeting with architects to create a plan in the summer of 2020.	Terrorism	Medium	BOE, Police	Homeland Security grants, municipal budget	TBD	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
29-10	Purchase New Chipper	Purchase a new chipper with higher capacity to continue tree maintenance throughout the borough.	Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm, Severe Weather	Low	Borough DPW	Municipal budget	$65,661.60	1 year	Ongoing	Current chipper is 23 years old.
29-11	Purchase and Install Flood Gates at Leonia High School	Purchase and install gates for high school to mitigate against potential terrorism and flooding events.	Flood, Terrorism, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough BOE	FEMA HMA, Homeland Security grants	TBD	1 year	Ongoing	Action partially completed. Entrance to school was partially reconfigured and a wall was built to address flooding.
29-12	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Currently, there are no RL/SRL properties in the borough. However, if that changes within the next five years, coordinate with residents to elevate RL/SRL properties or buy out RL/SRL properties and convert to open space.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	New	borough is currently looking to upgrade the drainage system.
29-13	Install Stormwater retention basins through-out the Borough	Install stormwater retention basins in at least 3 identified locations in the Borough to mitigate downstream stormwater volume.	Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough	Grant Funding	$3,000,000.00	5 + years	Ongoing	The Borough has engaged NJIT to complete a thorough hydraulic analysis the results of which will determine location and size of stormwater retention basins. Applied to H2Loans, Senator Booker's Congressional Funding.
29-14	Stormwater Resilience for Homeowners	Created a website with important materials for homeowners to address storm-proofing homes, what to do with flood damage, longer term solutions	Nor'easter, Hurricane and Tropical Storm, Severe Weather	Med	Homeowner	No Cost	$0.00	Now	Mostly finished but will be updated	All information is from third-party sources including NJDEP, FEMA, Insurance representatives, OEM.

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PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Marsh	**OEM Director**	**Primary Contact, Attended Municipal Meeting**
John Schwedhelm	Deputy OEM Director	Alternative Point of Contact, Attended Municipal Meeting
Ronald Anzalone	OEM Director	Attended Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Little Ferry spans approximately 1.66 square miles and is located in southeastern Bergen County, New Jersey. The borough is within the New Jersey Meadowlands District, a large ecosystem of wetlands located along the Hackensack River within Bergen and Hudson Counties. Little Ferry is situated on the Hackensack across from where it is joined by Overpeck Creek. US Route 46, which crosses the Hackensack and continues to the George Washington Bridge is the main transportation route within the borough and the borough is within half a mile of major roadways including the New Jersey Turnpike and Interstate 80. Little Ferry is serviced by NJ Transit bus routes 161 and 165. The borough has a population of around 11,000 residents and is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Little Ferry Borough is primarily a residential community with significant industrial and commercial, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 54% of the total land use, and covering nearly 362.8 acres of land. Civic/public (tax exempt) is the next highest category at 16% of the total. The portion of industrial and commercial uses consists of 14% and 13% of the total respectively. From 2016 to 2022, industrial and vacant land decreased by percentage notably although in pure numbers the amount of acreage in each use remained similar.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 74% of the area in 2020. The water and wetland categories followed, accounting for 14% and 8% of the total land area respectively, explained by Little Ferry's location within the Meadowlands along the Hackensack River.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	17.5	21.7	24%
Forest	26.1	25.9	-1%
Urban	792.5	792.2	0%
Water	148.1	148.1	0%
Wetlands	86.3	82.5	-4%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

A large senior housing development (80 units) opened in 2024. The development is located at 250 Mehrhof Road. The development is within the floodplain and is surrounded by water as it is between the Hackensack River and Mehrhof Pond. The area was not previously developed.

A 294-unit mixed-use housing development (including around 15 affordable units) is opening in spring 2025. The development is located on previously undeveloped land at the Bergen Turnpike and Route 46 intersection along the Hackensack River. The development has been built to FEMA standards. The borough also reports general development along route 46, including business development.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
There is potential for another large residential development across from the recently built 294-unit development at the intersection of Route 46 and Bergen Turnpike at a similar scale. Additionally, there are plans for an eight-story assisted living facility, also located along the Hackensack River. These anticipated projects are within the floodplain.

Demographics & Vulnerable Populations

Little Ferry Borough's total population is estimated at 10,954. This population is estimated to be 4.7% aged under 5, and nearly 17% (16.98%) over age 65. The Borough saw a consistent population (an estimated 0.11% change) across the 2013-2017 and 2018-2022 ACS survey periods. With an aging population making up seventeen percent of borough residents, Little Ferry may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Little Ferry has nine block groups meeting criteria for overburden (OBC) based on vulnerability indicators of Low Income (one block group), *Minority and Limited English* (one block group), *Low Income and Minority* (two block groups), and *Minority* (five block groups) populations. These block groups cover nearly the entire area of Little Ferry. The Borough also meets definitions of potential vulnerability with a CDRZ designated census tract. Little Ferry has no areas meeting criteria for CEJST identification of potentially vulnerable populations and communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	10,954
Population Change since 2017	0.1%
Percent of Population Age < 5	4.7%
Percent of Population > 65	17.0%

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

Landslide and Wave Action have been ranked as N/A.

Hazard Ranking Explanation

Landslide has been ranked as N/A (not applicable) by Little Ferry as the borough is very low lying and there are no landslide areas. Wave action has also been ranked as not applicable because Little Ferry is an inland community.

Extreme wind is ranked as medium. The borough experienced a significant microburst around 25 years ago which resulted in downed trees crushing cars and causing power outages as well as ripping off the roofing of many homes. Although there have not been any extreme events since, the borough reports occasionally downed wires and trees and roof and siding damage. The planning team reports that the wind seems to be increasing in recent years.

Hurricane is ranked as medium. Little Ferry saw substantial damage from Hurricane Sandy, which resulted in 3 to 4 feet of water throughout the whole borough as storm surge went three quarters of the way through the borough. Over 1000 homes were significantly damaged with 35 homes slated for demolition (8 ended up being razed). Due to the geography of the borough, low-lying and along tidally influenced waters, Little Ferry is vulnerable to hurricanes.

Dam failure is ranked as medium. Oradell Dam is located upstream of the borough and could result in significant damage to the borough in the case of a failure. The planning team reports that when Veolia does a controlled release of water it can lead to impacts in the borough such as flooding streets especially when it occurs in conjunction with high tide.

Flood is ranked high and is the main hazard of concern in Little Ferry. Flooding occurs in the borough as a result of either heavy rain or storm surge. Events often lead to road closures and occasional damage to residences. Storm surge is also ranked high due to the flooding it may cause. Storm surge in the Hackensack River causes water to backflow into the borough, and backs up the stormwater system, sometimes into people's homes.

Wildfire is ranked as medium due to the frequency of brush fires in meadowlands. When these events occur, communities in the area work together under mutual assistance agreements as winds often cause them to spread across jurisdictions. Due to the geography of the meadowlands, fires can be difficult to access. The Bergen County Sewage Plant, a significant critical facility in the borough, is surrounded by wildfire area.

Terrorism is ranked as medium due to the presence of the Bergen County Sewage Plant which is a potential target. If this facility was targeted, it could lead to impacts for the entire county.

Significant Hazard Events Since Last Plan Update

The borough experienced significant flooding from the remnants of Hurricane Henri in August 2021. The borough reports flooded roadways and residences, resulting in people stuck on roads requiring high water rescues, as well as an evacuation order for certain areas of the borough. Displaced people were put into shelters and hotels.

The planning team reports that the impacts of the remnants of Hurricane Ida were not as bad as some other communities in the county. There were some roadways and some residential flooding but not as bad as that experienced during Henri.

The borough experienced a ransomware Cyber Attack in either 2020 or 2021. The borough ended up paying the ransom as they believed they didn't have a choice. The borough has improved security measures since including improved systems, backing up files and cyber-attack awareness training for employees.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Little Ferry. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase potentially exacerbating existing vulnerabilities, particularly in areas prone to flooding, like much of the borough. These issues will be compounded by sea level rise, projected to impact significant portions of the borough. Additionally, development within the borough has and will continue to take place within the floodplain and areas at risk from sea level rise. Development, especially on previously undeveloped land, will increase the amount of impervious

surface runoff entering the waterbodies of Little Ferry. Additional development upstream within the watershed could lead to worsened flooding impacts as well. Actions identified by the borough's mitigation strategy such as drainage improvements (action 03-06 and 03-07) should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Little Ferry Borough	
Number of Policies In-Force:	531
Total Losses:	1376
Total Payments:	$29,725,014.85
Number of RL Properties:	99
Number of Mitigated RL Properties:	0
RL – Total Losses:	553
RL – Total Paid:	$12,657,700.86
Number of SRL Properties:	10
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	43
SRL – Total Paid:	$1,189,209.73

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

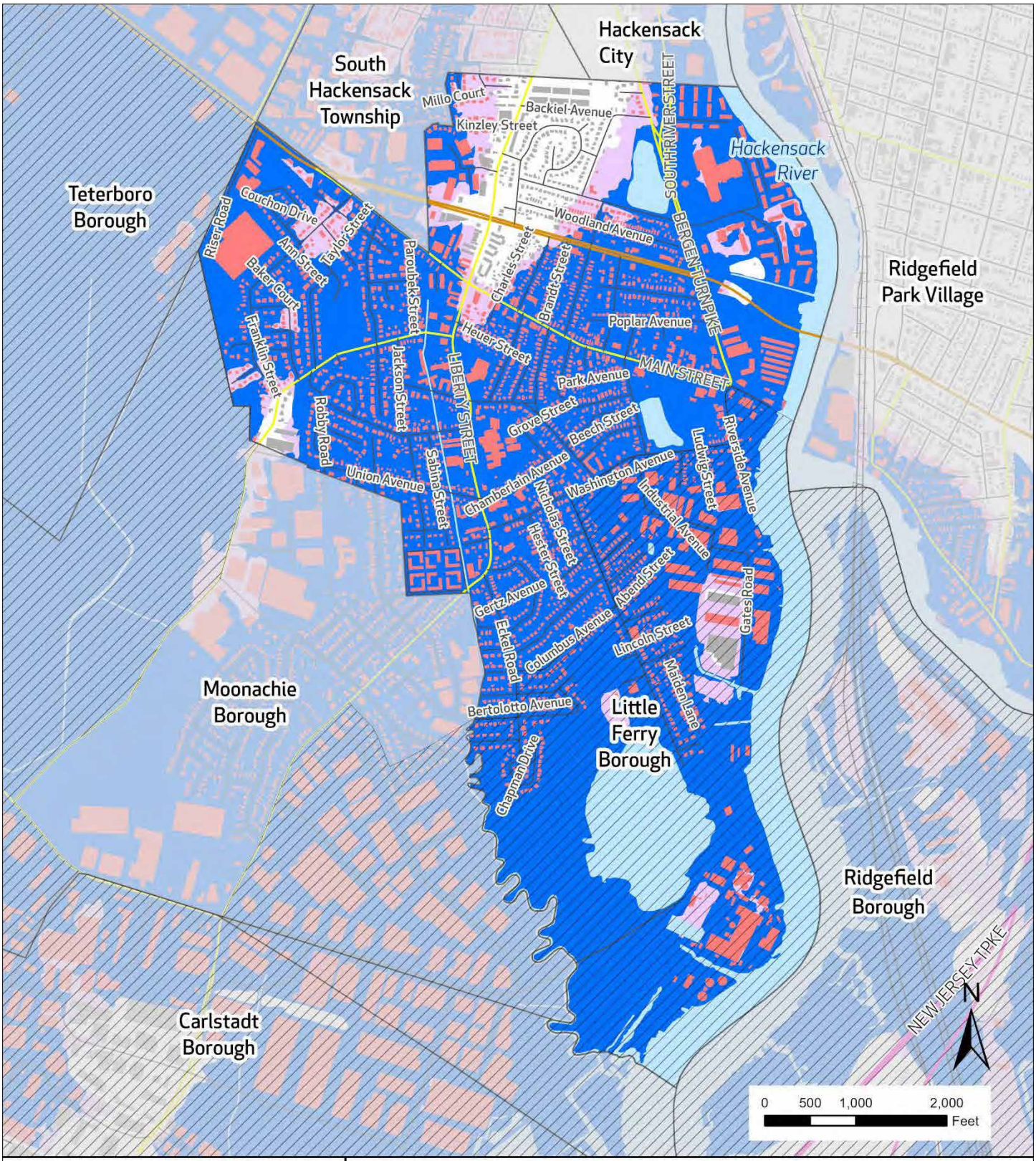
The Special Flood Hazard Area (SFHA) in the Borough of Little Ferry covers almost the entirety of the borough. Approximately 87 percent of the total area of Little Ferry lies within the 1% annual chance floodplain as defined by FEMA. An additional 6.9 percent of the area of the municipality is in the 0.2% annual chance floodplain.

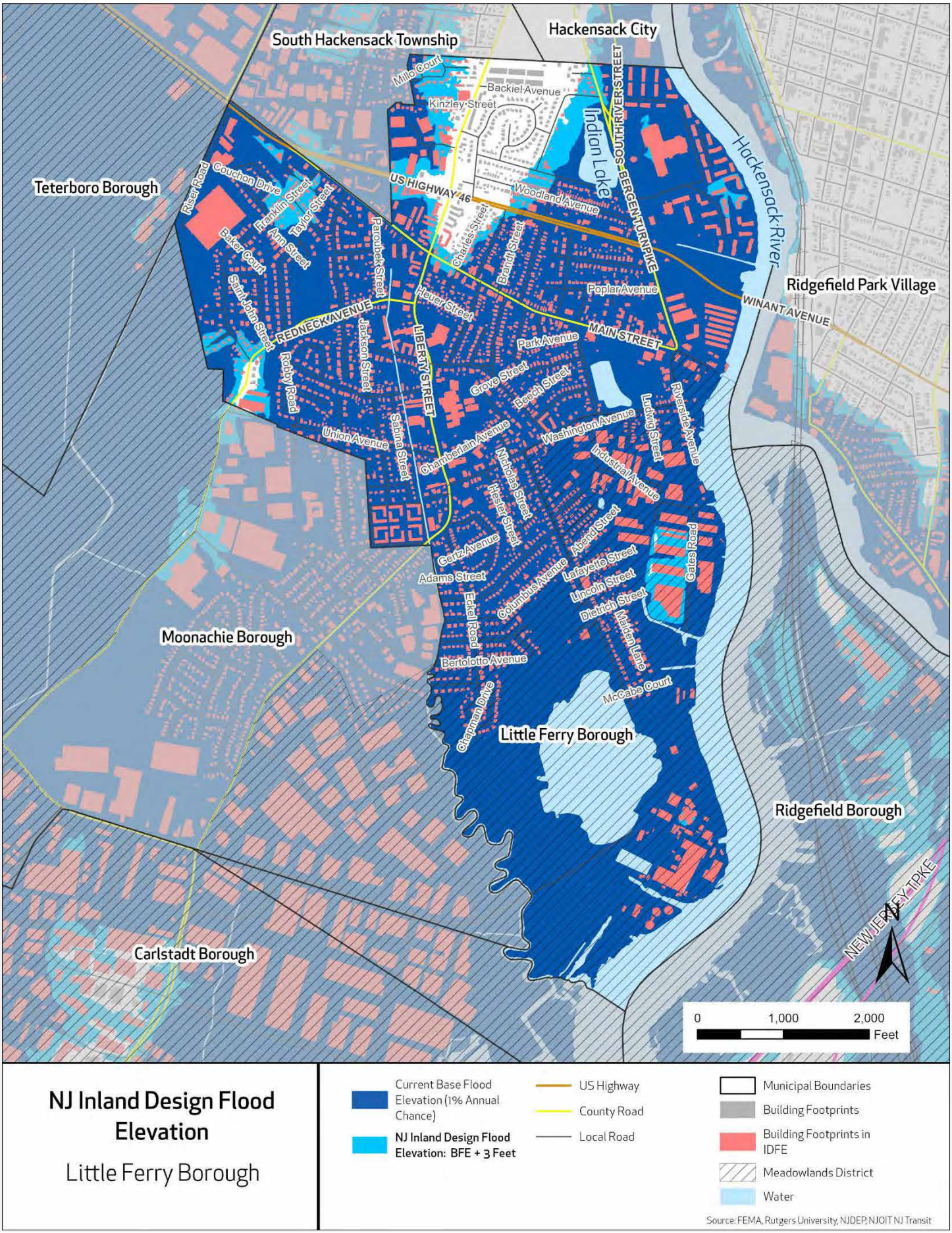
About 74.3 percent of Little Ferry is considered developed. Of the developed parcels of the borough, 80 percent fall at least partially within the 1% annual chance floodplain and 10.9 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

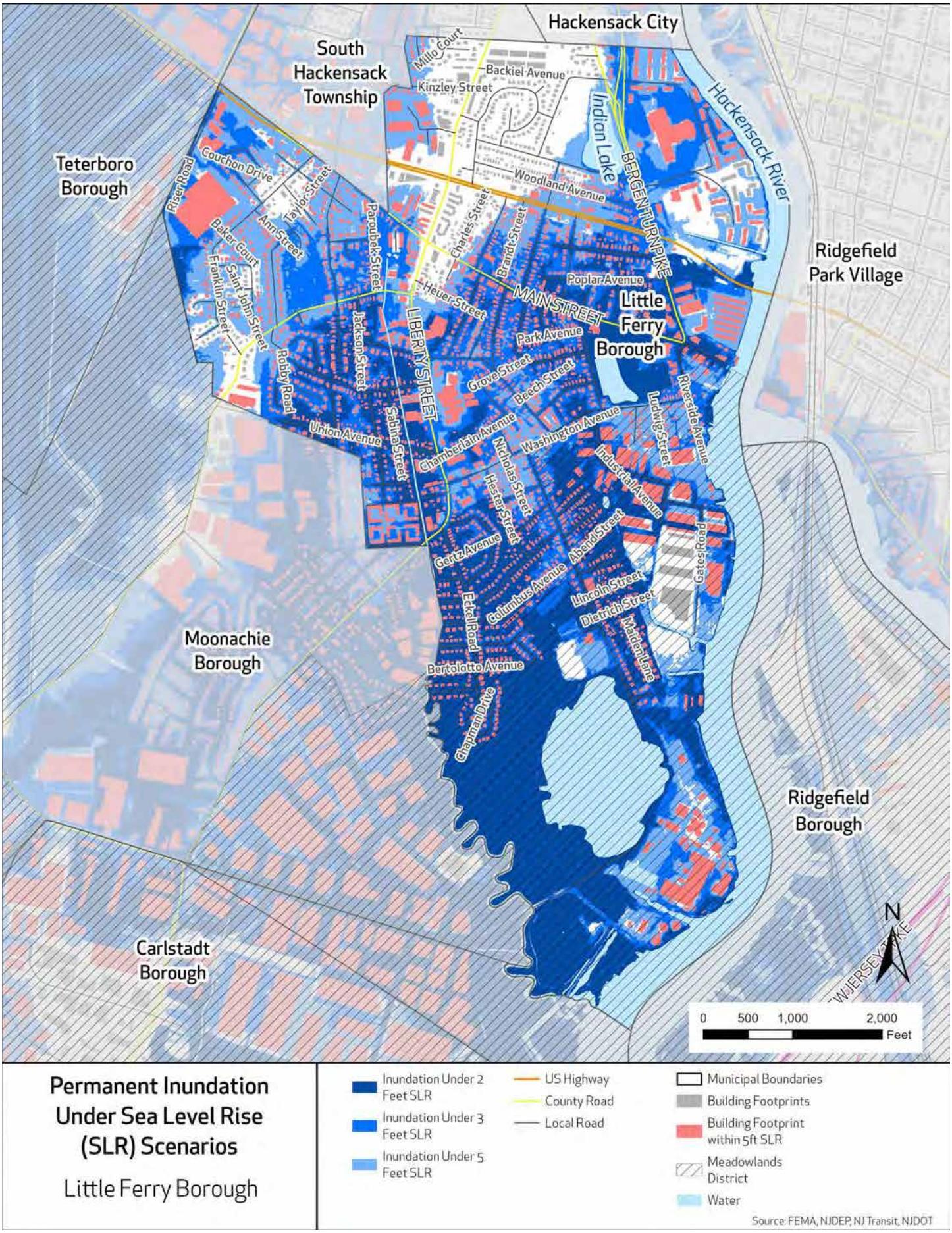
	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	80.0%	10.9%
Exposed Land Area	87.0%	6.9%

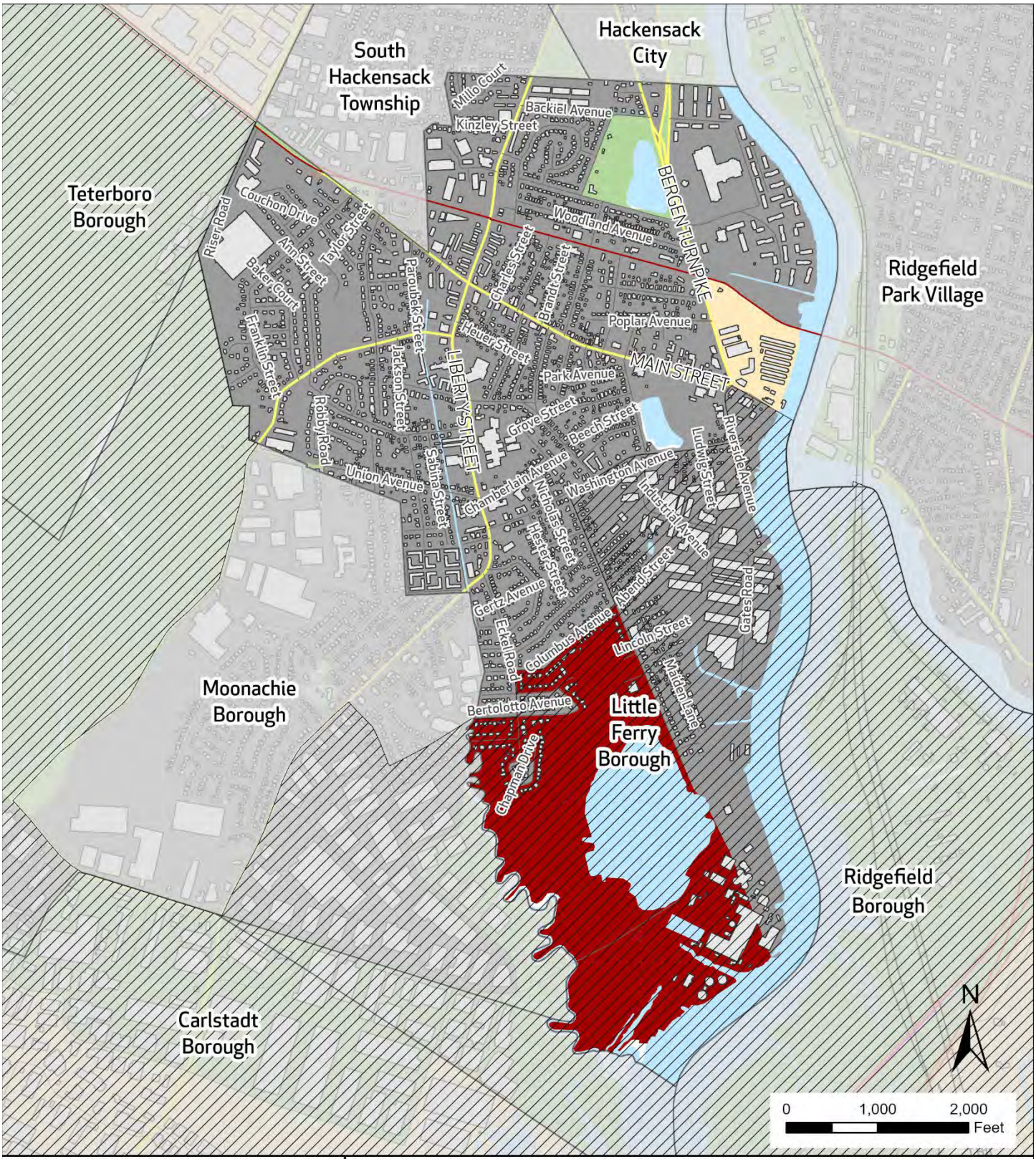
During the planning process, Little Ferry Borough identified critical facilities which function as community lifelines. These facilities provide the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. The municipality identified 19 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, eight are located within the 1% annual chance floodplain. These eight facilities are also within the area of the borough at risk from sea level rise. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Energy	1	0	1
Safety and Security	5	1	5
Water Systems	2	0	2


Hackensack City
South Hackensack Township
Teterboro Borough
Ridgefield Park Village
Moonachie Borough
Little Ferry Borough
Ridgefield Borough
Carlstadt Borough
Hackensack River
SOUTH RIVER STREET
BERGEN TURNPIKE
MAIN STREET
LIBERTY STREET
Millo Court
Backiel Avenue
Kinzley Street
Woodland Avenue
Charles Street
Brandt Street
Poplar Avenue
Heuer Street
Park Avenue
Grove Street
Beech Street
Riverside Avenue
Ludwig Street
Washington Avenue
Industrial Avenue
Chamberlain Avenue
Nicholas Street
Hester Street
Abend Street
Gates Road
Gertz Avenue
Eckel Road
Columbus Avenue
Lincoln Street
Maiden Lane
Bertolotto Avenue
Chapman Drive
Union Avenue
Sabina Street
Robby Road
Jackson Street
Franklin Street
Baker Court
Ann Street
Taylor Street
Couchon Drive
Riser Road
Paroubek Street
NEW JERSEY TPKE
N
0 500 1,000 2,000
Feet
Flood Hazard
Little Ferry Borough
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
US Highway
County Road
Local Road
Building Footprints
Building Footprints in Floodplain
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


South Hackensack Township
Hackensack City
Teterboro Borough
Ridgefield Park Village
Moonachie Borough
Little Ferry Borough
Ridgefield Borough
Carlstadt Borough
Indian Lake
Hackensack River
US HIGHWAY 46
SOUTH RIVER STREET
BERGEN TURNPIKE
REDNECK AVENUE
LIBERTY STREET
MAIN STREET
WINANT AVENUE
NEW JERSEY TPKE
Milo Court
Backiel Avenue
Kinzley Street
Woodland Avenue
Charles Street
Brandt Street
Poplar Avenue
Heuer Street
Paroubek Street
Riser Road
Couchon Drive
Franklin Street
Taylor Street
Ann Street
Baker Court
Saint John Street
Robby Road
Jackson Street
Union Avenue
Sabina Street
Park Avenue
Grove Street
Beach Street
Washington Avenue
Chamberlain Avenue
Nicholas Street
Hester Street
Ludwig Street
Riverside Avenue
Industrial Avenue
Gertz Avenue
Adams Street
Abend Street
Lafayette Street
Lincoln Street
Dietrich Street
Columbus Avenue
Eckel Road
Bertolotto Avenue
Gates Road
Malden Lane
McCabe Court
Chapman Drive
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Little Ferry Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
US Highway
County Road
Local Road
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Meadowlands District
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


Hackensack City
South Hackensack Township
Teterboro Borough
Ridgefield Park Village
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Park Avenue
Grove Street
Beech Street
Chamberlain Avenue
Washington Avenue
Riverside Avenue
Ludwig Street
Industrial Avenue
Nicholas Street
Hesse Street
Abend Street
Gates Road
Gertz Avenue
Columbus Avenue
Lincoln Street
Dietrich Street
Maiden Lane
Eckel Road
Bertolotto Avenue
Chapman Drive
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Little Ferry Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
US Highway
County Road
Local Road
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


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Riverside Avenue
Ludwig Street
Nicholas Street
Hertel Street
Industrial Avenue
Abend Street
Gertz Avenue
Eckel Road
Columbus Avenue
Lincoln Street
Gates Road
Maiden Lane
Bertolotto Avenue
Chapman Drive
N
0
1,000
2,000
Feet
Wildland Urban Interface (WUI) Classification
Little Ferry Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
US Highways
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Meadowlands_District_Bo
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Little Ferry Borough 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		2016	
Capital Improvement Plan				
Local Emergency Operations Plan/Continuity of Operations Plan	x		04/2024	
Floodplain Development Ordinance	x		05/2025	
Floodplain Management Plan	x		2024	
Stormwater Management Ordinance	x		04/2025	
Stormwater Management Plan	x		04/2025	
Watershed Management Plan		x		
Sheltering Plan	x		04/2024	
Evacuation Plan	x		04/2024	
Substantial Damage/Improved Structures Response	x		01/2024	
Repetitive Loss Plan		x		
Disaster Debris Management Plan		x		
Tracking elevation certificates and/or Letter of Map Change	x		2024	
Post-Disaster Recovery Plan		x		
Current/recent redevelopment plans or studies		x		
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		

Administrative and Technical Capabilities

Little Ferry Borough 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

Little Ferry Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Little Ferry Borough has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC		x	The borough was awarded a $100,000 BRIC grant for the purpose of digitizing building records. This was rescinded when the grant program was eliminated by the current federal administration.
FEMA FMA		x	
FEMA Public Assistance		x	
FEMA HMGP		x	
Non-FEMA Federal Funding Programs		x	The borough was awarded a $300,000 DOT grant for roadway improvements on heavy trucking routes that would have included stormwater upgrades. This grant was rescinded by the federal government at the same time as the BRIC grant detailed above.
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:

Little Ferry Borough had been awarded two federal grants which were rescinded on April 9, 2025. These include a $100,000 BRIC grant for the purpose of digitizing building well as a $300,000 DOT grant for roadway improvements on heavy trucking routes that would have included stormwater upgrades.

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 update the Borough of Little Ferry has upgraded its Main St. pump station. This project was a complete replacement increasing pump capacity by 30 percent in a flood prone area. The borough also added a backup generator at the old station. The borough's priority over the next five years is to continue enhancing its flood resiliency by continuing to improve its drainage systems.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-01	Purchase and Install New Pump Stations along the Hackensack River at the Main Street Drainage Station and the Bergen Turnpike Pump Station	Purchase and install new pump stations along the Hackensack River at the Main Street Drainage Station and the Bergen Turnpike Pump Station.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Little Ferry	FEMA HMA	$10,000,000.00	1 year	Completed	Actual project cost $756,000.00, completed in 2024.
30-02	Purchase and Install Generator at Main Street Stormwater Pump Station	Purchase and maintain generators to continue critical community services during utility interruptions and storm events	All Hazards	Low	Little Ferry Borough	FEMA HMA	$200,000.00	1 year	Completed	Completed 2024, goes along with project 30-01.
30-03	Expand the Capacity of Willow Lake	Expand the capacity of Willow Lake in order to hold more water during events.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Little Ferry Borough	Municipal budget	TBD	1 year	Withdrawn	Not feasible this should be removed.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-04	Continue to Improve Stormwater Management Along Public Ditch	Improved stormwater management system along a public ditch in a residential neighborhood to reduce repetitive loss.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Little Ferry Borough, Bergen County	Municipal budget	$8,000,000.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-05	Adopt Density Controls	Coordinate with NJSEA on density controls within the land use ordinance and plans.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$10,000.00	1 year	Ongoing	
30-06	Adopt Design Review Standards	New design standards to ensure sustainability, neighborhood characteristics, and resiliency.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$5,000.00	1 year	Ongoing	
30-07	Adopt Environmental Review Standards	Adopt new standards to ensure sustainability, neighborhood characteristics, and resiliency.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$5,000.00	1 year	Ongoing	
30-08	Adopt Floodplain Development Regulations	Adopt floodplain development regulations to ensure review and adoption.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$3,000.00	1 year	Ongoing	
30-09	Adopt Subdivision and Development Regulations	Adopt new regulations to ensure sustainability, neighborhood characteristics, and resiliency.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$3,000.00	1 year	Ongoing	
30-10	Adopt Coastal Zone Management	Adopt regulations to ensure sustainability, neighborhood characteristics, and resiliency.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	TBD	1 year	Ongoing	Not a coastal community

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-11	Develop an Open Space Preservation Plan	Develop an Open Space Preservation Plan as part of the Little Ferry Master Plan.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$3,000.00	1 year	Ongoing	
30-12	Purchase and Install Generator at Memorial School	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Little Ferry Borough	FEMA HMA	$200,000.00	3 years	Ongoing	
30-13	Establish and Adopt Performance Standards for Shoreline Setback Regulations	Establish as part of land use management.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Council and Planning Board; NJMC	Municipal budget	TBD	1 year	Ongoing	Not a coastal community
30-14	Expand and Enhance Public Education and Outreach Programs on Hazards	Maintain and improve information to community members effectively before, during, and after disasters.	All Hazards	Low	Council and Planning Board; NJMC	Municipal budget	$4,000.00	5 + years	Ongoing	
30-15	Create Hazard Information Centers	Create centers with information on the risks of flood hazards to current and new residents. Real Estate agents need to disclose whether a property is a flood zone and the risk to flooding and the flood depths.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Council and Planning Board; NJMC	Municipal budget	TBD	1 year	Ongoing	Had public meetings on flood hazards at our borough hall.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-16	Adopt Sediment and Erosion Control Regulations	Establish and/or enhance the river, drainage ditch, and slope.	All Hazards	Low	Governing Body, Planning Board, NJMC	Municipal budget	$5,000.00	1 year	Ongoing	
30-17	Construct Levees, Floodwalls, and Berms along the Hackensack River	Implement the recommendations from the Rebuild by Design Meadowlands (Pilot Area #1). The proposal is to build a berm system with associated gates in Little Ferry /Moonachie /Carlstadt (with a sliver of South Hackensack and Teterboro) that will extend oce	Flood, Nor'easter, Geological Hazards, Severe Weather	High	Borough of Little Ferry Planning, Engineering, OEM	FEMA HMA, HUD	$2,000,000.00	1 year	Ongoing	
30-18	Acquire and Demolish Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties, Especially Properties Located on Slopes, Ditches, and Creeks	Reduce RL and SRL damages to homes and businesses that are located near slopes, ditches, and creeks.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Little Ferry Borough, Bergen County	FEMA HMA	TBD	1 year	Ongoing	
30-19	Elevate and Floodproof Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties, with a focus on the "Main St Corridor"	Increased capacity to reduce RL damages to homes and businesses located in and near the "Main St Corridor." Jointly address the County's responsibility of storm water mgt while the borough would provide ADA Compliance and ensure the existing borough-owned	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Little Ferry Borough, Bergen County		TBD		Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-20	Install Stormwater Pump Station and Check Valve Within the Industrial Ave/Gates Road Area	Installation of a storm water pump station and check valve within the Industrial Ave/Gates Road area.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Little Ferry Borough, Bergen County	FEMA HMA	TBD	1 year	Ongoing	Project completed by County of Bergen. Backflow preventers were installed on all drainage outfalls to Hackensack River which should help with storm surge. Surge is still a problem when river crests over banks.
30-21	Purchase and Install a Generator at St. Margaret's Church	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Church	FEMA HMA	$150,000.00	1 year	New	
30-22	Mitigate all Critical Facilities to the 500-year Floodplain Regulations	Elevate, remove, or floodproof critical facilities (including generators and walkways) in the flood zone so the borough can respond to emergencies in a flood-event.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Little Ferry	FEMA HMA, Municipal budget	$10,000,000.00	3 years	New	
30-23	Purchase Portable Generators and Pump Stations	Purchase portable generators and pump stations.	All Hazards	Medium	Borough of Little Ferry	FEMA HMA	$50,000.00	1 year	New	
30-24	Install a Redundancy for Communication Systems	Install a redundancy for communication systems for fire, police, and borough hall.	All Hazards	Medium	Borough of Little Ferry	Homeland Security grants, Municipal budget	$750,000.00	1 year	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
30-25	Install a Pump Station Notification System	A system that notifies when there are problems with the pump stations.	All Hazards	Medium	Borough of Little Ferry	Municipal budget	$5,000.00	1 year	New	
30-26	Purchase Emergency Equipment Including Street Barricading and Messaging Boards	Purchase barricades, light towers, variable message signs and find a place to store all the equipment.	All Hazards	Medium	Borough of Little Ferry	Municipal budget	$25,000.00	2 years	New	
30-27	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, and/or Security Personnel	Target harden DPW storage yard for critical equipment (Indian Lake)	Flood, Terrorism, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Little Ferry	Homeland Security grants	$5,000.00	2 years	New	
30-28	Target Harden Schools, Places of Worship, Municipal Buildings, and Recreation Areas by Installing Bollards and Surveillance Cameras	Purchase and install bollards and security systems at these critical facilities.	Terrorism	Medium	Borough of Little Ferry	Homeland Security grants, Municipal budget	TBD	2 years	New	School has security cameras tied into Police department
30-29	Purchase Evacuation Equipment	Purchase emergency communications equipment to improve coordination between responders and to community members during disasters.	All Hazards	Medium	Borough of Little Ferry	Homeland Security grants, municipal budget	$150,000.00	1 year	New	

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PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Donald Scorzetti	**OEM Coordinator, Chief of Police**	**Primary Contact, Municipal Meeting**
Dominic Miller	Lt., Lodi Police Department, Assistant OEM	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Lodi spans approximately 2.29 miles and is located in southwestern Bergen County, New Jersey. It is bisected from north to south by the Saddle River. Major landmarks include the Lodi Memorial Park and Cemetery and the Voto/Tedesco Park located along the Saddle River. Route 17, U.S. Route 46, and Interstate 80 serve the borough, connecting the largely residential community to major routes in New Jersey and New York.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Lodi Borough is a primarily residential community with 53% of the borough's total area (over 590 acres) dedicated to single- and multi-family housing (as of 2022). Civic/public (tax exempt) uses also accounted for 17% of Lodi (189 acres) during this time. Industrial and commercial uses each make up 14% of the borough's total area, about 150 acres for each use. Land uses in Lodi have not experienced much compositional change since 2016, with the exception of vacant land, which dropped 60% between 2016 and 2022 estimates, to a total of 13.5 acres as of 2022.

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, 94% of Lodi is classified as urban or developed. Forest cover accounted for an additional 2% of Lodi Borough, a classification which saw a -20% decrease in acreage since 2015 estimates. During this time period, land classified as barren grew over 500% to a total of over 24 acres in Lodi.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	3.9	24.2	521%
Forest	41.2	33.1	-20%
Urban	1393.4	1381.2	-1%
Water	15	15	0%
Wetlands	12.8	12.8	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough reports no major redevelopment in recent years. Some single parcel redevelopment does occur within Lodi and has occurred since 2021.

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

Large scale redevelopment of an industrial parcel at 199 Garabaldi Avenue, on the corner of Garabaldi Avenue and Meta Lane, is expected to continue over the next several years. The former industrial property, a site for Gibraltar Plastics Company, has gone through demolition and has physical and environmental clean up as a part of future plans. Post clean up, residential uses have been proposed for the property, though the surrounding area is still heavily industrial.

Demographics & Vulnerable Populations

Lodi Borough has a total estimated population of 25,969, of which 4.6% are estimated to be under age 5 and 14.7% are over age 65. The borough saw a growth of an estimated 4.7% in population during the periods between 2013-2017 and

2018-2022. A growth rate of nearly five percent may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

Lodi has twenty-one block groups which are identified as potentially overburdened (OBC) based on criteria of populations as *Low Income* (one block group), *Low Income and Minority* (six block groups), and *Minority* (fourteen block groups). These areas make up the majority of Lodi's total area. Within the borough, there is one census tract meeting criteria for CEJST identification as potentially vulnerable based on indicators of *Workforce Development* vulnerabilities. There are no parts of the borough which meet criteria for designation as CDRZ communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	25,969
Population Change since 2017	4.7%
Percent of Population Age < 5	4.6%
Percent of Population > 65	14.7%

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 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	
Hurricanes, Tropical Storms	Winter Storms	Wildfire
Nor'easter	Lightning	Earthquake
Flood	Power Failure	Drought
	Coastal Erosion	Extreme Temperatures
	Dam & Levee Failure	Extreme Wind
		Tornado
		Landslide
		Wave Action
	Human-made Hazards	
		Cyber Attack
		Terrorism
		Pandemic
		Economic Disruption
		Civil Unrest

Storm surge was ranked as N/A due to the inland location of the borough.

Hazard Ranking Explanation

The Borough of Lodi notes flooding and flood-causing hazards (hurricane, tropical storm, nor'easter, and dam and levee failure) as top hazards of concern (ranked high concern) for their community.

The borough experiences regular flooding in low-lying areas along the Saddle River which runs through the center of Lodi. This flooding impacts roadway access and has caused closures after prolonged heavy rain events. Notable areas of regular flooding include Mitchell Street and Sidney Street at Main Street, where the Washington School basement has flooded. Apartment complexes along Arnot Street have experienced flooding which has resulted in necessary evacuation.

With regular standing water events along Main Street, occurring between Union Street to Kennedy Drive in central Lodi, a main thoroughfare through the borough is affected, shut down with standing water reaching, in some cases, five to six feet. This shutdown of Main Street happens up to three times a year depending on storm conditions. Flash flooding also occurs along Route 46 which bisects Lodi east to west. This flooding on Route 46 E closes at least one lane of travel during these somewhat frequent events. At a low point on Route 46 West, described as a valley, gets flooded from rain draining on both sides. This area contains active industrial land uses which are inaccessible and flooded during heavy rain events.

In addition to prolonged rain events causing standing water on borough roadways, flooding occurs regularly due to overflow storm drainage which actually pushes water up into roadways when the Saddle River is already at capacity. Debris backflow has been known to cause clogging and flooding further south in Lodi at Chestnut Street, where a bend in the Saddle River near Voto/Tedesco Park gets clogged with debris causing additional overflow.

Additional noted sites experiencing regular flooding in Lodi include the DPW building at the base of Richmond Street, the base of McKinley Avenue, and the back parking lots on the campus of Felician University Lodi Campus, which flood from the Saddle River behind their site.

Lodi is located downstream of a dam along the Saddle River which has been the source of flood events, particularly in one event when water was allowed to flow freely to avoid a larger more destructive flood. Due to their downstream location from this dam, Lodi also ranks the hazard risk of dam and levee failure as high.

Significant Hazard Events Since Last Plan Update

The above accounting of flood events occurring regularly since the last plan update provides an understanding of significant hazard events in Lodi over recent years. Many of these floods have caused roadway closures, necessitated emergency evacuations, and have required fire and police response for evacuation, roadway management, and clean up during and after hazards experienced by the Lodi community.

Specifically, flooding events requiring the response of local fire departments include any time when Main Street experiences standing water. During these events, the fire department is dispatched to hose down roadways, and, at times, help evacuate apartment complexes by Main Street. Other evacuations have occurred along Arnot Street and on Mitchell Street. During at least one event by the school grounds, a high-water vehicle was used to help with evacuations.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Lodi Borough. As global temperatures rise, the frequency and intensity of extreme weather events causing heavy and prolonged rainfall (including hurricanes, nor'easters, and tropical storms) are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas already prone to flooding, including low lying areas along the Saddle River, and low lying 'dips' in Lodi infrastructure, as seen on Route 46. The current stormwater system, which already struggles during heavy rain events when the Saddle River is at capacity, may become even more overwhelmed, leading to more frequent and more severe flooding. Rising sea levels can also contribute to this upstream inundation, further threatening Lodi's infrastructure.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Lodi Borough	
Number of Policies In-Force:	194
Total Losses:	1107
Total Payments:	$27,502,399.46
Number of RL Properties:	90
Number of Mitigated RL Properties:	0
RL – Total Losses:	270

Lodi Borough	
RL – Total Paid:	$7,769,688.07
Number of SRL Properties:	43
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	230
SRL – Total Paid:	$13,337,418.39

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

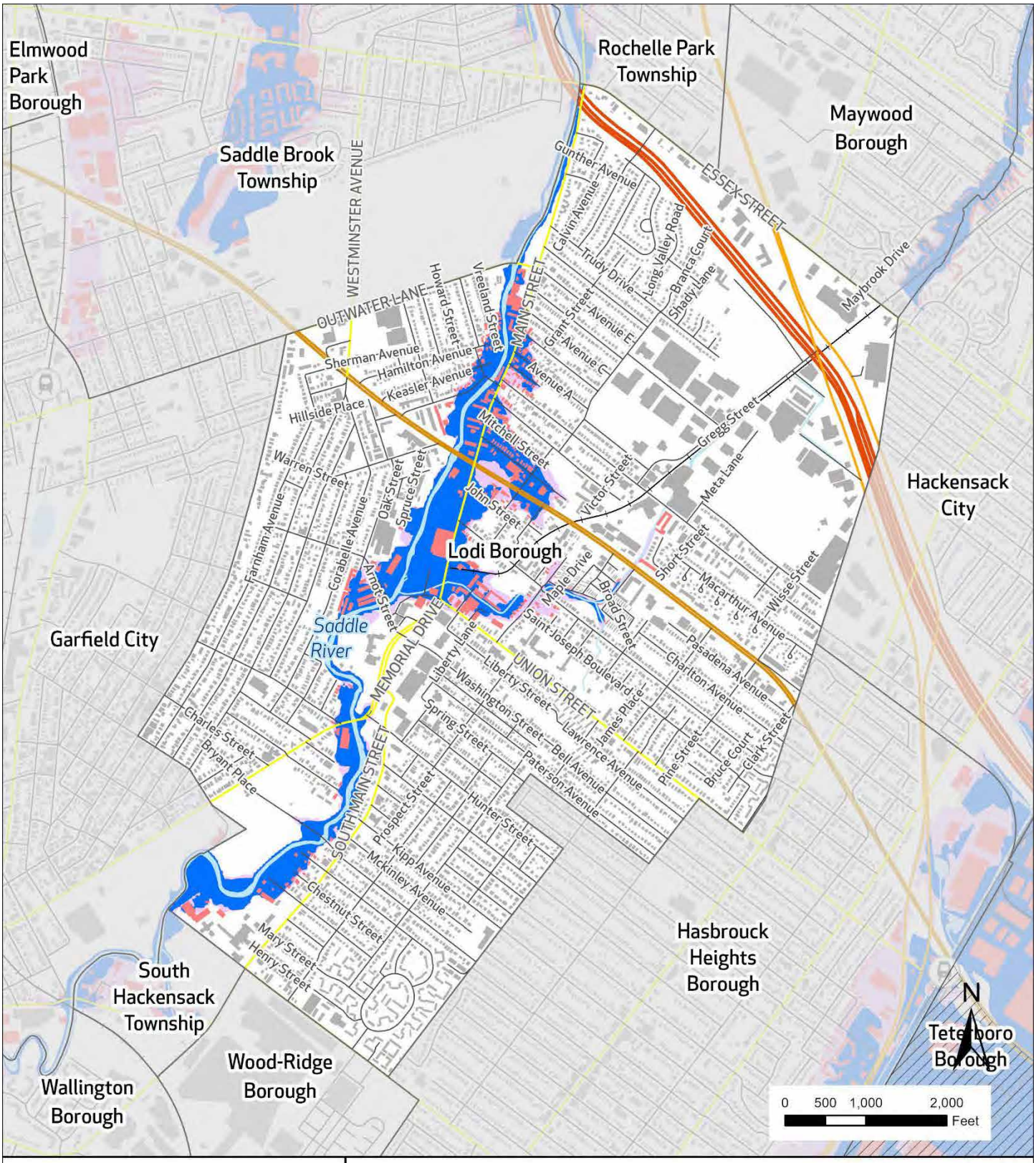
The Special Flood Hazard Area (SFHA) in the Borough of Lodi is primarily located adjacent to the Saddle River. Approximately 7.9 percent of the total area of Lodi lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 74 percent of Lodi is considered developed. Of the developed parcels of the town, 5.3 percent fall at least partially within the 1% annual chance floodplain and 5.5 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	5.3	5.5
Exposed Land Area	7.9	2.1

During the planning process, Lodi Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain and an additional facility is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	1	1



Flood Hazard

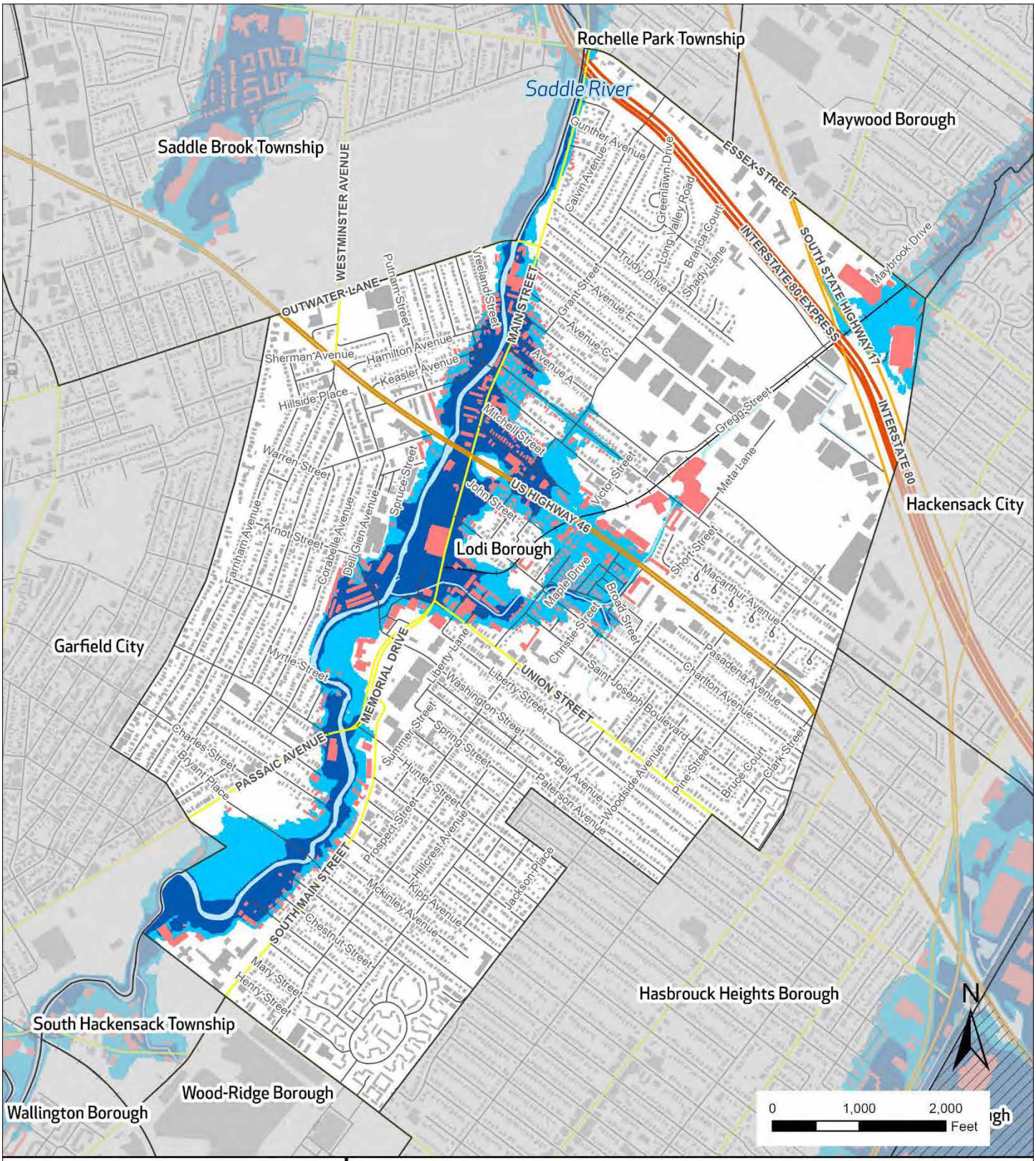
Lodi Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Lodi Borough

Current Base Flood Elevation (1% Annual Chance)

NJ Inland Design Flood Elevation: BFE + 3 Feet

Interstate Route

US Highway

State Highway

County Road

Local Road

RailRoad

Municipal Boundaries

Building Footprints

Building Footprints in IDFE

Meadowlands District

Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Lodi Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Lodi Borough 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

Lodi Borough 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, Lodi Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Lodi Borough plans to prioritize roadway elevations along evacuation routes due to residents being stranded before and during storm events with the help of the Army Corps of Engineers and the borough engineers. The borough will enhance its capabilities through promoting planning, increasing public preparedness and adopting building/zoning codes to assist in achieving its goal. Ultimately, the borough plans to have actions in place prior to disaster striking.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
31-01	Purchase Barricades for Flood-prone Roadways	Barricades purchased. Storage facilities yet to be done.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Lodi OEM	Homeland Security grants, Municipal budget	TBD	1 year	Complete	Storage facilities do still experience flooding; when flood is anticipated, resources are moved to higher area on college campus.
31-02	Maintenance and Inspection of Stormwater Catch Basins and Brooks	Maintenance and inspection of all stormwater catch basins and brooks. Remove debris as required throughout the Borough of Lodi.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Lodi DPW, OEM	Municipal budget	TBD	1 year	Complete	This action is completed but requires ongoing maintenance.
31-03	Elevate DPW Building	Move to the 2nd floor and keep non-essential material on the 1st floor; storage needs to be above 500-year flood plan.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Lodi	FEMA HMA	TBD	1 year	Complete	
31-04	Coordinate with County on Backup Power for County-owned Lights	Purchase and install automatic transfer switches at all intersections to accommodate backup generators	All Hazards	Low	Bergen County	Municipal budget, County budget	$150,000.00	1 year	Complete	This is complete as stated, but an ongoing relationship.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		to power traffic lights in the even that power goes out. Need to coordinate with county as cost to install the switches on county owned lights is $35,000 per light.								
31-05	Install Redundancy for Emergency Service Communications	Create a redundancy communication system for emergency services.	All Hazards	Medium	Borough Emergency Response Departments	Homeland Security grants, FEMA HMA	TBD	2 years	Complete	Complete, ongoing relationship with County as the contractor for dispatch.
31-06	Purchase and Install Cyber Security Infrastructure	Purchase and install data backup and backup servers offsite.	Cyber Attack	Medium	Borough OEM	Homeland Security grants	TBD	1 year	Complete	Complete, ongoing as maintenance is always required.
31-07	Purchase a New Jet/Vac Truck	Purchase a new Jet/Vac truck to clean out debris from sewers and stormwater pipes.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough OEM	Municipal budget	$500,000.00	3 years	Complete	Purchased, use for debris clean-up. Stored at DPW site.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
31-08	Install Floodwater Current Diverters	Install water diverters at Memorial Park.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Lodi OEM	FEMA HMA	TBD	1 year	Ongoing	
31-09	Prevent Erosion and Mudslides through Slope Stabilization and a Retaining Wall Along Harrison	Slope stabilization and retaining walls will be installed on Harrison and Farnham Avenue	Flood, Nor'easter, Hurricane and Tropical Storm, Geological Hazards,	Medium	Borough Engineering	FEMA HMA	TBD	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	and Farnham Avenue	slopes to prevent further erosion and mud slides.	Severe Weather							
31-10	Elevate, Acquire, or Demolish Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties Located within the Regulatory Floodway Along the Saddle River	Elevate, Acquire, or Demolish Structures Located within the Regulatory Floodway Along the Saddle River.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Lodi and surrounding municipalities, Homeowners	FEMA HMA	TBD	3 years	Ongoing	No known elevation, acquisition, or demolition progress has been made but this remains a goal.
31-11	Develop Floodplain Ordinance	Revise zoning code to include an ordinance that anyone in a flood zone must have an elevation survey completed.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough Council	Municipal budget	TBD	1 year	Ongoing	Borough Manager is responsible for this progress.
31-12	Target Harden W-ABC Communications Tower by Installing Surveillance Cameras	Replace fencing around the tower and the light at the top of the tower; add additional security cameras around the tower.	Terrorism	Medium	Borough OEM	Homeland Security grants	TBD	1 year	Ongoing	
31-13	Update Master Plan to include a Resiliency Component	Incorporate Resiliency into the community's Master Plan as its own element or incorporated throughout the entire plan. This Community Action supports Community Action # 31-11.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough Planning	Municipal budget	$70,000.00	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
31-14	Increase Communication and Purchase Safety Equipment (Variable Message Signs, Light Towers, and Movable Barriers), Especially in the Downtown Corridor	Purchase variable message signs, light towers, and movable barriers to keep people out and improve emergency services in the core downtown area of Lodi.	All Hazards	Medium	Borough OEM	Municipal budget	TBD	1 year	Ongoing	The borough has purchased safety signs, camera equipment, barriers, and ongoing maintenance acquisition.
31-15	Elevate Pump Stations to 500-year Floodplain	Elevate, remove, or floodproof pump stations in the flood zone so the Borough can respond to emergencies in a flood-event.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough OEM	FEMA HMA	$10,000,000.00	1 year	Ongoing	Remains a high priority – unknown how far this reaches; Main Street has been redone with redevelopment – elevated.
31-16	Purchase and Install Switches at all Municipally-owned Traffic Lights	Purchase and install automatic transfer switches at all intersections to accommodate backup generators to power traffic lights in the even that power goes out.	All Hazards	Medium	Borough OEM	Municipal budget	$100,000.00	2 years	Ongoing	Ongoing – Lodi has street traffic control devices (from county) if needed – there are only 2 municipally owned traffic lights.
31-17	Develop an Engineering Study on Status of Sewer System	Develop a study to examine how to retrofit the sewer system and pump stations to withstand the current capacity.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough Engineering, DPW	Municipal budget	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
31-18	Reestablish Eligibility in the NFIP's CRS Program	Lodi rescinded their participation the in CRS program; reestablish eligibility to complete pro-active floodplain management and assist residents with flood insurance costs.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Lodi Borough	Municipal budget	$0.00	2 years	Ongoing	

32 – LYNDHURST TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Paul F. Haggerty	**Emergency Management Coordinator**	**Primary Contact, Attended Municipal Meeting**
Richard Gress	Public Works Superintendent	Reviewed Appendix
David Atkinson	Neglia Engineering	Township Engineering Firm
Robert B. Giangeruso	Mayor	Reviewed Appendix

COMMUNITY PROFILE

Overview

Lyndhurst Township, located in southern Bergen County, is part of the Passaic River and Hackensack River watersheds. The township is bordered by the Passaic River to the west, and portions of the Hackensack River to the east and south. It features flat to gently sloping topography with urban and industrial characteristics. Notable community landmarks include Riverside County Park and the Meadowlands Environment Center within DeKorte Park, a key ecological area in the New Jersey Meadowlands. Land use within the township is diverse, with a mix of residential neighborhoods, commercial zones, and industrial areas, as well as preserved wetlands that provide habitat preservation and flood mitigation in the Meadowlands District. Although Lyndhurst Township is not considered a coastal community, its proximity to the Passaic and Hackensack Rivers plays a significant role in its landscape and risks.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Lyndhurst is primarily a residential community, with the 2022 MOD-IV data showing that residential land uses (including single and multi-family) accounted for 33% of the total land use, covering over 611 acres of land. Notably, Lyndhurst also has civic/public land uses (tax exempt) making up an additional 37% of total land area in 2022 – with a coverage of 702 acres. Commercial land use accounts for 6% (110 acres) and industrial land use for 11% (nearly 200 acres) of Lyndhurst. The most notable change in the composition of land use within the township between 2016-2022 is the rise in vacant land, which now makes up nearly 260 acres in Lyndhurst.

According to NJDEP's Land Use / Land Cover dataset categories for survey year 2020, land classified as 'urban' made up the largest share of Lyndhurst, with 51% of the area developed as 'urban'. Water makes up over 20% of coverage within the boundary of the township, and wetlands classification an additional 14%.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	373.2	378.6	1%
Forest	70.2	65.7	-6%
Urban	1636	1625.7	-1%
Water	660.5	654.4	-1%
Wetlands	439	454.5	4%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

In recent years, Lyndhurst has been home to industrial development and new warehouse space being developed within the Meadowlands district within the northeast of the township. Ridge Road near the NJ Transit Kingsland Station has also seen recent development. These developments are within the regulatory floodplain, but Ridge Road near Valley Brook Avenue was elevated approximately 6 feet to mitigate flood incidents.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Along with development occurring near the rail line along Ridge Road in Lyndhurst, the Kingsland Station itself is being redeveloped with an anticipated opening in Spring 2025. NJ Transit leads this redevelopment project, with plans to permanently close the Kingsland Station and open the new station at the corner of Delafield and Court Avenues. The new station aims to bring modern amenities, better accessibility, and improved safety. The township anticipates additional economic benefits from this redevelopment, planning for new businesses, increased property values, and contributions to community growth. This should not affect any floodplain issues.

Demographics & Vulnerable Populations

Lyndhurst Township has a total estimated population of 22,332. This population is estimated to be 4.3% under age 5, and 15.6% over age 65. The township experienced a modest 1.8% population growth estimated in the period between the 2013-2017 and 2018-2022 ACS surveys. With an aging population making up nearly sixteen percent of township residents, Lyndhurst may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Lyndhurst has six block groups meeting criteria for designation as overburdened (OBC) areas, by categories of Low Income (one block group) and Minority (five block groups) indicators of vulnerability. There are no parts of the Township which meet criteria for designation as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	22,332
Population Change since 2017	1.8%
Percent of Population Age < 5	4.3%
Percent of Population > 65	15.6%

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 high, medium, low, or no concern. The following include the township'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 Temperatures	Tornado
Nor'easter	Extreme Wind	Coastal Erosion
Winter Storm	Lightning	Dam Failure
Flood	Drought	Landslide
	Wildfire	Earthquake
	Storm Surge	
	Wave Action	
	Human-made Hazards	
Cyber Attack	Pandemic	Civil Unrest
Economic Disruption	Terrorism	
Power Failure		

Hazard Ranking Explanation

With the location of Lyndhurst as part of both the Passaic and Hackensack watersheds, and sizeable land area consisting of water and wetlands geographies, the township is particularly aware of high-risk hazards including storms (hurricane/tropical Storm, nor'easter, winter storm) as well as effects from flood, storm surge, and wave action. Because

of their location downstream from other Passaic dams, though the township ranks 'dam failure' itself as a hazard of lower concern, Lyndhurst has noted the downstream risk from surge when other Passaic dams are released. These water-based hazards become more of a concern as water tables have risen in recent years.

Significant Hazard Events Since Last Plan Update

A notable winter storm in 2021 brought nearly 6'' of snow in a short period of time to the township, and necessitated follow up snow management help from FEMA. Ida also caused notable flooding in Lyndhurst, particularly in central areas where flooding is typically seen, on Fern Avenue between Grant Avenue and Warren Street, and within the portion of the township bounded by Stuyvesant Avenue, Thomas Avenue to the south, and Riverside Avenue along the Passaic River.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Lyndhurst Township. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, exacerbating the risk of flooding and storm concerns in the township. This will exacerbate existing vulnerabilities, particularly in riparian areas prone to flooding and coastal erosion. Rising sea levels will also contribute to coastal erosion, further threatening the township's wetland and water-fronting landscapes. Additionally, higher temperatures and prolonged heatwaves could increase the risk of wildfires, which, while now a lower concern, may become more frequent and harder to manage in the open lands to the south of Lyndhurst.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Lyndhurst Township	
Number of Policies In-Force:	187
Total Losses:	498
Total Payments:	$12,773,392.14
Number of RL Properties:	90
Number of Mitigated RL Properties:	2
RL – Total Losses:	257
RL – Total Paid:	$6,106,967.50
Number of SRL Properties:	21
Number of Mitigated SRL Properties:	3
SRL – Total Losses:	93
SRL – Total Paid:	$3,008,004.99

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

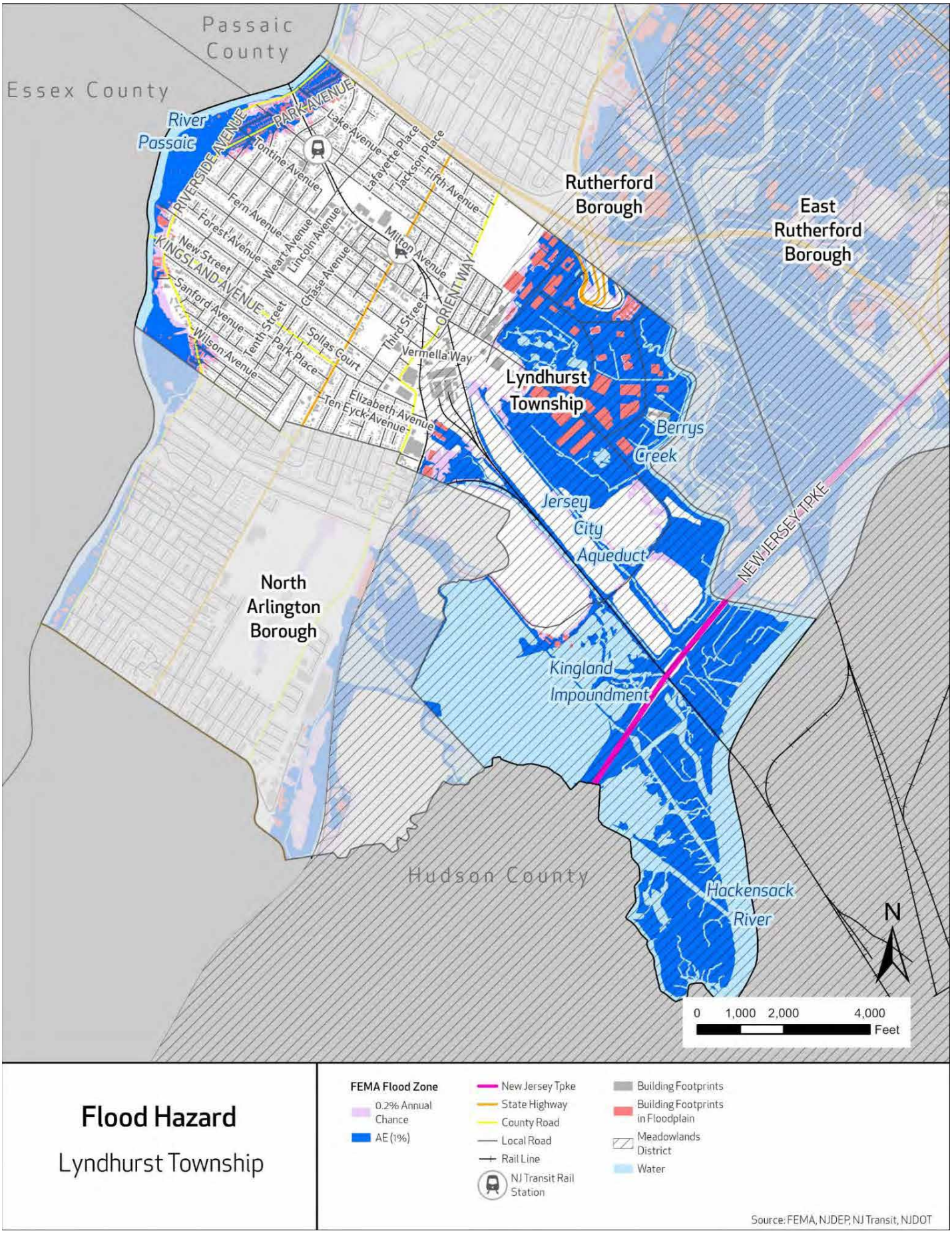
The Special Flood Hazard Area (SFHA) in the Township of Lyndhurst is primarily located adjacent to the Passaic River on the western side of the township and in the wetlands in the eastern portion of the township within the Meadowlands District. Approximately 50.7 percent of the total area of Lyndhurst lies within the 1% annual chance floodplain as defined by FEMA. An additional 3.2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

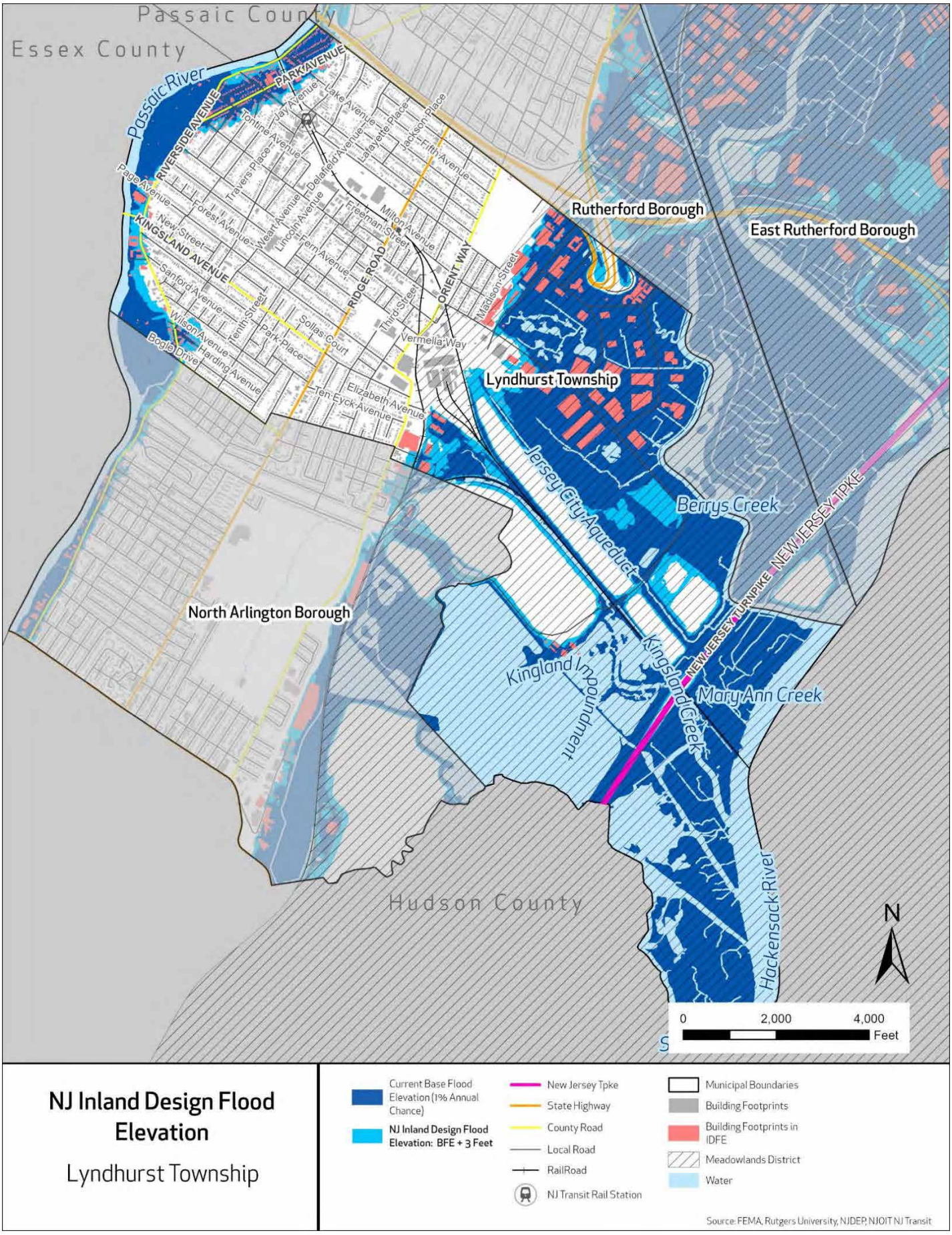
About 57.9 percent of Lyndhurst is considered developed. Of the developed parcels of the township, 7.9 percent fall at least partially within the 1% annual chance floodplain and 6.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development in the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	7.9	6.2
Exposed Land Area	50.7	3.2

During the planning process, Lyndhurst 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 eight total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5' of Sea Level Rise
Community Lifelines and Critical Facilities	0	0	0


Passaic County
Essex County
River Passaic
PARK AVENUE
RIVERSIDE AVENUE
Lake Avenue
Lafayette Place
Jackson Place
Fifth Avenue
Tontine Avenue
Fern Avenue
Forest Avenue
Weart Avenue
Lincoln Avenue
Chase Avenue
Milton Avenue
ORIENT WAY
New Street
KINGSLAND AVENUE
Sanford Avenue
Tenth Street
Park Place
Sollas Court
Third Street
Vermella Way
Wilson Avenue
Elizabeth Avenue
Ten Eyck Avenue
Rutherford Borough
East Rutherford Borough
Lyndhurst Township
Berrys Creek
Jersey City Aqueduct
NEW JERSEY TPKE
North Arlington Borough
Kingland Impoundment
Hudson County
Hackensack River
N
0 1,000 2,000 4,000
Feet
Flood Hazard
Lyndhurst Township
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
New Jersey Tpke
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Building Footprints
Building Footprints in Floodplain
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

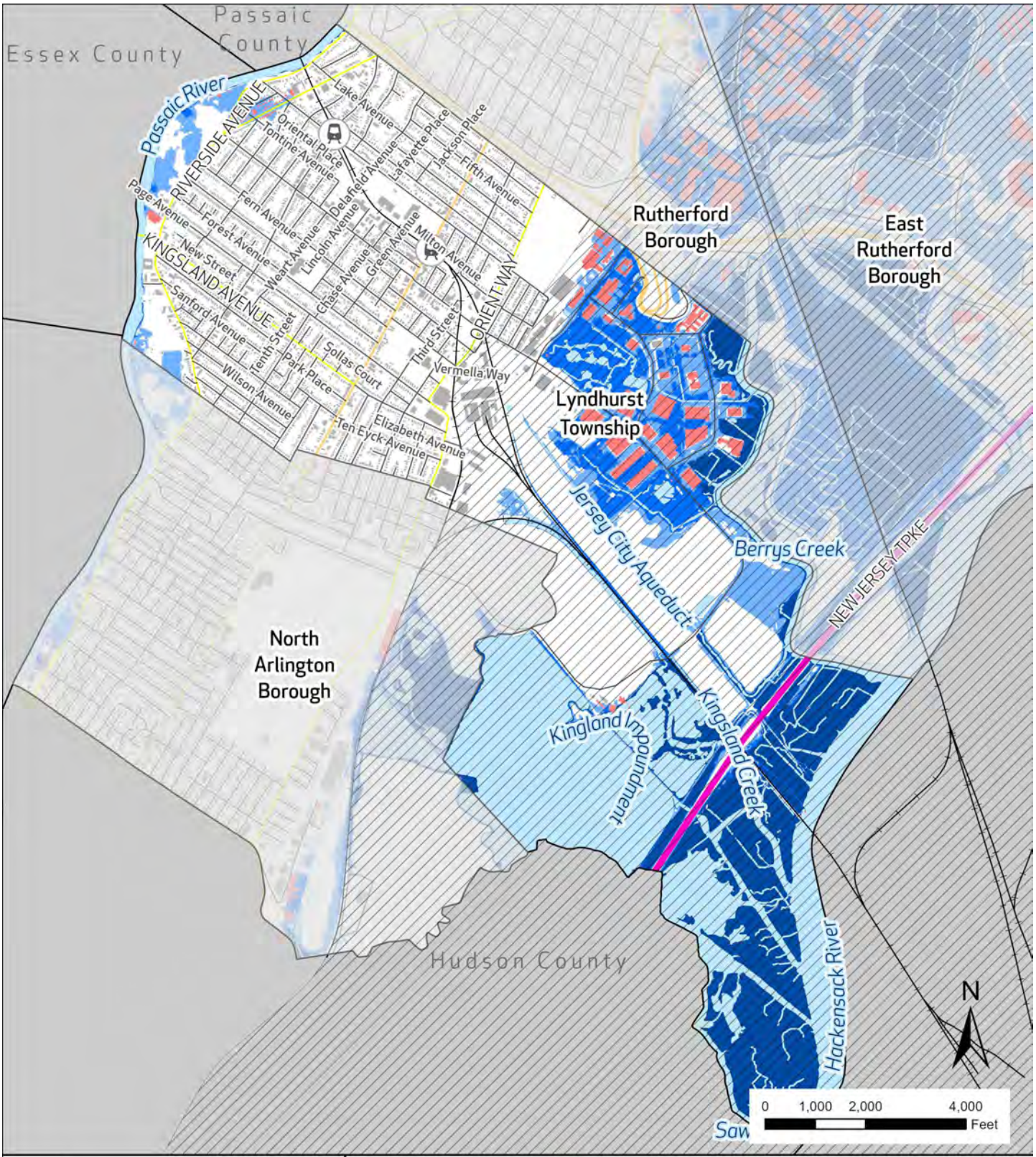


NJ Inland Design Flood Elevation

Lyndhurst Township

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Passaic County
Essex County
Passaic River
RIVERSIDE AVENUE
KINGSLAND AVENUE
Lake Avenue
Oriental Place
Tontine Avenue
Lafayette Place
Jackson Place
Fifth Avenue
Delafield Avenue
Fern Avenue
Forest Avenue
Page Avenue
New Street
Weart Avenue
Lincoln Avenue
Chase Avenue
Green Avenue
Milton Avenue
ORIENT WAY
Third Street
Sanford Avenue
Tenth Street
Park Place
Sollas Court
Vermella Way
Wilson Avenue
Ten Eyck Avenue
Elizabeth Avenue
Rutherford Borough
East Rutherford Borough
Lyndhurst Township
North Arlington Borough
Jersey City Aqueduct
Berrys Creek
NEW JERSEY TPKE
Kingland Impoundment
Kingsland Creek
Hackensack River
Hudson County
N
0 1,000 2,000 4,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Lyndhurst Township
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Lyndhurst 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		2024	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		05/14/2019	
Floodplain Development Ordinance	X		07/09/2019	Flood damage prevention updated
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		10/2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Inspections scheduled on a need-basis for structures with complains
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Copies received by homeowners, map changes conducted by consultant-Neglia Engineering
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Business/residential overlay zone

Administrative and Technical Capabilities

Lyndhurst Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Christopher Salviano (construction official, full-time employee)
Grant Writer	X		Contractor, Bruno Associates
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		Lyndhurst Board of Education
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Lyndhurst Township has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Lyndhurst 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		Evaluated by severity of each issue
Other ongoing efforts to build additional financial capabilities	X		Grant management

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Township of Lyndhurst has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include elevating homes to meet updated FEMA standards, improving drainage systems, and maintaining backup power at essential facilities. Over the next five years, Lyndhurst aims to prioritize projects that address emerging climate challenges, such as sea level rise, by expanding mitigation strategies like updated flood mapping, adopting advanced emergency alert systems, and upgrading community shelters. These efforts underscore the Township of Lyndhurst's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Township has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
32-01	Create and Coordinate a Passaic River Regional Committee	The Township of Lyndhurst is actively pursuing any avenue of funding and approval to build up the river banks along the Passaic River. Additionally, the Township is exploring ideas of installing a berm or makeshift levy to prevent the river from cresting.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Lyndhurst DPW/Contractual Engineer/ Contractor	Municipal budget	$1,500,0000	5 + years	Ongoing	
32-02	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate 22 repetitive flood loss residences in flood prone area.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Twp. of Lyndhurst	FEMA HMA	$1,800,000	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
32-03	Purchase and Install Folding Stop Signs and Battery Backups at Traffic Intersections	Folding stop signs to be mounted on traffic light poles which can be rapidly activated.	All Hazards	Medium	Twp. of Lyndhurst	Municipal budget	$25,000	3 years	Ongoing	
32-04	Construct Permanent Flood Walls, Berms, and/or Levees along the Passaic River	Construct permanent flood walls, berms, and/or levees (including the possibility of deployment of hydraulic portable walls) along the Passaic River in the flood prone areas within the township.	Flood	High	Twp. of Lyndhurst	FEMA HMA	$75,000	3 years	Ongoing	
32-05	Add Redundant Communication System for Emergency Services	Add a redundancy communication system for emergency services.	All Hazards	Medium	Lyndhurst Township	Homeland Security grants, Municipal budget	$200,000	1 year	Ongoing	
32-06	Improve the Existing Siren/PA System to Alert Residents of Emergencies	Improve existing siren/PA System.	All Hazards	Medium	Lyndhurst Township	Homeland Security grants, Municipal budget	$30,000	3 years	Ongoing	
32-07	Purchase and Install Cyber Security Infrastructure	Purchase back-up servers for existing off-site storage.	Cyber Attack	Medium	Lyndhurst Township	Homeland Security grants	$150,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
32-08	Add AM Radio Station for Emergency Information	Purchase emergency communications equipment to improve coordination between responders and to community members during disasters.	All Hazards	Medium	Lyndhurst Township	Municipal budget	$15,000	2 years	Ongoing	
32-09	Coordinate with Bergen and Essex County on Bridge Improvements	Coordinate with Bergen and Essex County on Riverside Bridge, which needs several improvements.	All Hazards	Medium	Bergen and Essex County, Lyndhurst Township	FEMA HMA, County and municipal budget	$33,200,000	2 years	Ongoing	
32-10	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, and/or Safety Glass	Increase security at all schools through security cameras, safety glass, access cards, etc.	Terrorism	Medium	Lyndhurst Township Schools, Police	Homeland Security grants	$250,000	2 years	Ongoing	

33 – MAHWAH TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Raymond R. Roe	**Emergency Management Coordinator**	**Primary Contact, Attended Local OEM Meeting, Municipal meeting**
Chris Howard	Deputy Emergency Management Coordinator	Attended municipal meeting
Michael Kelly	Engineer	Attended municipal meeting

COMMUNITY PROFILE

Overview

Mahwah Township, located in the northwestern corner of Bergen County, New Jersey, is the largest municipality in the county, spanning approximately 26.7 square miles. The township is not a coastal community. It is bordered by the Ramapo Mountains and the Ramapo River. Major landmarks include the Ramapo Valley County Reservation and Darlington Schoolhouse.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In Mahwah, civic/public (tax exempt) use is the predominant land use, with the MOD-IV dataset showing it accounting for 59% of the total land area in 2022. Residential land use (including apartment land use) accounts for the second-largest share of the land area at 28%. From 2016 to 2022, apartment and civic/public (tax exempt) land decreased marginally, while farm, vacant land and railroad property decreased significantly from 2016. On the other hand, residential, commercial and industrial land use showed an increase since 2016.

Additionally, according to NJDEP's Land Use/Land Cover datasets for 2015 and 2020, apart from a small decrease in 'Water', the land use composition for 'Agriculture', 'Forest', 'Urban' and 'Wetlands' remained largely the same. Meanwhile 'Barren Land' significantly increased by 112% from 2015 to 2020. Throughout this period, forest land accounted for the largest share of land use at 54%, followed by urban land which made up around 36% of the total area of the township.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	123.4	125.9	2%
Barren Land	34.5	73.3	112%
Forest	8893.1	8867.4	<1%
Urban	5927.2	5916.7	<1%
Water	383.8	381.8	-1%
Wetlands	1205.3	1202.2	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

1000 Macarthur Boulevard – Office Warehouse
Annual Road Resurfacing Projects
Well 19 PFAS and Generator Project
DPW Facility – Micik Lane
Mahwah River Shoal Removal Project

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

1700 Macarhtur Boulevard – Office/Warehouse
Crossroads Site - Office/Warehouse
457 Ridge Road – 72 Unit Affordable Housing Development
Wells 16 and 17 – PFAS Treatment and Generator Project

Ford Well Field – PFAS Treatment Project
Well 18 A – Installation
Hillside Avenue Drainage Project
Annual Road Resurfacing Projects
Fardale Avenue Culvert Replacement Project
Winters Pond Shoal Removal Project

Demographics & Vulnerable Populations

Mahwah Township has a total estimated population of 25,471. This population is made up of residents, which are estimated to be 3.8% under age 5 and 21.2% over age 65. The township saw an estimated -4.2% population decline in the period between 2013-2017 and 2018-2022 ACS surveys. With an aging population making up over one in five township residents, Mahwah may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023). Additionally, a notable population decline of over four percent during these two survey periods may highlight potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially mismatched reliance on local resources.

Mahwah Township has five block groups which meet criteria for overburden (OBC) by *Minority* (three block groups) and *Low Income and Minority* (two block groups) indicators. There are no parts of the township which meet criteria for designation as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	25,471
Population Change since 2017	-4.2%
Percent of Population Age < 5	3.8%
Percent of Population > 65	21.2%

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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

Mahwah Township faces some high-risk and multiple medium-risk hazards, including flood, extreme wind, tropical storms, and winter storms, which exacerbate the risk of power failures due to insufficient generator capacity. The township's reliance on limited electric substations heightens this vulnerability. Flooding is ranked as a high-risk hazard, stemming from Mahwah's downstream location relative to several dams in New York State. The recent failure of the Lake Sebago dam in Rockland, New York, highlighted this risk, as the township experienced significant flooding due to its geographic proximity to the dam.

Cyber Attack has been listed as high hazard. The township is taking measures to limit potential cyber attacks. The township is hardening its technical infrastructure and holding mandatory training for employees.

Significant Hazard Events Since Last Plan Update

Localized Flooding due to random intense storms.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Mahwah Township. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and tropical storms are likely to increase. This will exacerbate existing vulnerabilities like flooding and power failures. Aging dam infrastructure in the township, adjacent counties and New York state could lead to roadway flooding and potential power outages. Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's over 21% population over 65.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Mahwah Township	
Number of Policies In-Force:	59
Total Losses:	241
Total Payments:	$4,146,903.41
Number of RL Properties:	14
Number of Mitigated RL Properties:	0
RL – Total Losses:	44
RL – Total Paid:	$1,133,890.42
Number of SRL Properties:	10
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	53
SRL – Total Paid:	$1,235,856.31

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

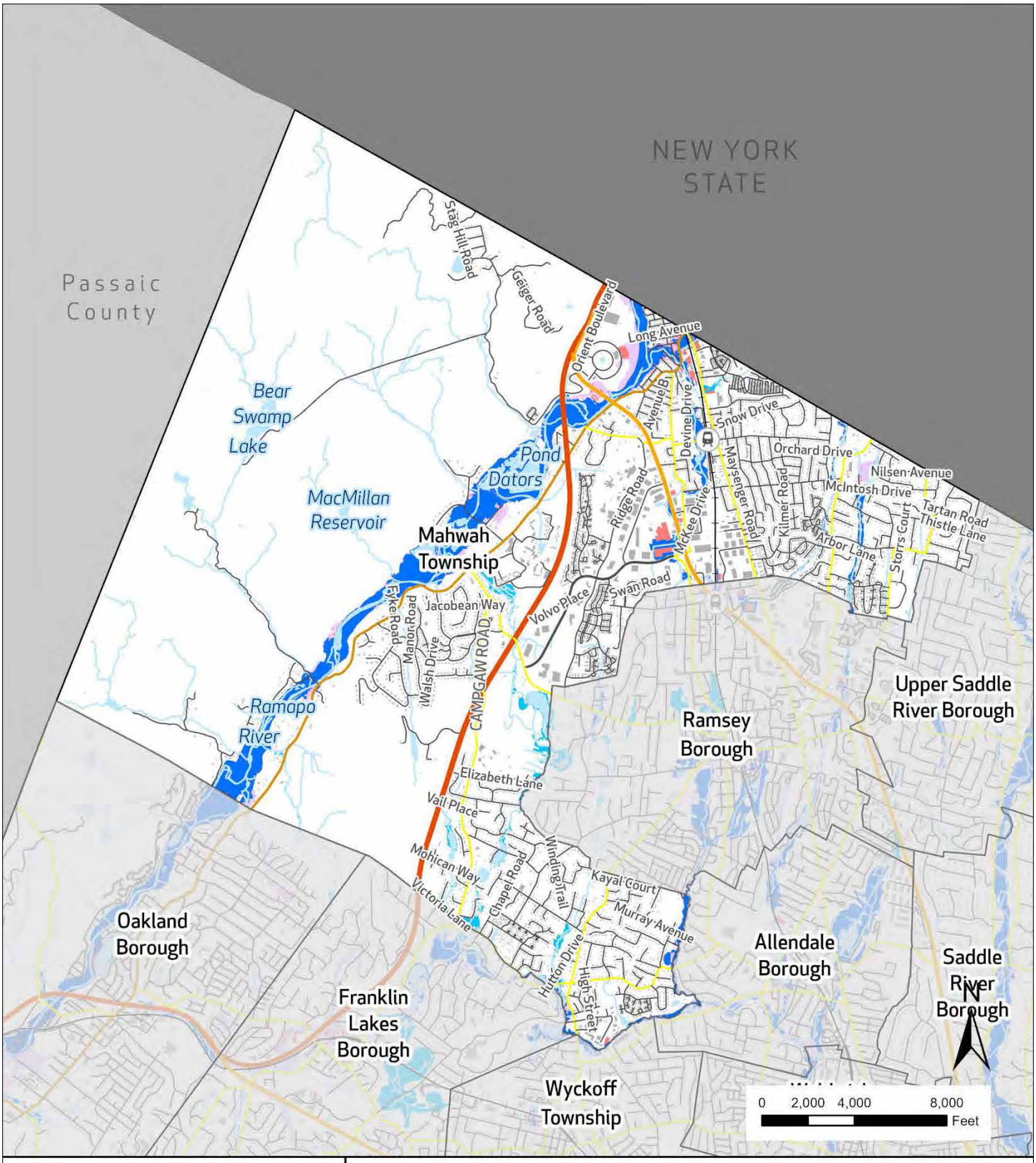
The Special Flood Hazard Area (SFHA) in Mahwah Township is primarily located adjacent to the Mahwah and Ramapo Rivers. Approximately 5.8 percent of the total area of Mahwah lies within the 1% annual chance floodplain as defined by FEMA. An additional one percent of the area of the municipality is in the 0.2% annual chance floodplain.

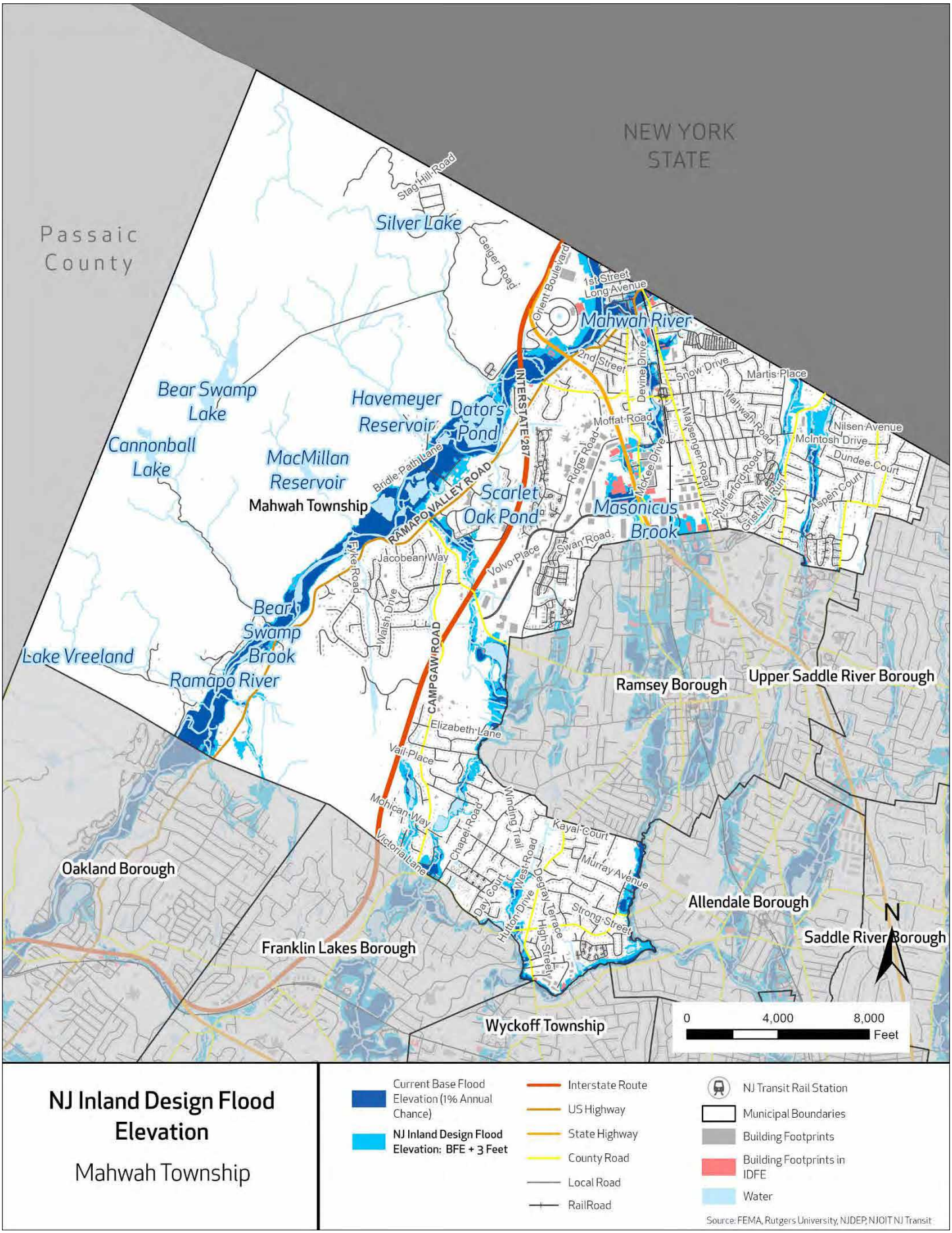
About 43.3 percent of Mahwah is considered developed. Of the developed parcels of the town, 5.9 percent fall at least partially within the 1% annual chance floodplain and 4.6 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

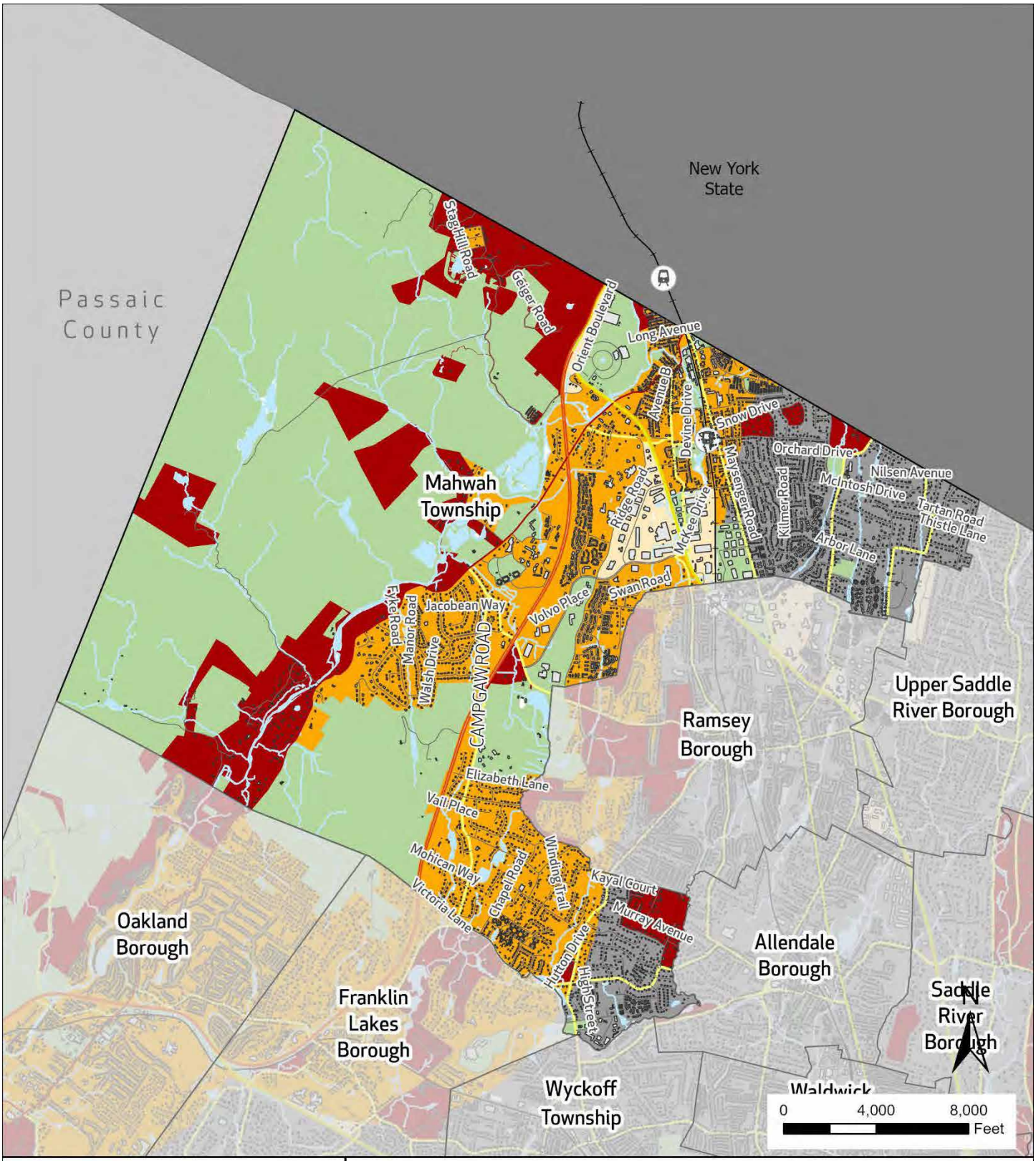
	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	5.9	4.6
Exposed Land Area	5.8	1.0

During the planning process, Mahwah 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 35 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. These facilities were then geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


NEW YORK STATE
Passaic County
Bear Swamp Lake
MacMillan Reservoir
Pond
Dators
Ramapo River
Mahwah Township
Oakland Borough
Franklin Lakes Borough
Wyckoff Township
Ramsey Borough
Upper Saddle River Borough
Allendale Borough
Saddle River Borough
Stag Hill Road
Geiger Road
Orient Boulevard
Long Avenue
Avenue B
Devine Drive
Snow Drive
Orchard Drive
Nilsen Avenue
McIntosh Drive
Tartan Road
Thistle Lane
Storrs Court
Arbor Lane
Kilmer Road
Maysenger Road
Ridge Road
McKee Drive
Swan Road
Volvo Place
Jacobean Way
Fyke Road
Manor Road
Walsh Drive
CAMPGAW ROAD
Elizabeth Lane
Vail Place
Mohican Way
Victoria Lane
Chapel Road
Winding Trail
Kayal Court
Murray Avenue
Hutton Drive
High Street
N
0 2,000 4,000 8,000
Feet
Flood Hazard
Mahwah Township
FEMA Flood Zone
0.2% Annual Chance
A (1%); AH (1%)
AE (1%)
Interstate Route
US Highway
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT


NEW YORK STATE
Passaic County
Silver Lake
Stag Hill Road
Geiger Road
Orient Boulevard
1st Street
Long Avenue
Mahwah River
2nd Street
Devine Drive
Snow Drive
Martis Place
Mahwah Road
Nilsen Avenue
McIntosh Drive
Dundee Court
Aspen Court
Bear Swamp Lake
Havemeyer Reservoir
Dators Pond
INTERSTATE 287
Moffat Road
Ridge Road
Mickee Drive
Maysenger Road
Rutherford Road
Grist Mill Run
Cannonball Lake
MacMillan Reservoir
Bridle Path Lane
RAMAPO VALLEY ROAD
Mahwah Township
Scarlet Oak Pond
Masonicus Brook
Swan Road
Volvo Place
Jacobean Way
Fyke Road
Walsh Drive
Bear Swamp Brook
Lake Vreeland
Ramapo River
CAMPGAW ROAD
Ramsey Borough
Upper Saddle River Borough
Elizabeth Lane
Vail Place
Mohican Way
Victoria Lane
Winding Trail
Chapel Road
Kayal Court
Murray Avenue
West Road
Degray Terrace
Strong Street
Hutton Drive
High Street
Dey Court
Oakland Borough
Allendale Borough
Saddle River Borough
Franklin Lakes Borough
Wyckoff Township
N
0
4,000
8,000
Feet
NJ Inland Design Flood Elevation
Mahwah Township
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
Interstate Route
US Highway
State Highway
County Road
Local Road
RailRoad
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Wildland Urban Interface (WUI) Classification

Mahwah Township

WUI Classification

- WUI - Interface
- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- Interstate Routes
- State Routes
- US Highways
- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Mahwah 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		9/30/24	Identifies some potential hazards.
Capital Improvement Plan	X		5/19/25	Funds projects.
Local Emergency Operations Plan/Continuity of Operations Plan	X		April, 2024	
Floodplain Development Ordinance	X		5/12/25	Governs Development in Flood prone areas.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		10/27/22	Govens stormwater management.
Stormwater Management Plan	X		7/25/10	Stormwater management.
Watershed Management Plan				
Sheltering Plan	X			Included in Local Emergency Operations Plan
Evacuation Plan	X			Included in Local Emergency Operations Plan
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		11/18/21	
Tracking elevation certificates and/or Letter of Map Change	X		N/A	
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Mahwah 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

Mahwah 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, Mahwah 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	

MITIGATION STRATEGY

Since the 2021 plan update, the Township of Mahwah has focused on enhancing flood resilience and upgrading critical infrastructure to mitigate hazard risks. Key completed actions include improving drainage systems, hardening of drainage infrastructure and minor shoal removal in waterbodies. In addition, the township has taken measures to harden its technical infrastructure against cyber attacks.

Over the next five (5) years, the township aims to prioritize projects that limit damage from flood hazard events and localized flooding. In addition, the township will be mapping the stormwater drainage system. The township will continue to look to obtain and place funding in the budget to address items to mitigate potential hazards. Mahwah is committed to safeguarding residents and promoting sustainable growth during these challenging times.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Township has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
33-01	Expand the Existing Ramapo River Debris Removal Program	The township continues its annual program for removal of natural and manmade debris and shoals in the Ramapo River.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Township of Mahwah	Local budget	TBD	5 + years	Ongoing	This is a continuous effort. The Township looks to take precautionary measures by removing loose debris along banks.
33-02	Replace Winters Pond Dam at the Masonicus Brook	Replacement of Winters Pond Dam at the Masonicus Brook.	Dam and Levee Failure	High	Township of Mahwah	NJDEP Bureau of Dam Safety and Flood Control	TBD	2 years	Ongoing	Continue to look for grant and funding opportunities.
33-03	Develop a New Dam at Silver Creek	The dam located at Airmount Rd is failing and needs to be replaced.	Dam and Levee Failure	Medium	Township of Mahwah	NJDEP Bureau of Dam Safety and Flood Control	TBD	2 years	Ongoing	To be repaired in June, 2025

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
33-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	The township has identified 24 flood prone properties for acquisition and/or elevation; 22 of those properties are RL or SRL properties. Mitigation includes working with property owners on HMA grants.	Dam and Levee Failure, Flood, Nor'easter, Hurricane and Tropical Storm, Geological Hazards, Severe Weather	High	Township of Mahwah	FEMA HMA	TBD	5 + years	Ongoing	Continue to look for grant and funding opportunities
33-05	New Generator for Town Hall and DPW Building	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	High	Township	FEMA HMA	$200,000.00	1 year	Ongoing	Continue to look for grant and funding opportunities
33-06	Security Cameras at Critical Facilities	Install a surveillance system at the township's critical facilities including the well house and pump stations, Fire/EMS station, and Town Hall.	Terrorism	Medium	Township	Homeland Security grants	TBD	3 years	Ongoing	Portion of funding put in place.
33-07	Purchase and Install Generator for Water Wells 16, 17, and 19	Purchase and maintain generator to continue critical community services during utility interruptions and storm events	All Hazards	Medium	Township of Mahwah	Utility Budget, FEMA HMA	$500,000.00	2 years	Ongoing	Well 19 Generator to be completed in June, 2025.
33-08	Repair, Remove, or Rehabilitate Lake Vreeland Dam	Repair, remove, or rehabilitate the Lake Vreeland Dam, a High-Hazard Potential Dam, located on the Fox Brook.	Dam and Levee Failure	High	Township	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	TBD	3 years	Ongoing	This is a County Facility.

34 – MAYWOOD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
John Gargaliano	**OEM Director**	**Primary Contact, Attended Municipal Meeting**
Tom Tuttle	Fire Official	Alternative Point of Contact, Attended Municipal Meeting
Adrian Febre	Borough Administrator	Internal Meeting
Gary Neumann	DPW Superintendent	Internal Meeting
Greg Polyiak	Borough Engineer	Internal Meeting
Phil Cheff	Construction Official	Internal Meeting
Richerd Bolan	Mayor	Internal Meeting
Terry Kenny	Police Chief	Internal Meeting

COMMUNITY PROFILE

Overview

The Borough of Maywood spans approximately 1.29 square miles and is located in central Bergen County, New Jersey, bordering the municipalities of Hackensack, Lodi, Paramus and Rochelle Park. The borough's name comes from the name of an early railroad station established in the area. Water bodies in Maywood include Coles Brook, which forms the western border of the borough, and a smaller tributary of the Saddle River in the west of the borough. Despite its proximity to several water bodies, Maywood is not considered a coastal community as it does not border any ocean or sea. The population of Maywood is about 10,000. The presence of Coles Brook and the tributary of the Saddle River highlight the potential for localized flooding, particularly during heavy rainfall events. Given that urban areas occupied nearly 97% of Maywood in 2020, the high density may increase vulnerability to urban-specific risks, such as fire hazards and infrastructure strain.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Maywood Borough is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 68% of the total land use, and covering nearly 440.3 acres of land. Civic/public (tax exempt) and commercial uses comprised the second and third largest shares at 9% and 8% respectively in the same year. From 2016 to 2022, the area under industrial land use decreased by 42%. Meanwhile vacant land increased by 133%, from 19.5 acres in 2016 to 45.5 acres in 2022.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 97% of the area in 2020. The forest category followed, accounting for 3% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.0	20.2	-
Forest	11.4	8.8	-23%
Urban	810.1	794.4	-2%
Water	0.0	0.0	-
Wetlands	3.1	1.2	-61%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present
None identified.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Potential development in Maywood includes two tracts that have been rezoned to allow housing for affordable housing. It is expected that developments of about 20-40 units will go in at each tract. These tracts are currently under condemnation, and it is unknown when construction may begin. There is additional developable land at W Hunter Ave which was recently rezoned from light industrial to D3. Finally, there is a 25 Acre site in the southwest of the borough upon which a 400,000 square foot fulfilment center will be built and operated by ProLogic. None of these anticipated developments will impact the floodplain.

Demographics & Vulnerable Populations

Maywood Borough has a total estimated population of 10,040, of which an estimated 4.9% is under 5 years of age, and 21.0% is over age 65. The Borough saw an increase of an estimated 2.56% in its population between ACS surveys during 2013-2017 and 2018-2022. With an aging population making up over one in five borough residents, Maywood may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023). Additionally, a growth rate of nearly three percent may indicate potential hazard vulnerabilities in future years related to changing landscape conditions including development and redevelopment, densification, and potentially, increased strain on local resources.

There are seven block groups within Maywood Borough which are defined as potentially overburdened (OBC) by the state of New Jersey – six due to indicators of Minority population vulnerabilities, and one due to Low Income and Minority population classification. There are no parts of the Borough which meet criteria for designation as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	10,040
Population Change since 2017	2.6%
Percent of Population Age < 5	4.9%
Percent of Population > 65	21.0%

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		
Flood	Extreme Temperatures	Dam Failure
Hurricane/Tropical Storm	Winter Storm	Drought
Nor'easter		Extreme Wind
		Landslide
		Lightning
		Tornado
		Wildfire
Human-made Hazards		
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption

High	Medium	Low
	Natural Hazards	
	Power Failure	
	Terrorism	

Coastal Erosion, Storm Surge and Wave Action were identified as N/A.

Hazard Ranking Explanation

Coastal erosion, storm surge, and wave action are ranked as N/A (Not Applicable) due to the inland status of the borough and the fact that unlike some inland municipalities in Bergen County, Maywood does not contain any tidally influenced water bodies.

Flood is ranked high. It is always a concern; however, the borough knows the trouble spots. Nor'easter is ranked high and the borough reports that nor'easters occur more often than hurricanes and during nor'easters is when the borough's OEM is most active.

Extreme temperature is a concern for the borough and has been ranked medium. The borough is writing an extreme heat plan which will include preparedness measures such as designated cooling centers. Cyber-attack is medium concern. Officials report having some security issues in the past. Power failure is ranked medium as well. The borough reports that they have a "good grid," and maintenance is done regularly. The power company has been doing many upgrades in the area.

Dam failure is of low concern, although there is potential for upstream dams such as the Saddle River reservoirs or those in Rockland County to have an effect. Extreme wind is ranked low as the borough reports that there are few events occurring. Additionally, the borough's Shade Tree Commission does an excellent job of maintaining the trees in the borough, lessening the risk from downed trees due to wind events. Lightning is also ranked low, although officials report a couple of house fires over the years caused by lightning. Tornado is ranked low as well. The borough reports no occurrences since the last plan update.

Significant Hazard Events Since Last Plan Update

The borough reported that on average, the borough experiences flooding four times a year. This flooding occurs largely during periods of heavy rain, when the borough receives 6 to 8 inches. Problem areas include Stelling Avenue to Grove Ave as well as localized Flooding near Maywood Pool. Officials report that Hurricane Floyd in 1999 was an eye opener for where troublesome areas are located, flooding areas which normally do not flood, such as Coles Brook which has had no significant flooding since Hurricane Floyd in 1999. Officials report that the County is pretty good about creek maintenance and clearing on request.

Like most communities in Bergen County, Maywood had significant flooding during Ida which mainly impacted local streets. Mendez Ave and Lincoln Ave, an area which flooded often in the past until the DPW conducted sewer improvements to prevent all runoff from converging on a single catch basin. Following Ida, the borough added catch basins along Mendez Ave.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Maywood. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, potentially exacerbating existing vulnerabilities, particularly in areas prone to flooding such low-lying problem areas identified by the borough and near water bodies such as Coles Brook. Additionally, potential future development identified by the borough (such as the fulfillment center) or development upstream within the watershed, could increase the amount of runoff entering the borough's streams. Actions identified by the borough's mitigation strategy involving flood risk reduction (such as action 34-04) should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Maywood Borough	
Number of Policies In-Force:	20
Total Losses:	49
Total Payments:	$719,375.14
Number of RL Properties:	5
Number of Mitigated RL Properties:	0
RL – Total Losses:	15
RL – Total Paid:	$104,878.53
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

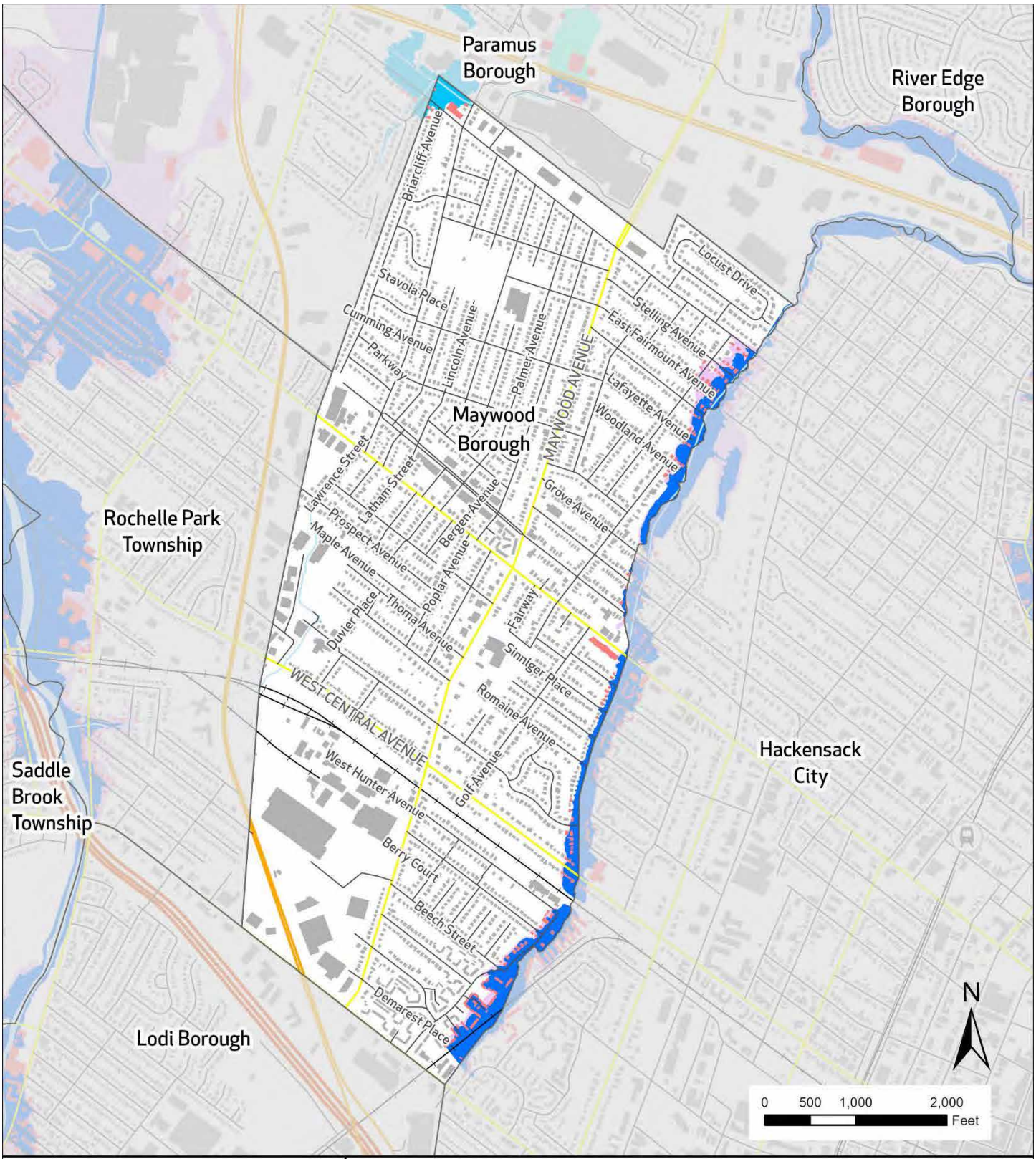
The Special Flood Hazard Area (SFHA) in the Borough of Maywood is primarily located adjacent to Coles Brook on the eastern border of the borough. Approximately 3.2 percent of the total area of Maywood lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 75.6 percent of Maywood is considered developed. Of the developed parcels of the borough, 5.1 percent fall at least partially within the 1% annual chance floodplain and 4.6 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	5.1%	4.6%
Exposed Land Area	3.2%	0.7%

During the planning process, Maywood Borough 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 13 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Maywood Borough

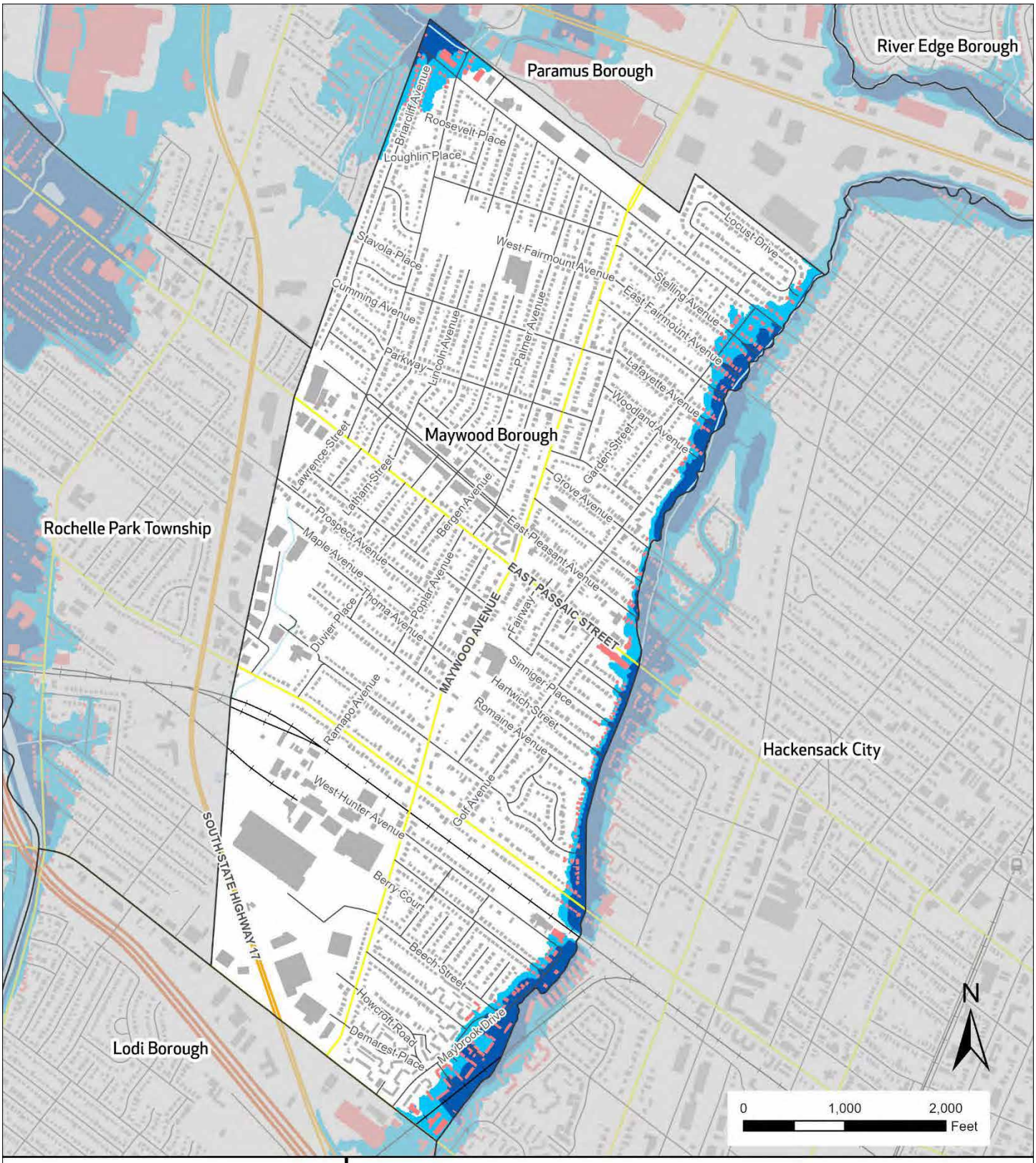
FEMA Flood Zone

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

- Interstate Route
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Maywood Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Maywood Borough 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			
Capital Improvement Plan	X		2023	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Building Department, DPW, and OEM are responsible
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Building Department is responsible
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Maywood Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Construction Code Official is the FPA
Grant Writer	X		Contractor
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		Churches

Education and Outreach Capabilities

Maywood Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The borough uses social media, RAVE Alerts, Reverse 911
Storm Ready		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Maywood Borough 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		As needed
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Maywood has commissioned the preparation of a Watershed Inventory Report. This report will coincide with the Municipal Separate Storm Sewer System (MS4) Mapping. Both documents can be utilized to address stormwater related impacts and potential location for future stormwater system improvements. Downstream impediments would be found through implementation. System issues and upgrades could be performed to address community impacts.

The Borough of Maywood has initiated mitigation actions throughout the borough through the implementation of the NJDEP Municipal Stormwater Management Program requirements and the borough's Stormwater Control Ordinance. These items consider stormwater runoff generated from individual development and require the implementation of stormwater quantity, quality, and infiltration measures. These measures mitigate both on-site flooding and off-site flooding conditions which affect the entire community. The borough has also decommissioned an existing sanitary pump station on Spring Valley Avenue which was located within a floodplain. This project addressed and mitigated stormwater and sanitary sewer impacts to the community.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
34-01	Purchase and Install a Generator for Department of Public Works Facility	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	High	Maywood OEM	FEMA HMA	$200,000.00	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
34-02	Purchase and Install Two Permanent Generators for Maywood Avenue School and Memorial Elementary School	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Maywood Board of Education.	FEMA HMA	$400,000.00	1 year	Ongoing	No progress has been made on this action and it has been deemed low priority.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
34-03	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	borough OEM and Homeowners	FEMA HMA	$5,000,000	5 + years	Ongoing	No progress has been made on this action.
34-04	Construct Flood Reduction Measures Along Coles Brook	Construct minor structural projects (e.g., floodwalls or small berms) along Coles Brook to protect Repetitive Loss Properties.	Nor'easter, Hurricane and Tropical Storm, Earthquake, Severe Weather	Medium	borough Engineering	FEMA HMA	$10,000,000	3 years	Ongoing	The borough coast has paved streets and raised the curbs in problem areas.
34-05	Preparedness Outreach for assisted living facilities, group homes and other vulnerable populations	OEM and fire prevention to reach out to the facilities to educated occupants	All hazards	High	OEM and fire prevention	Self funded	< $1000	1 – 3 years	New	

35 – MIDLAND PARK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jeffrey Casson	**OEM Coordinator**	**OEM Coordinator / Municipal Meeting**
Matthew Tauber	DPW Superintendent/Deputy OEM Coordinator	Planning
Mark Berninger Sr.	Construction Official/Floodplain Administrator	Planning
Michael Powderley	Police Chief	Planning
John Gibbons	Police Detective Lieutenant	Planning

COMMUNITY PROFILE

Overview

The Borough of Midland Park spans approximately 1.58 square miles and is located in western Bergen County, New Jersey. It borders the Borough of Waldwick to the north, the Village of Ridgewood to the east, and the Township of Wyckoff to the west. The borough is divided by Prospect Street, the main road running from north to south through its center, and the Goffle Brook flows near the borough's western edge. The borough has a population of 7,022. The Borough of Midland Park is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Midland Park Borough is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 74% of the total land use, and covering 614.5 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, comprising 11% and 10% respectively of the total land use in the same year.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 95% of the area in 2020. The forest category followed, accounting for 3% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	
Barren Land	0	1.1	
Forest	32.7	32.5	-1%
Urban	966.8	965.8	-<1%
Water	6.6	6.6	0%
Wetlands	6.2	6.2	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified.

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

There is a possibility of three housing developments to be completed in the next five years. No major infrastructure projects are anticipated.

Demographics & Vulnerable Populations

Midland Park Borough's total population is estimated to be 7,022. The borough saw an estimated -4.2% decline in population between recent ACS survey periods of 2013-2017 and 2018-2022. Of Midland Park's current population, an

estimated 6.3% are under 5 years of age, and 21.9% are over age 65. Population loss of this magnitude (over four percent decline) may highlight potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

The borough has one block group identified as potentially overburdened (OBC) based on characteristics of *Minority* populations. There are no areas designated as potentially vulnerable according to CDRZ or CEJST criteria in Midland Park.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	7,022
Population Change since 2017	-4.3%
Percent of Population Age < 5	6.3%
Percent of Population > 65	21.9%

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 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	Nor'easter	Extreme Temperatures
Flood		Extreme Wind
		Lightning
		Tornado
		Winter Storm
		Landslide
		Drought
		Earthquake
		Wildfire
		Dam Failure
Human-made Hazards		
Cyber Attack	Pandemic	Civil Unrest
	Terrorism	Economic Disruption
		Power Failure

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

The borough attributes low risk to many hazards including extreme wind, tornadoes, and winter storms to the tree maintenance that DPW performs. Similarly, extreme temperature risk is low because the borough has warming/cooling centers available, and many homes have backup generators. Many previous industrial areas in the borough have closed so hazmat risk is low.

Significant Hazard Events Since Last Plan Update

The most significant event since the last plan update was Hurricane Ida.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Midland Park Borough	
Number of Policies In-Force:	16
Total Losses:	21
Total Payments:	$214,348.55
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	7
RL – Total Paid:	$70,819.54
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

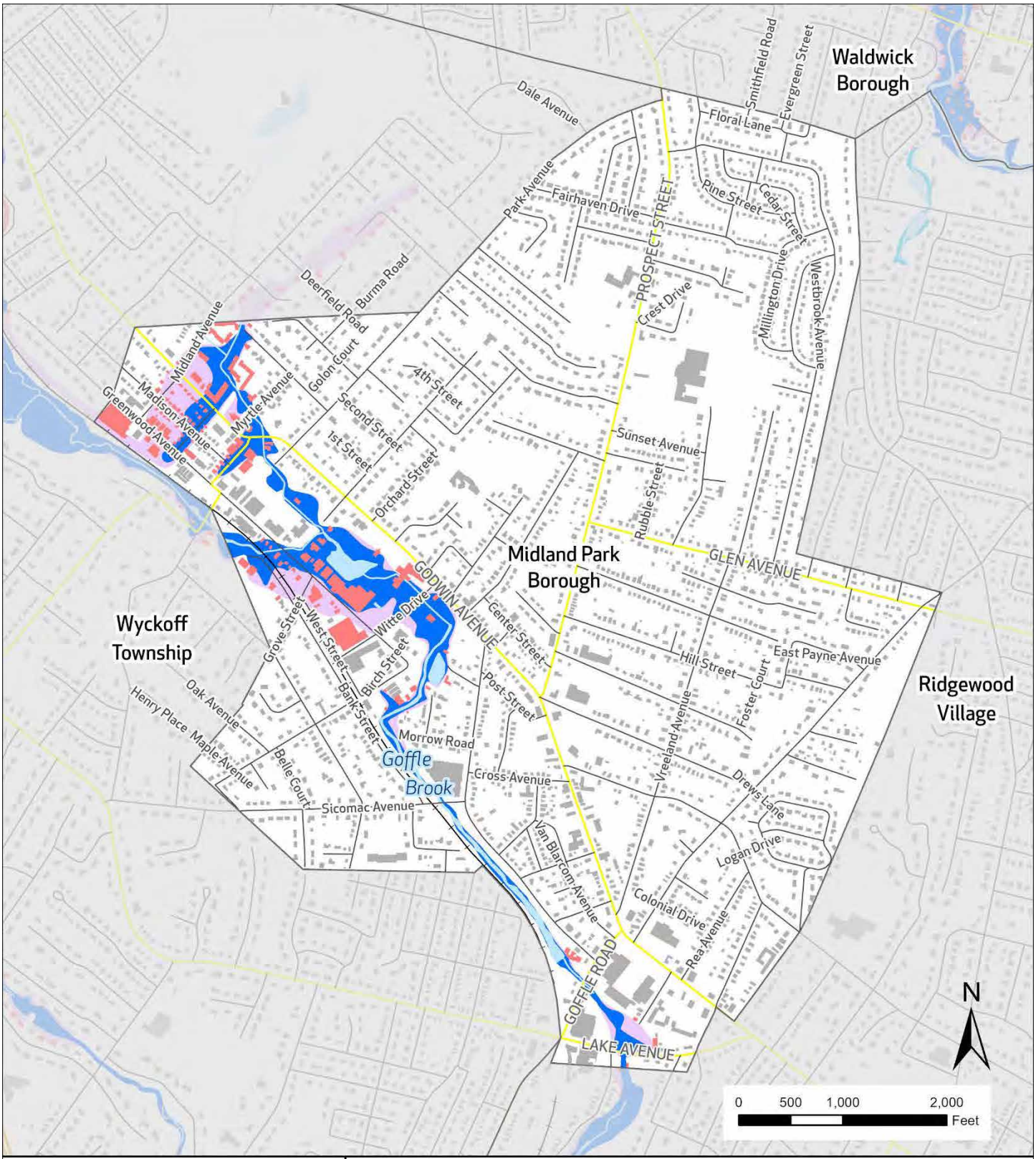
The Special Flood Hazard Area (SFHA) in the Borough of Midland Park is primarily located adjacent to Goffle Brook which flows through the western side of the borough. Approximately 4.3 percent of the total area of Midland Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.3 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 80.6 percent of Midland Park is considered developed. Of the developed parcels of the borough, 4 percent fall at least partially within the 1% annual chance floodplain and 4.9 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	4.0	4.9
Exposed Land Area	4.3	2.3

During the planning process, Midland Park Borough 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 six total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Midland Park Borough

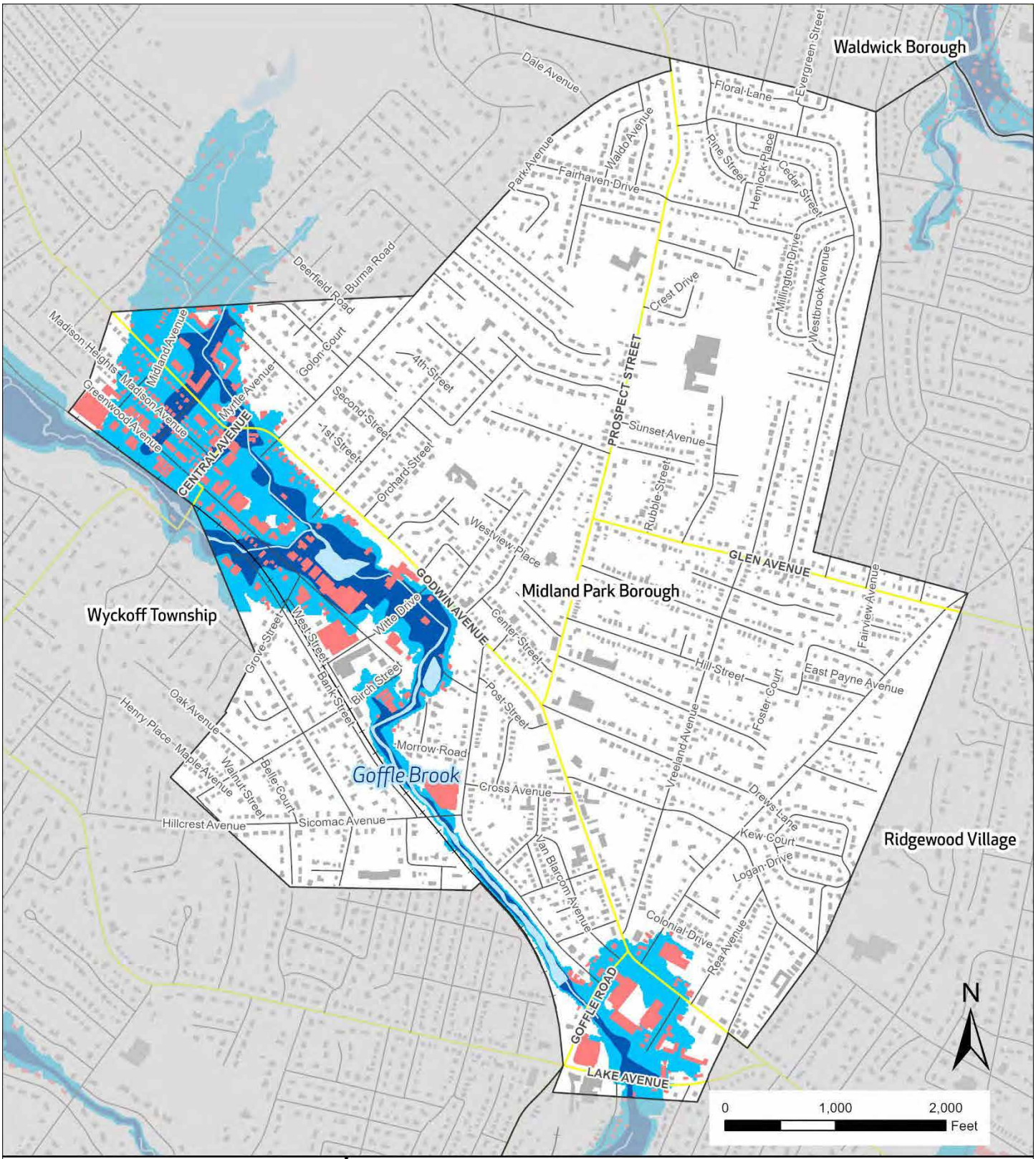
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Midland Park Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Midland Park Borough 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		2019	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2020	Review in progress for the 2024 update.
Floodplain Development Ordinance	X		2019	Revision to be introduced in May 2025.
Floodplain Management Plan	X		2019	
Stormwater Management Ordinance	X		2025	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Ordinance 17-4.3.5 and Ordinance 17-5.2.1
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan				
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulations that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Midland Park Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Part-time construction official
Grant Writer		X	
Staff trained to support mitigation	X		Staff completed FEMA IS courses
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Contract with engineering firm
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

Midland Park Borough 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 accounts, E-notices via email, Rave
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Midland Park Borough 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		Hillside Avenue culvert replacement
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		Borough employees present options to the governing body during the budget process to determine what they are willing to fund.
Other ongoing efforts to build additional financial capabilities	X		Capital sinking fund

MITIGATION STRATEGY

Since the 2021 plan update, the Borough of Midland Park has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include upgrading bridges and culverts to improve streamflow, improving security of critical facilities, and enhancing backup power at critical facilities. Over the next five years, the borough of Midland Park aims to prioritize projects that address security and crime prevention, floodway clearing, and backup communications and power for identified shelter locations.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
35-01	Purchase and Install Generator for Rec Center, Library, and Fire House	Purchase and install generator at rec center (est. $70,000), install all electrical and generator for Library (currently, building needs modifications, Transfer Switch, Electrical, Mason work, Plumbing, est. $150,000), and replace existing generator with	All Hazards	Mediu m	Borough Fire and Administrati on	FEMA HMA	$320,000	1 year	Completed	
35-02	Develop a Cyber Security Plan	Develop a plan for data backups and offsite secondary servers for increased cyber-security.	Cyber Attack	Low	borough IT	Homeland Security grants, municipal budget		2 years	Completed	
35-03	Increase Communication and Purchase Safety Equipment through Purchasing Purchase Variable Message Signs, Light Towers, and Movable Barriers	Purchase variable message signs, light towers, movable barriers	All Hazards	Mediu m	Borough Fire and Police	Homeland Security grants, municipal budget		2 years	Completed	
35-04	Target Harden DPW and Fire Equipment Garage by Installing Surveillance Cameras, an Access Control	Construct a fence around the DPW facility and purchase and install cameras, active alarm system, access system with a fob to the garage that holds fire equipment.	Terrorism	Mediu m	Borough DPW, Fire	Homeland Security grants, Municipal budget		1 year	Completed	

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	System, and/or an Alarm System									
35-05	Purchase and Install a Siren/PA system	Increase public warning capabilities through the installation of five solar-powered, wireless sirens.	All Hazards	Mediu m	Borough of Midland Park	Homeland Security grants; Municipal budget	TBD	1 year	Withdrawn	
35-06	Construct a Safe Room Construction	Construct a FEMA 361 Shelter (safe room) to protect community members during all disasters requiring evacuation.	All Hazards	Mediu m	Borough OEM	FEMA HMA	TBD	2 years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
35-07	Clear, Widen, and Rebuild Stream Wall through Ridgewood Water Control Center	The OEM has been in contact with Ridgewood Water in regards to a flooding issue from the steam that runs through their property and contains an aquifer and well that supplies drinking water to several municipalities that the water company serves.	Flood, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Planning, DPW, Ridgewood Water	Ridgewoo d Water & Borough of Midland Park, municipal budget	$250,000	5 + years	Ongoing	Spoke with the utility. They were not consulted on the last plan and did not have a line item for this. Will consult with them to review this item for future funding.
35-08	De-snag and Desilt Streams near Midland Ave.	Need to desnag and desilt streams near Midland Ave.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Planning, DPW, Ridgewood Water	Municipal budget	$25,000	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
35-09	Coordinate with the County to Improve Bridge Infrastructure	Improve the Godwin Ave bridge (private and County-owned)	All Hazards	Medium	County and Borough	DOT, County budget, municipal budget, FEMA HMA	$2 Million	2 years	Ongoing	
35-10	Coordinate with the County on Routine Cleaning of Drainage Facilities and Streets	Coordinate with the County on cleaning critical drainage facilities and street cleaning of debris and drainage issues.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Bergen County	DOT, County budget, municipal budget	$30,000	1 year	Ongoing	
35-11	Coordinate with Ridgewood Water to Floodproof Pump House	Complete pump station flood proofing to maintain pump stations in operational condition during storm or flooding events.	Flood, Severe Weather	High	Borough of Midland Park, Ridgewood Water	FEMA HMA	$250,000	1 year	Ongoing	Spoke with the utility. They were not consulted on the last plan and did not have a line item for this. Will consult with them to review this item for future funding.
35-12	Improve Communication Redundancy System and Purchase Dual Frequency and Satellite Receiver Radios	Install a redundant system and purchase dual frequency, satellite receiver radios.	All Hazards	Medium	Borough of Midland Park	Homeland Security grants, municipal budget	$75,000	1 year	Ongoing	
35-13	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate Repetitive Loss and Severe Repetitive Loss Properties in the borough.	Flood, Severe Weather	High	Residents and Borough	FEMA HMA	$3,000,000	5 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
35-14	Strengthen Surveillance System Throughout the Borough	Strengthen surveillance system (multi-stage project)	All Hazards	Medium	Borough of Midland Park, Bergen County Sheriff	Homeland Security grants; Municipal budget	$30,000	3 years	New	Consultations with Bergen County Sheriff's office were conducted to add onto their planned system.
35-15	Purchase Additional Generator to Supply Balance of Required Power	Purchase and maintain generators to assist current in critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough School District	FEMA HMA	$150,000	1 year	New	
35-16	De-snag and De-silt around the former Morrow Pond Dam	De-snag and De-silt around the former Morrow Pond Dam which failed during a severe weather event and remains within the federal floodway of the Goffle Brook adjacent to 187 Paterson Avenue.	Flood, Severe Weather	Low	Borough of Midland Park	FEMA, USDA, HMA, Municipal Budget	$750,000	5 years	New	

36 – MONTVALE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Frank DiPalma	**Emergency Management Coordinator**	**Primary Contact**
Joe Voytus	Borough Administrator	Primary Contact
Nick Chelius	Borough Engineering	Primary Contact

COMMUNITY PROFILE

Overview

Montvale Borough is situated at the northern tip of Bergen County, bordered by New York State and included in the Pascack Brook watershed, part of the larger Hackensack River basin. The borough features gently rolling terrain with a combination of suburban development, corporate campuses, and preserved wooded areas. Notable landmarks include the Mercedes-Benz USA headquarters (now redeveloped for mixed-use). Montvale has a blend of residential neighborhoods, corporate office parks, and commercial corridors, especially near major roadways like the Garden State Parkway and Grand Avenue. Despite its proximity to several water bodies, Montvale is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Montvale is a primarily residential community, with residential land use (including both single-family and apartment) making up 65% % of the total land use, and covering nearly 1,316.6 acres of land. Commercial uses made up an additional 19% of Montvale (over 384 acres) during this time. Additionally, civic/public (tax exempt) land uses made up nearly 216 acres (11% of Montvale) during 2022. These land use classifications did not change significantly during the period between 2016 and 2022; farm uses dropped -11% (to a total of 13 acres, 1% of Montvale), and civic/public (tax exempt) land uses gained just under 40 acres.

According to NJDEP's Land Use/Land Cover (LULC) dataset in 2015 and 2020, areas of Montvale classified as urban (developed) covered 81% of the borough, making up 2,092 acres in 2020. An additional 13% of the borough (323 acres) is designated as forest cover, and 4% of Montvale (nearly 100 acres) is wetlands. Categories contained in the LULC data did not change significantly between 2015 and 2020, with the exception of 'barren land' (growing from 22.3 to 43.2 acres, 94% growth), and land designated for agricultural uses, which dropped -57%, from 35 to 15 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	34.7	15	-57%
Barren Land	22.3	43.2	94%
Forest	334.8	322.9	-4%
Urban	2081.1	2091.8	1%
Water	9.7	9.7	0%
Wetlands	99	98.9	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough identified development, primarily residential, which has occurred within Montvale over the past years since 2021. A residential development (303 units) inclusive of retail and office space was built along Depiero Drive, an area which is already home to commercial, industrial, and civic/public development. This new development is near Bear Brook but is not within the floodplain. Nearby, the 'Woodland Square at Montvale' development on Van Riper Road brought 185 units of housing to Montvale, in an area not within the floodplain. A recent Toll Brothers development brough 80 units, some affordable, to Paragon Drive, and the Alexa, a townhome development, brought 90 townhomes, primarily owner-occupied, to Spring Valley Road, also not within a flood plain.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Montvale identified a new nursing home being developed at a former industrial area at 100 Summit Avenue, where 280 units are anticipated for older residents of Montvale. The borough is also planning for two water towers to be developed in upcoming years, with one above ground and one at ground level, to address water pressure issues in Montvale. The nursing home development cannot move forward until the water towers are operational.

Demographics & Vulnerable Populations

Montvale Borough's total population is estimated to be 8,413 residents, remaining steady (an estimated -.32% decline) over recent ACS survey periods of 2013-2017 and 2018-2022. The Borough's population is estimated to be 3.5% under age 5 and 20.7% over age 65. With an aging population making up nearly 21% of borough residents, Montvale may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The Borough has one block group identified as potentially overburdened (OBC) based on characteristics of Minority populations. There are no areas designated as potentially vulnerable according to CDRZ or CEJST criteria in Montvale.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	8,413
Population Change since 2017	-0.3%
Percent of Population Age < 5	3.5%
Percent of Population > 65	20.7%

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

Coastal Erosion, Storm Surge, and Wave Action were ranked as 'N/A' by Montvale Borough.

Hazard Ranking Explanation

Flood is the hazard of primary concern to the Borough of Montvale, and the only hazard which was ranked as of 'high' concern during the municipal meeting with the borough. Flooding has occurred in the floodplain along the Pascack Creek through the center of the borough; in particular, the Grand Avenue bridge was noted for buildup of sediment affecting the flow of water during heavy rain events – all critical facilities in the borough have access across this bridge. This flooding has caused notable issues with erosion and bridge access in Montvale in recent years.

Other hazards ranked as 'low' concern are those which have not had recent presentations within the borough, or those which have been mitigated successfully post-event. Noting the potential risk of human-made hazards (cyber-attack, pandemic, power failure, and terrorism), the borough ranked these as hazards of 'medium' concern. These human-made hazards were ranked as medium concern due to their potential significant impact on critical infrastructure and public safety. For instance, a cyber-attack could disrupt essential services and compromise sensitive data, while a pandemic could strain healthcare resources and affect daily life. Similarly, power failures could lead to prolonged outages affecting homes and businesses, and terrorism could pose direct threats to the community's security and well-being. While these events may not have occurred recently, their possible severity and the borough's need to remain vigilant in preparedness justify their ranking.

Significant Hazard Events Since Last Plan Update

Aligning with the primary concern of 'flood' as a hazard facing Montvale, the borough noted ongoing flood issues which have occurred since the last plan update. Notably, areas along the floodplain of the Pascack Brook have seen increased flooding, and have centered along the Grand Avenue bridge, where sediment build up follows rushing water under this bridge. The borough notes that de-snagging/dredging is a primary fix, but a bridge replacement at this location may be a longer-term goal.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Montvale Borough. As global temperatures rise, the frequency and intensity of extreme weather events, including heavy rainfall, are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and areas already dealing with sediment build up along the Pascack and surrounding floodplain. The current borough drainage system, which already struggles to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events, particularly in areas experiencing rapid development and redevelopment. Aging infrastructure throughout Montvale and other Bergen municipalities could be further strained by more severe storms, leading to prolonged power outages and continued flooding.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Montvale Borough	
Number of Policies In-Force:	20
Total Losses:	14
Total Payments:	$46,445.52
Number of RL Properties:	-
Number of Mitigated RL Properties:	-
RL – Total Losses:	-
RL – Total Paid:	-
Number of SRL Properties:	-
Number of Mitigated SRL Properties:	-

Montvale Borough	
SRL – Total Losses:	-
SRL – Total Paid:	-

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

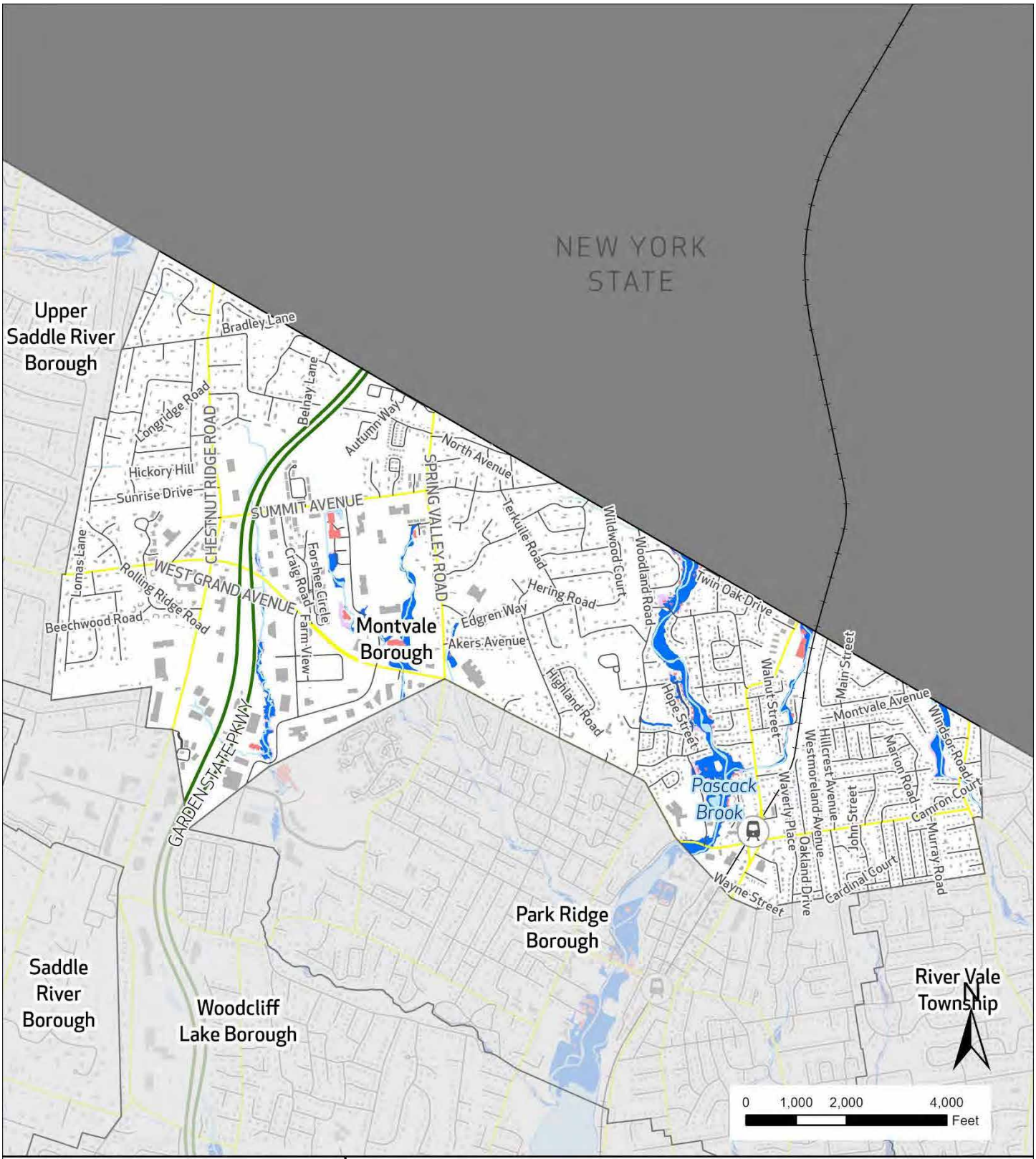
The Special Flood Hazard Area (SFHA) in the Borough of Montvale is primarily located adjacent to Pascack Brook and several smaller streams which flow through the borough 3.5 percent of the total area of Montvale lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 81.4 percent of Montvale is considered developed. Of the developed parcels of the town, 5.9 percent fall at least partially within the 1% annual chance floodplain and 4.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	5.9	4.2
Exposed Land Area	3.5	0.6

During the planning process, Montvale Borough 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 five total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	-	-



Flood Hazard

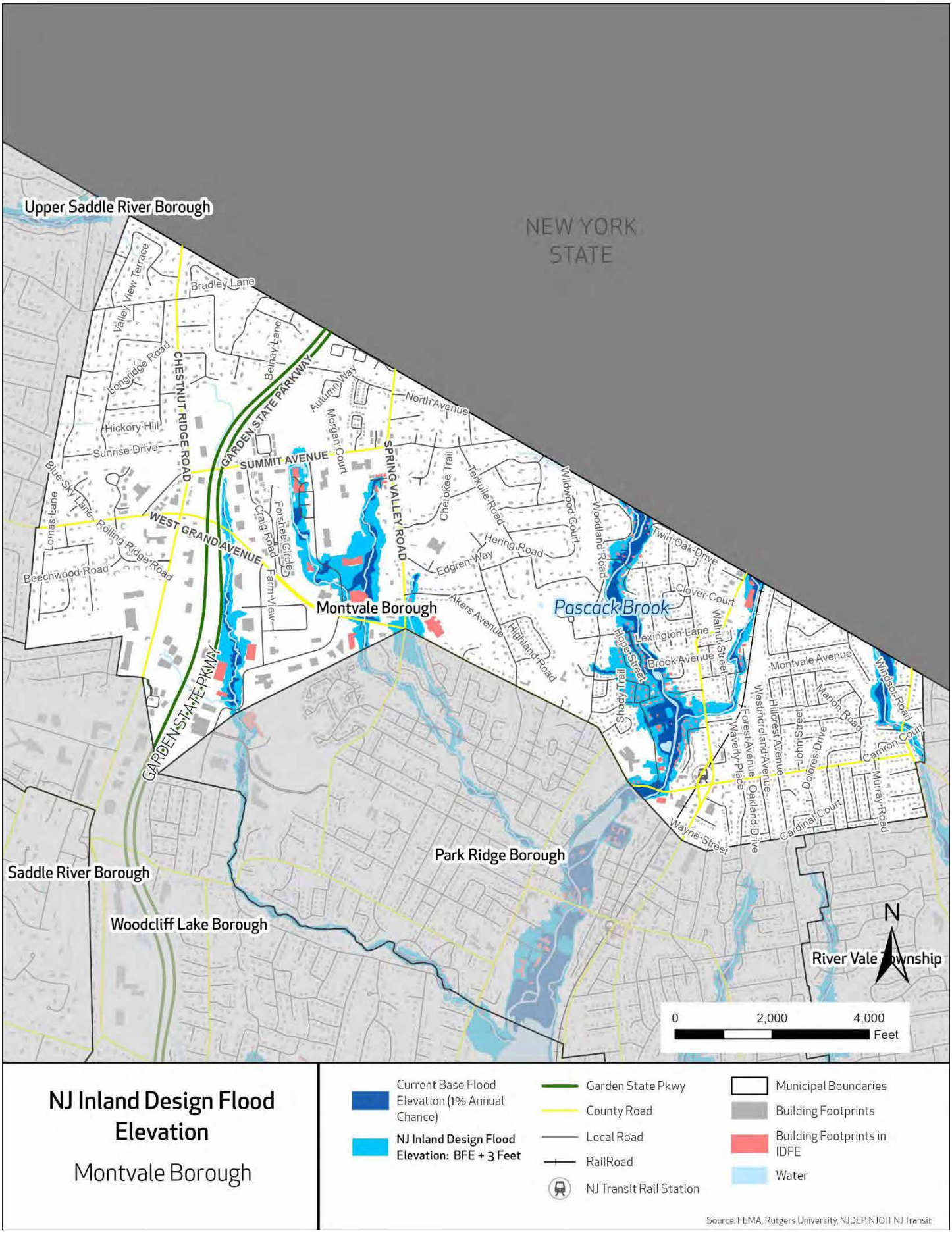
Montvale Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Garden State Pkwy
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Montvale Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Montvale Borough 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	
Capital Improvement Plan	X		2025	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2019	Ordinance No. 2019-1472. There is currently a new Flood Damage Prevention Ordinance being drafted this year.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	Adopted model ordinance.
Stormwater Management Plan	X		2020	
Watershed Management Plan		X		Will be done by end of 2025
Sheltering Plan		X		
Evacuation Plan	X		2024	
Substantial Damage/Improved Structures Response	X			A visual observation of damage or improvements are conducted, a cost estimate is generated and compared to the original pre-damaged value of the structure. Damages or improvements that exceed 50% are considered substantial. This is outlined in the flood damage prevention ordinance.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Track using FEMA database. Current maps are included in the Flood Damage Prevention Ordinance.
Post-Disaster Recovery Plan	X		2024	
Current/recent redevelopment plans or studies		X		
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			Several overlay zones and regulations for steep slopes (400-47).

Administrative and Technical Capabilities

Montvale Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		This person is also the Construction Official/Zoning Officer/Buildings and Grounds Manager. They are full-time and not a CFM.
Grant Writer	X		Colliers Engineering consults on grant writing services.
Staff trained to support mitigation		X	
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Mutual aid agreement related to emergency response services.
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Colliers Engineering
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Montvale Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Swift 911 service, social media, website, email
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Montvale Borough 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		Embankment stabilization
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Committee discussions with EMS and Borough Engineer
Other ongoing efforts to build additional financial capabilities	X		Ongoing grant writing efforts, possible investigation of I-Bank funding for sewer related improvements

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Montvale has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include bank stabilization, de-snagging of waterways and focus on Grand Ave bridge over Pascack Brook. Over the next five years, Montvale aims to prioritize projects that address vulnerable flood prone areas, by expanding mitigation strategies like updated flood mapping, adopting advanced emergency alert systems, bank stabilization and stream maintenance. These efforts underscore the Borough of Montvale's commitment to safeguarding residents in the face of evolving hazards particularly in the areas that are prone to flooding.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
36-01	Elevate Magnolia Bridge above the Flood Hazard Level	This project to replace the Magnolia Bridge is being funded by the County and targeted for completion in 2020.	Flood, Severe Weather	High	Bergen County	County budget, DOT, FEMA HMA	$5,000,000.00	5 + years	Completed	Complete in 2023. (Bergen County paid for this).
36-02	Purchase Variable Message Signs to Direct Traffic during a Hazard Event	Purchase variable message signs that can direct people to reroute from a flooded road toward an evacuation route would be useful. Estimated cost at $10k for a public campaign.	All Hazards	Medium	Montvale Borough	Municipal budget, Homeland Security grants	$10,000.00	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
36-03	Provide Literature to Educate Residents of Flood Risk and Mitigation Methods	Ongoing effort to provide education on flood risks and solutions for residents.	Flood	Low	Municipal Government	Municipal budget	$5,000.00	5 + years	Ongoing	
36-04	Elevate Grand Avenue Bridge at Memorial above the Flood Level	The "Grand Avenue Bridge at Memorial," where the firehouse is located, needs to be elevated above the flood level. Since the bridge is scour critical and owned by the County, they have to evaluate. When it rains, water comes through this location and blocks bridge access.	Flood, Severe Weather	High	Borough Engineer	FEMA HMA, DOT	$8,000,000.00	5 + years	Ongoing	This is noted as a very high priority for the borough.
36-05	Relocate Sanitary Sewers away from Muddy Brook	Relocate sanitary sewers out of and away from Muddy Brook. Reinforce banks with vegetation or relocate sewer lines.	Flood, Severe Weather	Medium	Borough Engineer	FEMA HMA, Municipal budget	$2,500,000.00	5 + years	Ongoing	
36-06	Relocate Sanitary Sewers away from Pascack Brook	Some sanitary sewers have already been abandoned and moved. Still a problem in three locations protecting sewer lines that are exposed along Pascack Brook. Remaining locations that need to be addressed include Stone Hall, across from the recycling center; Huff Park; and a sewer line that crosses Magnolia/Donnybrook Road. Erosion would cause sewage to run into the road, making this a very high priority.	Flood, Severe Weather	High	Borough Engineer	FEMA HMA, Municipal budget	$6,000,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
36-07	Adopt Floodplain Development Regulations to Ensure Sustainability, Existing Neighborhood Characteristics, and Resiliency	Montvale has adopted required floodplain ordinances, but can look into other additional regulations in addition to restrictions set in place through NJDEP stream buffers.	Flood, Hurricane and Tropical Storm	Low	Borough of Montvale	Municipal budget	$5,000.00	5 + years	Ongoing	In progress of adopting new model ordinance.
36-08	Stabilize and Armor the Banks of Pascack Brook and Muddy Brook	Significant erosion along both main streams through the borough affect residential structures. The community has done repairs over the years, including vegetative stabilization and armoring.	Severe Weather	Medium	Borough Engineer	FEMA HMA, Municipal budget	$10,000,000.00	5 + years	Ongoing	Significant area, larger than Action 36-04, ½ mile Magnolia to Grand Avenue Bridge.
36-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	The number of structures subject to flooding issues is solely affected by water that comes up and over stream banks. These houses are located along Eagle Ridge, Magnolia Avenue, Westminster Court, Quail Ridge Road, Stone Hollow Court, Bay Berry Drive, Cherry Lane near Molton Drive, Wildwood Court, Jan Court, Woodland Road, Hope Street, and Dogwood Lane. Unclear if these (and Nottingham Court Apartments) carry flood insurance.	Flood, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineer	FEMA HMA	$7,500,000.00	5 + years	Ongoing	
36-10	Replace Bridge on Kinderkamack Road	Bridge replacement is needed on Kinderkamack Road by Glen Lane bridge.	Flood	Medium	Borough Engineer	FEMA HMA, DOT, County budget, Municipal budget	$3,000,000.00	5 + years	Ongoing	Not currently prioritized

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
36-11	Rehabilitate Three Remote Pump Stations and Purchase and Install Surveillance Systems and Generators	Valley View (old generators), Huff (old generators), and Middletown (no generator) stations for sanitary sewers need surveillance, rehabilitation, and generators. All three would need to be elevated. Estimated cost of $5M per station. Also, one camera at each location estimated at $5,000 each.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Montvale Borough	FEMA HMA, Homeland Security grants	$15,015,000.00	5 + years	Ongoing	All have generator, none elevated.
36-12	Target Harden Police, Fire, Parks, and Transit Facilities by Fixing Parking Lot and Installing Surveillance Cameras and Better Lighting	A project would include fixing and expanding the parking lot, cordoning it off, installing better lighting, and constructing automatic gates that lock. Estimated cost at $250k. Another project includes installing cameras at the impound garage and is estimated at $50k.	Terrorism, All Hazards	High	Montvale Borough	Municipal budget, Homeland Security grants	$420,000.00	3 years	Ongoing	No autogates at borough Hall, everything else is completed.
36-13	Purchase and Install Generators to Extend Longevity of Traffic Signals during Power Outages	Modifying or putting generators on 12 traffic signals has been discussed by the County. The existing battery life on traffic signals is 4 hours. Would like to modify to add a generator plug-in or generator to keep the lights in operation during a power outage.	All Hazards	Medium	Bergen County	Municipal budget, Homeland Security grants	$60,000.00	1 year	Ongoing	
36-14	Installation of Stream Gauges to Alert the Police of Potential Flooding	Install a warning system that mobilizes responders ahead of time would involve installing gauges and sensors where the stream might back up. The three gauges (at Summit, Grand, and Magnolia Avenues) could have a	Dam and Levee Failure, Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm,	Medium	Montvale Borough	Municipal budget	$100,000.00	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		sensor that alerted the police department w	Severe Weather							
36-15	Purchase of Two Mobile Command Centers to Ensure Continuity of Operations	Purchase two mobile command centers would improve the continuity of operations during an emergency. This would include bringing the old, existing OEM trailer back to life, and including a new radio, as well as a new trailer on the other side of Montvale Avenue in case the road becomes split by floodwaters.	All Hazards	Low	Montvale Borough	Municipal budget	$200,000.00	3 years	Ongoing	
36-16	Purchase of Mobile Light Towers to Deploy During an Emergency	Purchase mobile light towers to install around the borough during an emergency. Estimated costs at $10k each for 4 light towers.	All Hazards	Medium	Montvale Borough	Municipal Budget	$40,000	1 year	Ongoing	Just bough new light tower - $14k from borough funds.

37 – MOONACHIE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Richard Behrens	Chief of Police, Moonachie Police Department	Primary Contact

COMMUNITY PROFILE

Overview

The Borough of Moonachie, spanning 1.74 mi^2, is located in southern Bergen County, New Jersey, bordering Bergen municipalities of Carlstadt, Hasbrouck Heights, Little Ferry, South Hackensack, and Wood-Ridge. The borough is within the Hackensack River watershed and sits at the northern end of New Jersey's Meadowlands District. With Moonachie's location between the Meadowlands and Teterboro Airport, the borough is home to primarily industrial and commercial land uses, though the community also has some residential land use, and is a commuter base for workers in New York City, who have nearby access to the George Washington Bridge over the Hudson River to Moonachie's east.

Within the borough boundaries are parts of the Teterboro Airport, including a buffer of undeveloped land along Redneck Avenue, and industrial land uses along the east-to-west Moonachie Avenue (County Route 503). Losen Slote, a tributary of the Hackensack River, makes up much of Moonachie's eastern border. Despite its proximity to the Hackensack River, Moonachie is not considered a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In Moonachie, civic/public (tax exempt) uses make up half of all acreage in the borough – 50% and 507 acres as of 2022, a negligible change since 2016. Industrial land uses make up the next highest share of Moonachie's acreage, with 34% (nearly 342 acres) industrial land in 2022. Residential land uses, including multi-family, make up just 95 acres (9%) of Moonachie's overall area.

Additionally, according to NJDEP's Land Use/Land Cover datasets from 2015 through 2020, urban (developed) land made up the biggest share of Moonachie's acreage, with 72% of the borough (798 acres) classified as urban. Wetlands make up an additional 23% of the borough area (258 acres), largely within the northern Meadowlands toward the south of Moonachie.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	4.5	5.7	27%
Forest	42.1	42.1	0%
Urban	798	798.1	<1%
Water	11.2	11.2	0%
Wetlands	259.2	258	<-1%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

The borough identified no recent development in Moonachie since 2021. Most of the borough is built out with industrial and commercial development; while smaller lot redevelopment may occur, no open parcels have experienced major redevelopment in recent years.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
The borough identified no upcoming anticipated development over the next five years in Moonachie – the borough is largely built out, and any large parcels within the borough are identified as primarily recreational or protected uses.

Demographics & Vulnerable Populations

Moonachie Borough has an estimated total population of 3,093. Of Moonachie's residents, an estimated 6.8% are under age 5 and 14.9% are over age 65. The borough's population increased by an estimated 11.14% over the ACS survey periods between 2013-2017 and 2018-2022. The notable growth in population (over 11% increase over two ACS survey periods) highlights potential vulnerabilities relevant to hazard mitigation, including increasing densification and parcel redevelopment, especially in wetlands and wetlands-adjacent environments of Moonachie.

Moonachie has one block group (making up much of its western half) which is designated by OBC as potentially overburdened, meeting qualifying characteristics for *Low Income and Minority* populations. The entirety of Moonachie's area also qualifies under CEJST definitions of potential vulnerability (under *Workforce Development* criteria) as well as CDRZ designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	3,093
Population Change since 2017	11.1%
Percent of Population Age < 5	6.8%
Percent of Population > 65	14.9%

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	
Hurricanes, Tropical Storms	Winter Storms	Wildfire
Nor'easter	Extreme Temperatures	Earthquake
Flood	Extreme Wind	Drought
	Tornado	Dam & Levee Failure
	Lightning	Landslide
	Sea Level Rise	
	Power Failure	
	Human-made Hazards	
	Cyber Attack	Economic Disruption
	Terrorism	Civil Unrest
	Pandemic	

Coastal Hazards including Storm Surge, Coastal Erosion, and Wave Action were identified as 'N/A' for this inland community.

Hazard Ranking Explanation

The Borough of Moonachie ranks hazards which have, in recent years, caused flooding, to be of particularly 'high' concern. These include Hurricanes, Tropical Storms, Nor'easters, and general Flooding. Secondary hazards of medium concern include those which have presented in recent years within Moonachie, but have been more easily managed or resolved – power failure, lightning strike, extreme temperatures, and winter storms.

Due to Moonachie's wetland and low-lying topography, the municipality deems 'landslide' a low concern, along with drought, earthquake, and dam and levee failures. Additionally, the borough's geography along the Hackensack River and tributaries results in 'medium' hazard identification for future sea level rise risk.

Significant Hazard Events Since Last Plan Update

Flooding is the main concern for Moonachie. The borough experiences regular flooding after storms, heavy rains, and due to gathering run-off after a heavy storm event. The eventual water recession depends largely on how well-maintained local tributaries are (free of storm debris) and how well adjacent wetlands absorb this water.

After a heavy rain, Moonachie has streets which are regularly closed due to standing water – Grand Street onto Moonachie Avenue is a recurring flooded intersection - nearby closures can even cut off a major county roadway with primary access through the borough. There is also regular flooding post- heavy rain events at the industrial park along Commercial Avenue and two mobile home developments along West Commercial Avenue.

Beyond regular flooding, which has impacted travel and caused roadway closures, there have been no significant hazard events in recent years, nor any storms causing widespread impacts (e.g. power failure) across the borough.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Moonachie Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding, and areas of known standing water during storm events. The current drainage system, which already struggles to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events. Additionally, adjacent wetlands may be less equipped to handle runoff from Moonachie and surrounding municipalities. Rising sea levels can further impact wetlands capacity, further threatening the borough's infrastructure.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Moonachie Borough	
Number of Policies In-Force:	128
Total Losses:	265
Total Payments:	$18,248,548.66
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	30
RL – Total Paid:	$2,926,543.02
Number of SRL Properties:	3
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	23
SRL – Total Paid:	$7,022,429.06

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

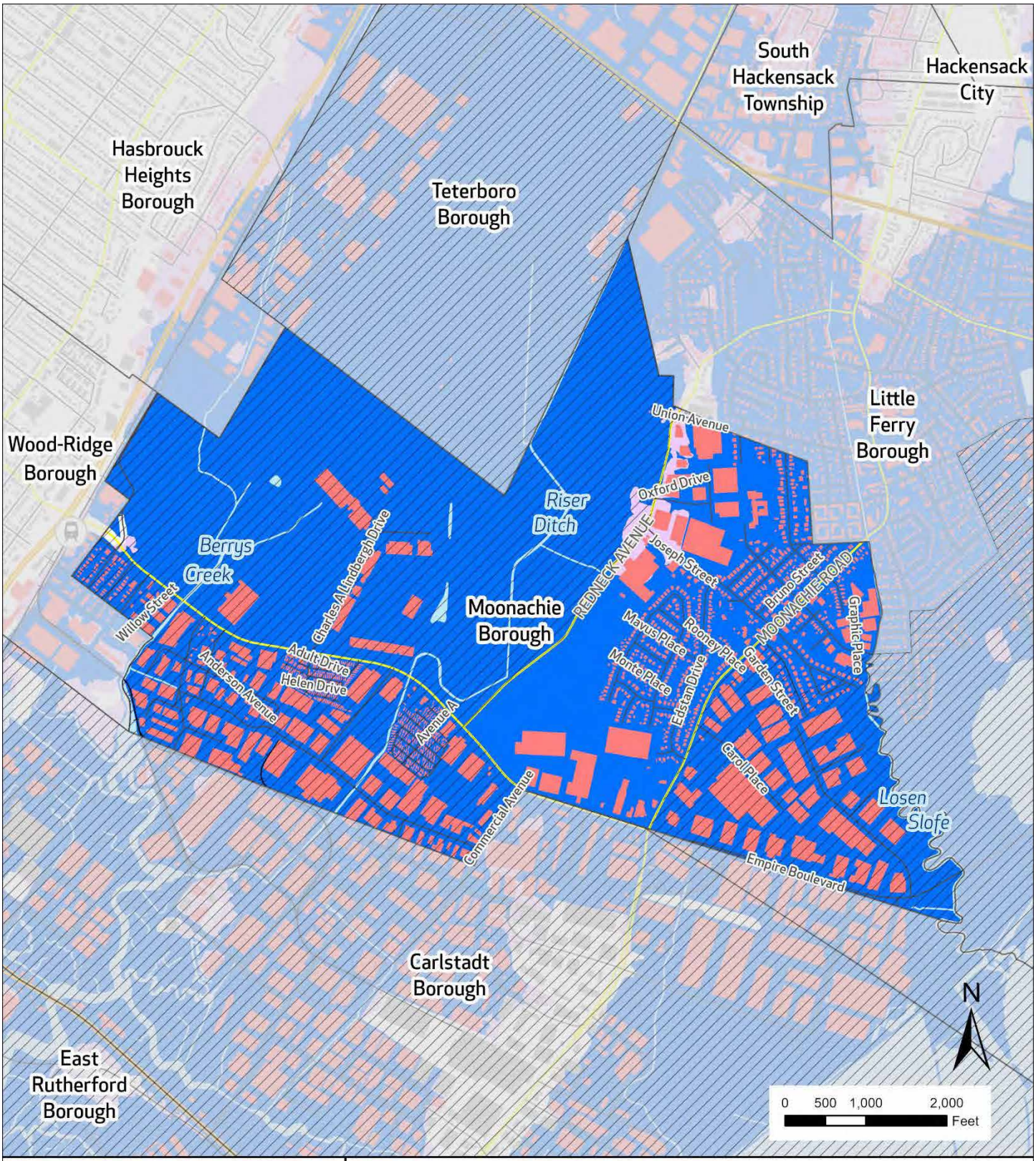
The Special Flood Hazard Area (SFHA) in the Borough of Moonachie consists of the entirety of the borough. Approximately 98 percent of the total area of Moonachie lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 91.6 percent of Moonachie is considered developed. Of the developed parcels of the borough, 100 percent fall at least partially within the 1% annual chance floodplain including 1.7 percent that also fall at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	100.0	1.7
Exposed Land Area	98.0	1.8

During the planning process, Moonachie Borough 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 nine total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, five are within the 1% annual chance floodplain. These five facilities are also at risk from sea level rise. No facilities are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5' of Sea Level Rise
Safety and Security	5	0	5



Flood Hazard

Moonachie Borough

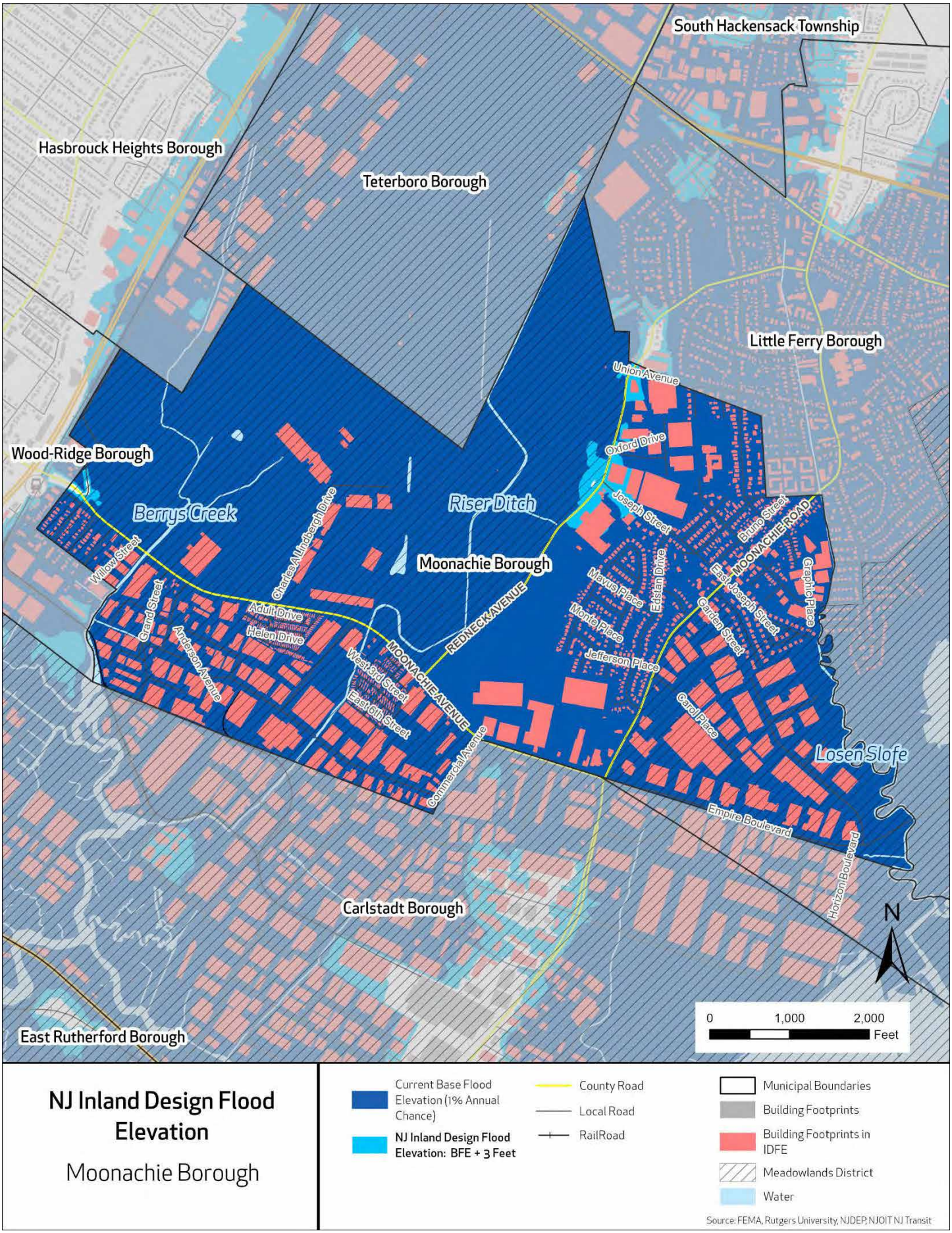
FEMA Flood Zone

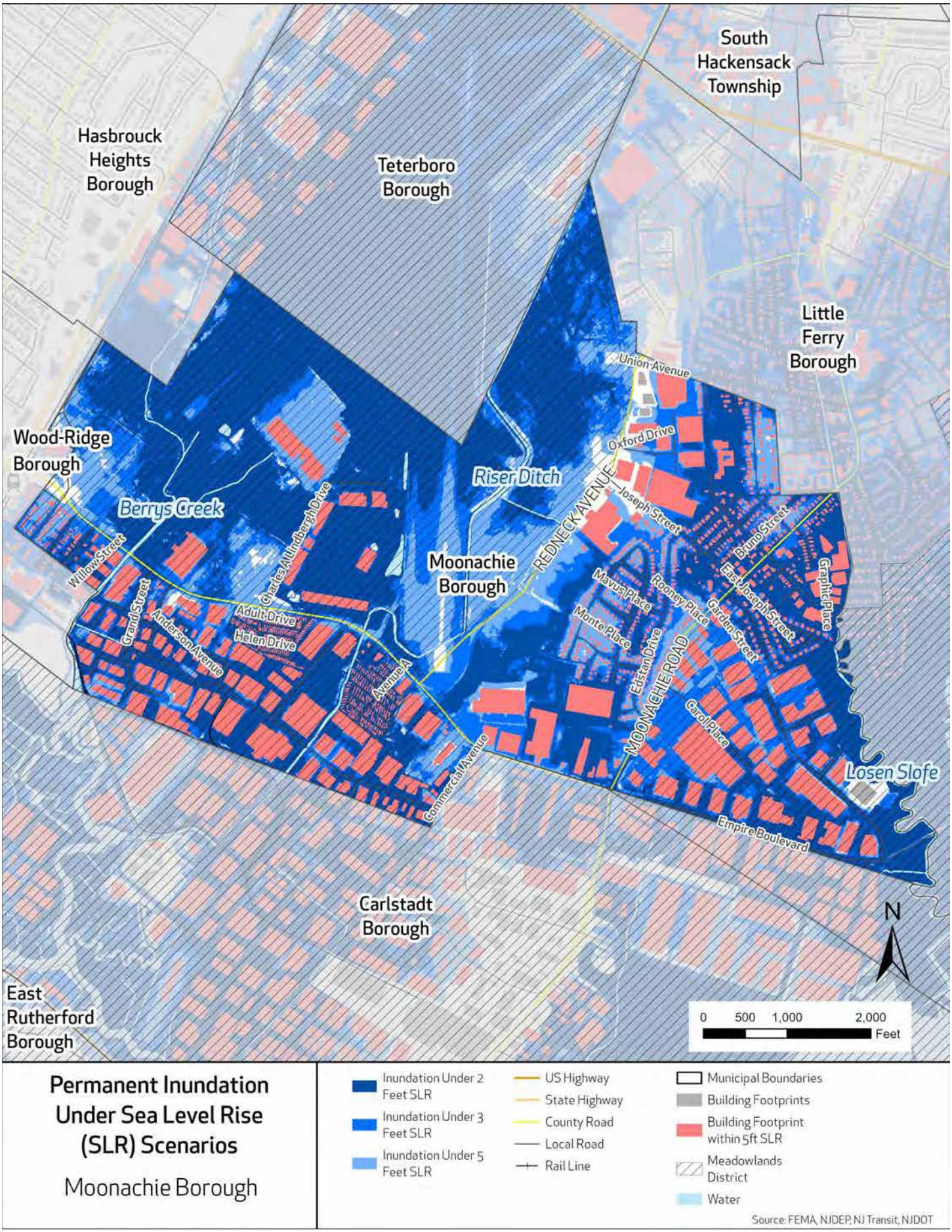
- 0.2% Annual Chance
- AE (1%)

- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


South Hackensack Township
Hasbrouck Heights Borough
Teterboro Borough
Little Ferry Borough
Wood-Ridge Borough
Moonachie Borough
Carlstadt Borough
East Rutherford Borough
Berrys Creek
Riser Ditch
Losen Slofe
Union Avenue
Oxford Drive
Joseph Street
Bruno Street
MOONACHIE ROAD
East Joseph Street
Graphic Place
Garden Street
Mayus Place
Edgar Drive
Monte Place
Jefferson Place
Carol Place
Empire Boulevard
Horizon Boulevard
REDNECK AVENUE
MOONACHIE AVENUE
West 53rd Street
East 6th Street
Commercial Avenue
Willow Street
Grand Street
Anderson Avenue
Adult Drive
Helen Drive
Charles A Lindbergh Drive
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Moonachie Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Meadowlands District
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


South Hackensack Township
Hasbrouck Heights Borough
Teterboro Borough
Little Ferry Borough
Wood-Ridge Borough
Berrys Creek
Riser Ditch
Moonachie Borough
Carlstadt Borough
East Rutherford Borough
Losen Slofe
Union Avenue
Oxford Drive
REDNECK AVENUE
Joseph Street
Bruno Street
East Joseph Street
Graphic Place
Mavus Place
Rooney Place
Monte Place
Garden Street
Edstan Drive
MOONACHIE ROAD
Carol Place
Empire Boulevard
Willow Street
Grand Street
Anderson Avenue
Adult Drive
Helen Drive
Charles Allindbergh Drive
Avenue A
Commercial Avenue
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Moonachie Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Moonachie Borough 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		
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan		X		
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation		X		
Other ordinances and regulations that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Moonachie Borough 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

Moonachie Borough 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, Moonachie Borough 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	

MITIGATION STRATEGY

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
-	-	-	-	-	-	-	-	-	-	-

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
37-01	Purchase and Install Generators for Pump Stations and DPW facility in addition to Mobile Generators for Traffic Lights	Purchase and maintain generators to continue critical community services during utility interruptions and storm events. Additionally, install fencing around pump stations and purchase and install light towers for emergency rescues.	All Hazards	Medium	Borough Hall	FEMA HMA, Homeland Security grants	$1,000,000.00	2 years	Ongoing	Generators have been purchased for a few pump stations, working on additional funding.
37-02	Improve Emergency Communications by Duplicating Communications Desk and Purchase and Installing Back-up Transmitters and a Siren/PA System	Duplicate location for communications desk, and purchase and install backup transmitters and one siren/PA system.	All Hazards	Medium	Borough OEM, Police, Fire	Homeland Security grants, Municipal budget	TBD	1 year	Ongoing	Still working on securing funds.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
37-03	Purchase High-water Rescue Vehicles	Purchase rescue vehicles that can go through flooded streets for emergency responses.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough of Moonachie	Municipal budget	TBD	1 year	Ongoing	No longer a medium priority (moved to low priority for the borough).
37-04	Remove Boilers from School Basement	Remove the boilers from the basement of the school, which serves as a shelter/reception area.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough of Moonachie	Municipal budget	TBD	2 years	Ongoing	
37-05	Dredge and Desnag Riser Ditch and Berrys Creek	Expand the normal operating range of Riser Ditch and Berrys Creek through dredging and desnagging.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering, DPW	RBD Funds, additional grants where applicable, municipal budget	TBD	3 years	Ongoing	Still ongoing, some progress has been made but there remains an ongoing maintenance need.
37-06	Construct a Berm System with Flood Gates at Berrys Creek	Implement the recommendations from the Rebuild by Design Meadowlands (Pilot Area #1). The proposal is to build a berm system with associated gates in Little Ferry /Moonachie /Carlstadt (with a sliver of South Hackensack and Teterboro) that will extend ocean surge flooding protection to all five towns. The	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering, Planning	FEMA HMA, HUD	$2,000,000.00	2 years	Ongoing	Regional planning efforts working on flooding impacts post-Sandy.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		berm system will chamber off Berrys Creek into separate parts that can be cleaned up successively. The proposal also includes the creation of new freshwater basins, and the expansion and sealing of existing basins (e.g. sewage plant basin, Indian Lake, Little Ferry) within the protected areas, to capture rainwater runoff before and hold it before it, if necessary, gets discharged back into the Hackensack River.								
37-07	Purchase and Install Radios for Emergency Vehicles	Purchase and install new radios for emergency vehicles.	All Hazards	Medium	Borough DPW	Municipal budget	TBD	5 + years	Ongoing	
37-08	Purchase Emergency Equipment (large dump truck, 4x4, portable radios,	Purchase Emergency Equipment (large dump truck, 4x4, portable radios, barricades,	All Hazards		Local OEM and Municipal Staff	Municipal Funding, OEM	TBD		Ongoing	Some has completed – 4x4, barricades, condes, and chain saws. Still working on purchasing a truck.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	barricades, cones, chainsaws)	cones, chainsaws)								
37-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	No progress has been made to date, last flooding was noted for these properties during Sandy.
37-10	Conduct Flood Reduction Measures (e.g. pump station, clean up rake) to the West Riser Ditch Tide Gate	The existing tide gate at the West Riser Ditch gets blocked by debris and cannot operate correctly, causing severe and constant flooding. The tide gate needs a pump station when the gate is closed and is missing some vital pieces, like a clean up rake/bar screen to prevent debris built up at tide gate.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough	FEMA HMA, CDBG - DR	TBD	2 years	Ongoing	Ongoing – somewhat completed but ongoing maintenance needed, and pump has not been added.
37-11	Join the CRS Program	Join the CRS program to reduce flood insurance premiums for residents.	Flood, Nor'easter, Hurricanes and Tropical Storm, Severe Weather	Medium	Borough	Municipal budget	Staff Time	3 years	Ongoing	

38 – NEW MILFORD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Denise Brunner	**Emergency Management Coordinator**	**Primary Contact, Attended Municipal Meeting**
Jessica Brunner	FEMA specialist / Deputy Coordinator	Phone Conference
Syl Bresa	DPW Superintendent	Phone Conference
Mike Putrino	Mayor	Meeting

COMMUNITY PROFILE

Overview

The Borough of New Milford, spans approximately 2.32 square miles and is located in central Bergen County, New Jersey. The Hackensack river runs from north to south along the eastern border of the borough, while the Hirschfield Brook bisects it from east to west. The borough has a population of around 16,923 residents. New Milford is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. New Milford is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 76% of the total land use, and covering 785 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, comprising 18% and 5% respectively of the total land use in the same year. From 2016 to 2022, there was negligible change in the land use composition of the borough.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as 'Urban' occupied the largest share, making up nearly 90% of the area in 2020. Forest and wetland categories followed, accounting for 4% and 3% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1.6	1.6	0%
Barren Land	13.7	.08	-94%
Forest	53.1	48.8	-8%
Urban	1351.4	1368.7	1%
Water	27.5	27.5	0%
Wetlands	38	37.9	-<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

In New Milford, a PSE&G substation was recently developed. PSE&G substation was upgraded in 2016 and is located at the western end of Henley Ave. The substation is in a floodplain; however, its buildings are above flood level.

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

None identified

Demographics & Vulnerable Populations

New Milford Borough has a total estimated population of 16,888. Of New Milford's residents, an estimated 7.5% are under age 5, and 15.9% are over age 65. The Borough's population has stayed relatively steady over the 2013-2017 and 2018-2022 ACS survey periods, seeing an estimated 0.8% increase. With an aging population making up nearly sixteen percent of the borough residents, New Milford may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

There are eight block groups in New Milford which meet criteria for overburdened communities (OBC), based on categories of Minority (six block groups), Low Income (one block group), and Low Income and Minority (one block group) populations. There are no parts of New Milford which meet criteria for designation as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	16,888
Population Change since 2017	0.8%
Percent of Population Age < 5	7.5%
Percent of Population > 65	15.9%

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

Storm Surge and Wave Action were marked as N/A.

Hazard Ranking Explanation

For New Milford Borough, floods, hurricanes, and winter storms are high-risk hazards that can disrupt power, leading to outages and potential cyberattacks. Dam failure is also recognized as a significant high-risk hazard for the borough due to aging infrastructure and previous overflow incidents. The Oradell Dam, located on the Oradell-New Milford border, once overtopped, causing flooding in the borough. There are also concerns regarding storm drain backups, as well as flooding from underground streams by Hirshfeld Brook that can lead to further backups.

Significant Hazard Events Since Last Plan Update

There are multiple incidents of flooding and bank erosion along the French Brook, as well as flooding along Hackensack River during heavy flood events.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including New Milford Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Hackensack River and the French Brook, and increases chances of dam overflows. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of bank erosion.

Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

New Milford Borough	
Number of Policies In-Force:	100
Total Losses:	797
Total Payments:	$29,931,738.13
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	207
RL – Total Paid:	$10,796,093.37
Number of SRL Properties:	49
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	265
SRL – Total Paid:	$11,625,070.88

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

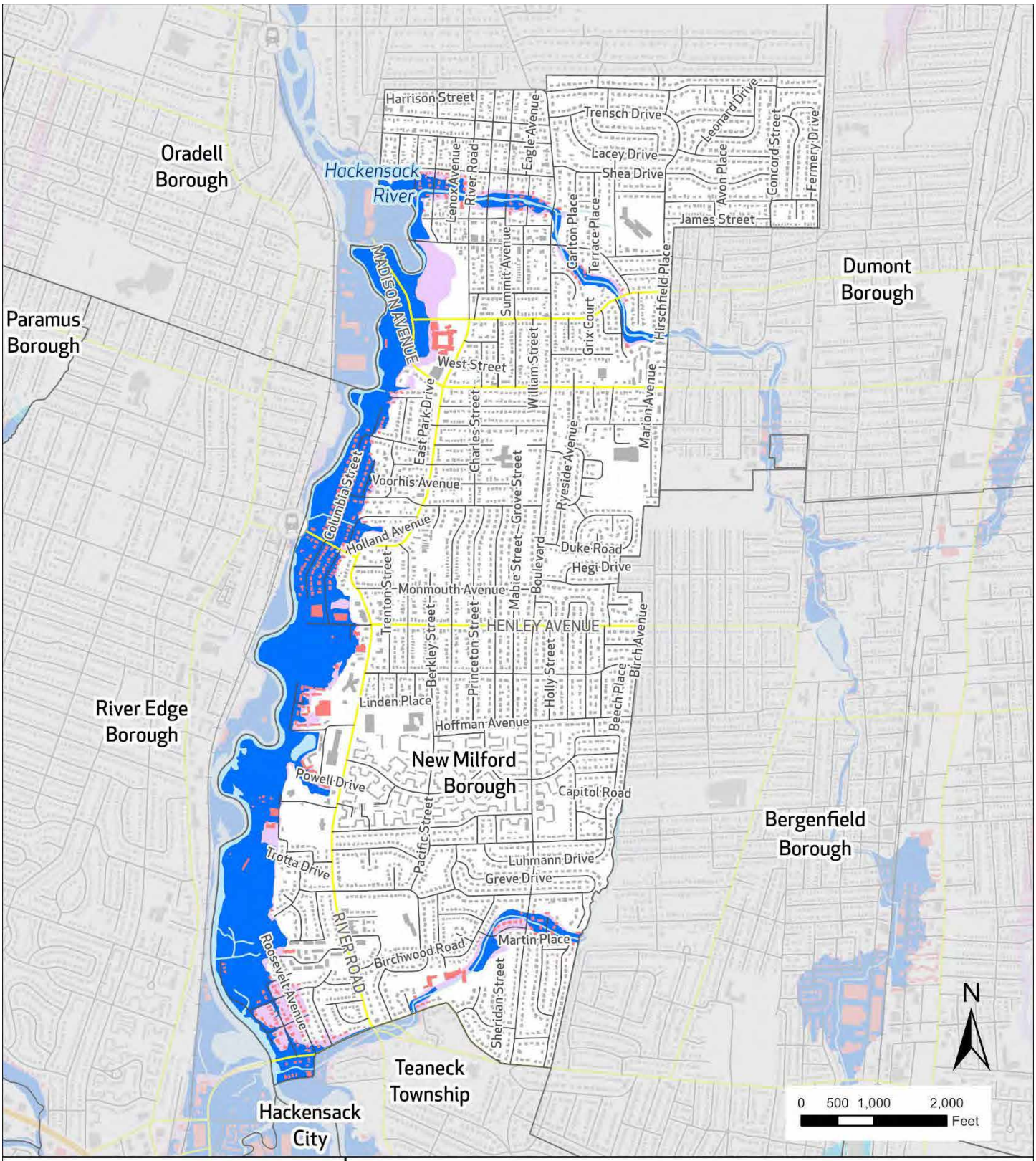
The Special Flood Hazard Area (SFHA) in the Borough of New Milford is primarily located adjacent to the waterbodies of the borough: the Hackensack River which forms the eastern border of the borough, as well as Hirshfield Brook and French Brook which both flow into the Hackensack River. Approximately 13.8 percent of the total area of New Milford lies within the 1% annual chance floodplain as defined by FEMA. An additional 3 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 71 percent of New Milford is considered developed. Of the developed parcels of the borough, 7.4 percent fall at least partially within the 1% annual chance floodplain and 6.2 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	7.4	6.2
Exposed Land Area	13.8	3.0

During the planning process, New Milford Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise. Of these facilities none are located within floodplain or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 Feet of Sea Level Rise
Community Lifelines and Critical Facilities	0	0	0



Flood Hazard

New Milford Borough

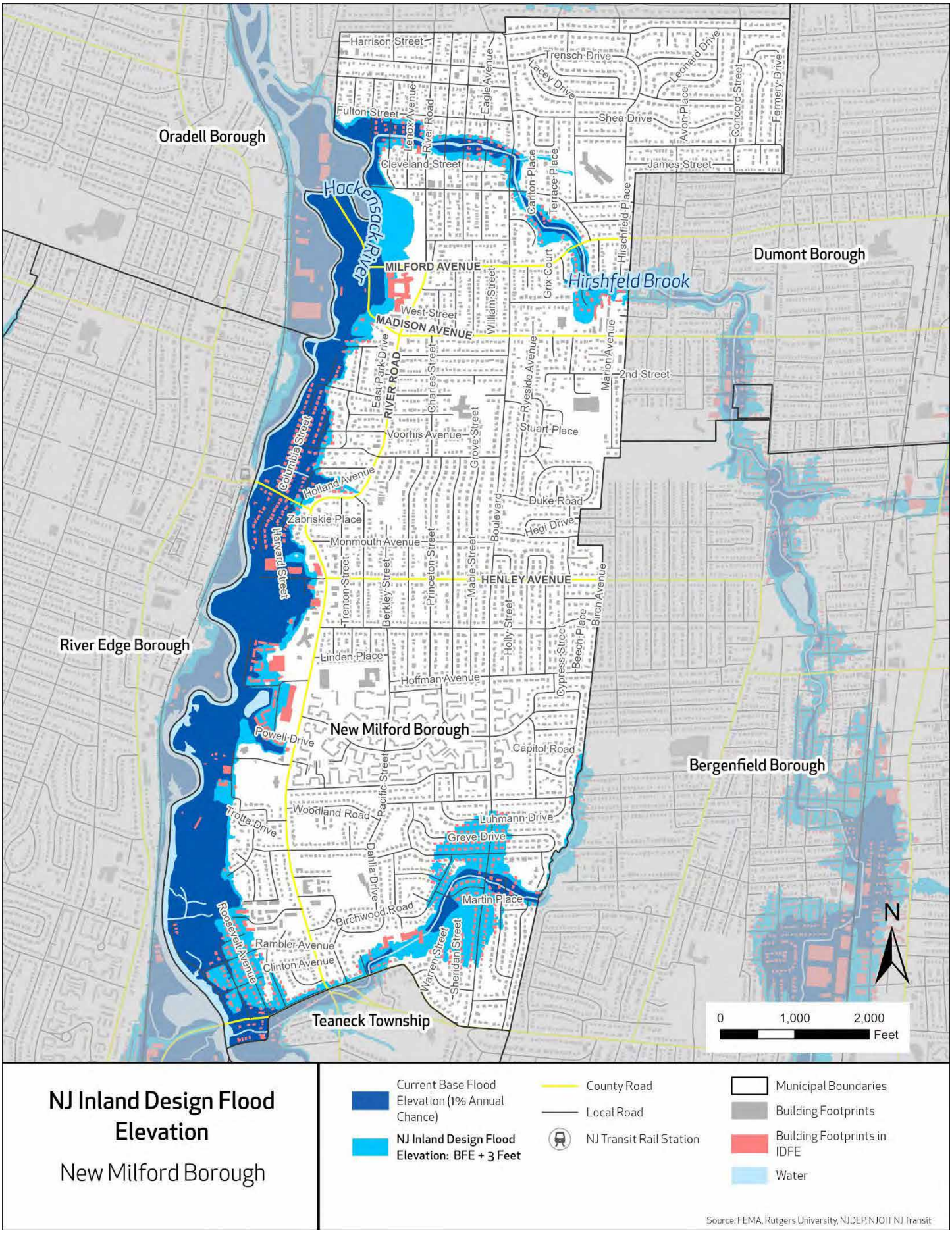
FEMA Flood Zone

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

- State Highway
- County Road
- Local Road
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

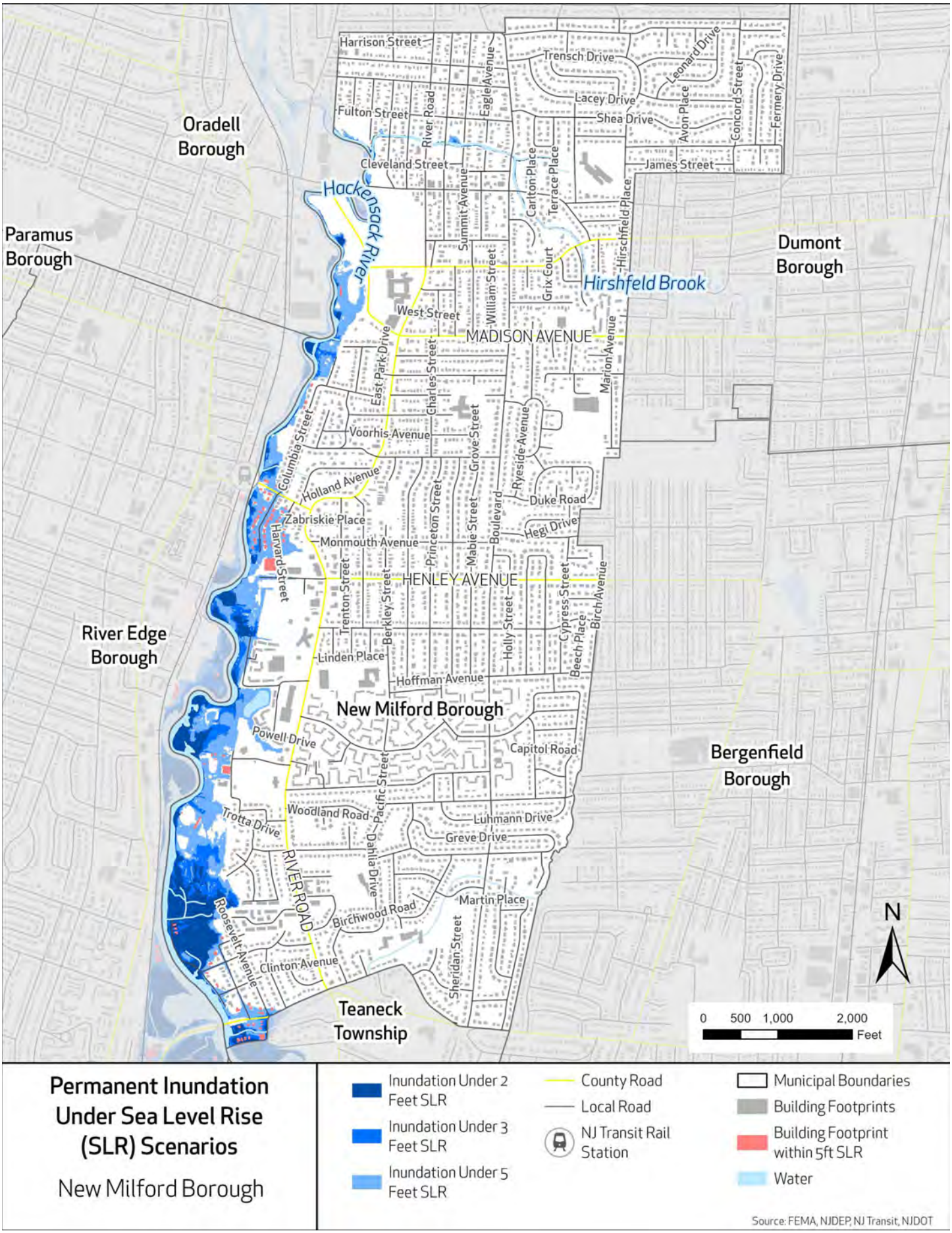


NJ Inland Design Flood Elevation

New Milford Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Harrison Street
Trensch Drive
Leonard Drive
Lacey Drive
Shea Drive
Avon Place
Concord Street
Fermery Drive
Fulton Street
River Road
Eagle Avenue
Oradell Borough
Cleveland Street
James Street
Hackensack River
Summit Avenue
Carlton Place
Terrace Place
Hirschfield Place
Paramus Borough
Dumont Borough
Grix Court
Hirshfeld Brook
William Street
West Street
MADISON AVENUE
Marion Avenue
East Park Drive
Charles Street
Voorhis Avenue
Grove Street
Ryerside Avenue
Columbia Street
Holland Avenue
Duke Road
Zabriskie Place
Princeton Street
Mabie Street
Boulevard
Hegi Drive
Harvard Street
Monmouth Avenue
HENLEY AVENUE
Trenton Street
Berkley Street
Holly Street
Cypress Street
Beech Place
Birch Avenue
River Edge Borough
Linden Place
Hoffman Avenue
New Milford Borough
Powell Drive
Capitol Road
Bergenfield Borough
Pacific Street
Woodland Road
Trotta Drive
Luhmann Drive
Greve Drive
Daniel Drive
RIVER ROAD
Martin Place
Roosevelt Avenue
Birchwood Road
Clinton Avenue
Sheridan Street
Teaneck Township
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
New Milford Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
County Road
Local Road
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

New Milford Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

New Milford Borough 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		Red Cross

Education and Outreach Capabilities

New Milford Borough 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, New Milford Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

New Milford has flooded many times. Most of the mitigation that we require is very expensive and we continuously look for funding to make things happen. We plan to prioritize roadway elevations along evacuation routes due to residents being stranded before and during a storm event. However, elevating the roadways involves multiple municipalities, utilities and purchasing many buildings. Elevating the home seems to be the best route for us because we then do not loose the family and its tax base. Storm piping replaced using municipal funds and grants monies.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-01	Purchase a Variable Message Sign	Purchase a variable message sign to aid with communication during a disaster.	All Hazards	Medium	New Milford Borough	Municipal budget		1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-02	Inspect and Clean Storm Drainage Systems Flowing into the River near Roosevelt Ave. and New Bridge Rd.	Inspect and clean, as necessary, storm drainage system flowing into the river near Roosevelt Ave. and New Bridge Rd (County road) that floods often and requires more resources to clean out.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	High	New Milford Borough	Municipal and County budget	TBD	1 year	Ongoing	
38-03	Acquire and Relocate or Demolish Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties, especially along the Hackensack River and the Hirshfeld Brook	Original goal from 2015 plan was to acquire 6 Repetitive Loss properties, but in mid-2019 more than 50 properties were undergoing the acquisition process through Blue Acres with some still being demolished. Some homes are on the north end of Columbia Street and Harvard Street	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	High	New Milford Borough Clerk's Office	FEMA HMA	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-04	Stabilize the Hackensack River Banks	Bank stabilization need to be implemented that are harmonious and coexist with the river.	Flood, Severe Weather	High	New Milford Borough	FEMA HMA, municipal budget	TBD	3 years	Ongoing	TBD
38-05	Clean Feeder Brooks on a Regular Basis	Feeder brooks to be cleaned on a regular basis	Flood, Severe Weather	Medium	New Milford Borough	Municipal budget	TBD	3 years	Ongoing	TBD
38-06	Coordinate with Army Corps of Engineers on a Beneficial Reuse Study of Hackensack River to Understand Water Flow and New Mitigation Options to Reduce Flooding	Coordinate with Army Corps on a study regarding the beneficial reuse of the Hackensack River from the Oreil Dam downstream to understand how better water flows can be achieved.	Dam and Levee Failure	Low	New Milford Borough	Army Corp of Engineers, Municipal budget	TBD	5 + years	Ongoing	TBD
38-07	Coordinate with the County and Teaneck Township on Roadway Elevations	Coordinate with County and Teaneck to asses roadway elevations. New Milford is unsure of the inspection status of bridges throughout the borough. Elevating roadways in the future may be challenged by the fact that there's extensive building at the curb lines.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	New Milford Borough	FEMA HMA, Municipal budget, County budget, DOT	TBD	2 years	Ongoing	By New Bridge Road

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-08	Elevate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties along the Hackensack River and the Hirshfeld Brook	Mitigate repetitive loss and severe repetitive loss properties near New Bridge Road by elevating the property, or if the homeowner does not wish to vacate the property or elevate, then educate them on the risk and the options available.	Flood	High	New Milford Borough	FEMA HMA	TBD	1 year	Ongoing	8 elevations within the last 5 years
38-09	Purchase and Install New Generators at Critical Facilities	Purchase and install new generators at the Municipal building and all schools. Currently the middle school is the only school that has a generator. The schools can act as place of last resort.	All Hazards	Medium	New Milford Borough OEM	FEMA HMA	$1,000,000.00	1 year	Ongoing	Gibbs Elementary and the high school need generators. Municipal building generator has been rebuilt.
38-10	Install a Public Announcement/Speaker System	Install a public announcement/speaker system in the North and South end of the Borough to reach the Orthodox Jewish population from sundown Friday to sundown Saturday.	All Hazards	Medium	New Milford Borough	Municipal budget	TBD	1 year	Ongoing	Looking for Funding
38-11	Complete a Flood and Dam Risk Study	Complete a study of which roadways flood, particularly when there is risk of dam failure.	Flood	Medium	New Milford Borough	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
38-12	Elevate Portions of the DPW Building or Strengthen the Riverbanks	Complete a study of the DPW building and yard to identify ways to mitigate flooding, whether elevating portions of the structure or constructing riverbank hardening features, as the borough records are currently elevated on pallets.	Flood	High	New Milford Borough	Municipal budget	TBD	1 year	Ongoing	

39 – NORTH ARLINGTON BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Richard Hughes	**Emergency Management Coordinator**	**Primary Contact, Reviewed and consulted with Department Heads**
Stephen Lolacono	Borough Administrator	Secondary Contact, Reviewed

COMMUNITY PROFILE

Overview

North Arlington Borough, located in southeastern Bergen County, New Jersey, spans approximately 2.53 square miles, with 2.48 square miles of land and 0.04 square miles of water. It lies along the western bank of the Passaic River, a significant waterbody in the County offering recreational opportunities. The borough is home to Holy Cross Cemetery, a historic landmark, and is near Riverside County Park, offering recreational opportunities. The borough is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In North Arlington, civic/public (tax exempt) land accounted for nearly 47% of the total land area in 2022. Residential and apartment land was a close second, together making up 34% of the total area, followed by industrial land at 8%, vacant land at 6%, and commercial at 5%.

According to NJDEP's Land Use/Land Cover datasets, from 2015 through 2020, urban/developed land accounted for the largest share of land use at 70%, followed by barren land and water which made up around 17% and 6%, respectively, of the total area of the borough.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	-
Barren Land	278.8	271.2	-3%
Forest	62.3	45	-28%
Urban	1117.4	1141.3	2%
Water	97.8	99.1	1%
Wetlands	63.4	63.1	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

North Arlington has experienced notable development, including the construction of 11 townhomes on a former used-car lot situated on Sherman Avenue and Ewing Avenue. This development currently falls under NJ Inland Design Flood Elevation flood zone which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper). Additionally, several mixed-use buildings, combining commercial spaces with residential units above, have been developed along Ridge Road.

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

The borough is seeing a redevelopment of its industrial area, however there are concerns as redevelopment is taking place at sea level. While SR 7 (Belleville Turnpike) is currently experiencing flooding, buildings in the Porete Ave Redevelopment Area have not been affected at this time, even though portions of Porete Ave. are in the regulatory flood zone.

Demographics & Vulnerable Populations

North Arlington Borough has an estimated total population of 16,352. Of North Arlington's residents, an estimated 5.1% are under age 5, and 16.1% are over age 65. The borough saw a nearly 3.0% (an estimated 2.992%) increase in population over the ACS survey periods of 2013-2017 and 2018-2022. A growth rate of three percent may indicate potential hazard

vulnerabilities to changing landscape conditions, including development and redevelopment, densification, and potentially, increased strain on local resources.

North Arlington has nine block groups which meet designation criteria as overburdened communities (OBC) under categories of *Minority* (seven block groups) and *Low Income and Minority* (two block groups) populations. There are no parts of North Arlington which meet criteria as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	16,352
Population Change since 2017	3.0%
Percent of Population Age < 5	5.1%
Percent of Population > 65	16.1%

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

Wave Action was ranked as N/A.

Hazard Ranking Explanation

North Arlington faces several significant hazards, including coastal erosion, flooding, hurricanes and tropical storms, nor'easters, and winter storms. Due to its proximity to water, the borough is particularly prone to flooding, which becomes more severe during hurricanes and storms. Coastal erosion has also been an issue, prompting efforts to stabilize banks using rip-rap and other mitigation measures. Winter storms frequently result in road congestion, as there is limited space for snow removal.

While extreme wind is categorized as a medium-risk hazard for the borough, there are concerns about the potential impact on mature trees, especially during high-risk events such as hurricanes and tropical storms. Although storm surges have not occurred frequently, they remain a concern, as excessive flooding has the potential to push the river's tide upstream. Additionally, power failures are a concern due to increased pressure on the local grid during such events.

Low-risk hazards, such as landslides, have had minimal impact on the borough. However, incidents of rockslides have been reported. Flash flooding from upstream dam failures, such as Dundee Dam in Clifton, also poses a potential risk to the borough.

Significant Hazard Events Since Last Plan Update

Since the last plan update, Tropical Storm Ida caused significant flooding, affecting properties on Noel Drive, Geraldine Rd. and CR507 (River Road), as well as the borough's library, Fire Station #3, Detective Bureau, and Corsi House. The borough's DPW was completely flooded causing approximately $500,000 in damage. In response to this event, the borough has acknowledged the necessity of implementing infrastructure improvements, including larger pipelines and expanded catch basins, while actively pursuing flood-proofing grants to mitigate future risks.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including North Arlington. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Hackensack River, Vreeland Ditch and Passaic River. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur. Redevelopment at sea level, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

North Arlington Borough	
Number of Policies In-Force:	25
Total Losses:	57
Total Payments:	$2,650,212.67
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	22
RL – Total Paid:	$947,184.89
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$36,836.25

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Borough of North Arlington is primarily located adjacent to the waterbodies of the borough: the Passaic River which forms the western border of the borough and the portion of the eastern side of the borough that lies within the Meadowlands District. Approximately 20.2 percent of the total area of North Arlington lies within the 1% annual chance floodplain as defined by FEMA. An additional 5.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

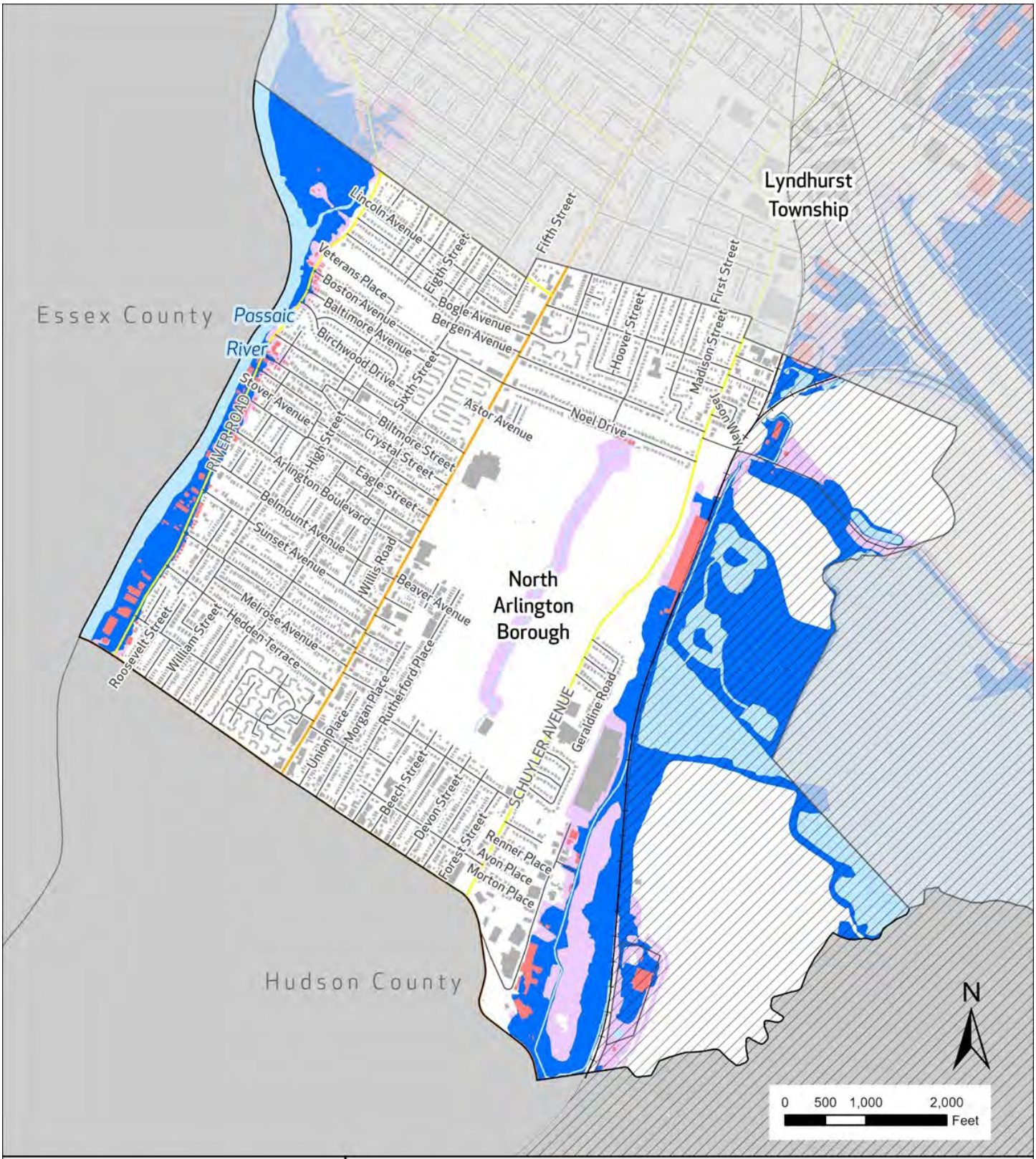
About 64.6 percent of North Arlington is considered developed. Of the developed parcels of the borough, 3.7 percent fall at least partially within the 1% annual chance floodplain and 2.7 percent are at least partially within the 0.2% annual

chance floodplain. 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
Developed Parcels	3.7	2.7
Exposed Land Area	20.2	5.6

During the planning process, North Arlington Borough 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 26 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain. This facility is also at risk from sea level rise. None are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	1	0	1



Flood Hazard

North Arlington Borough

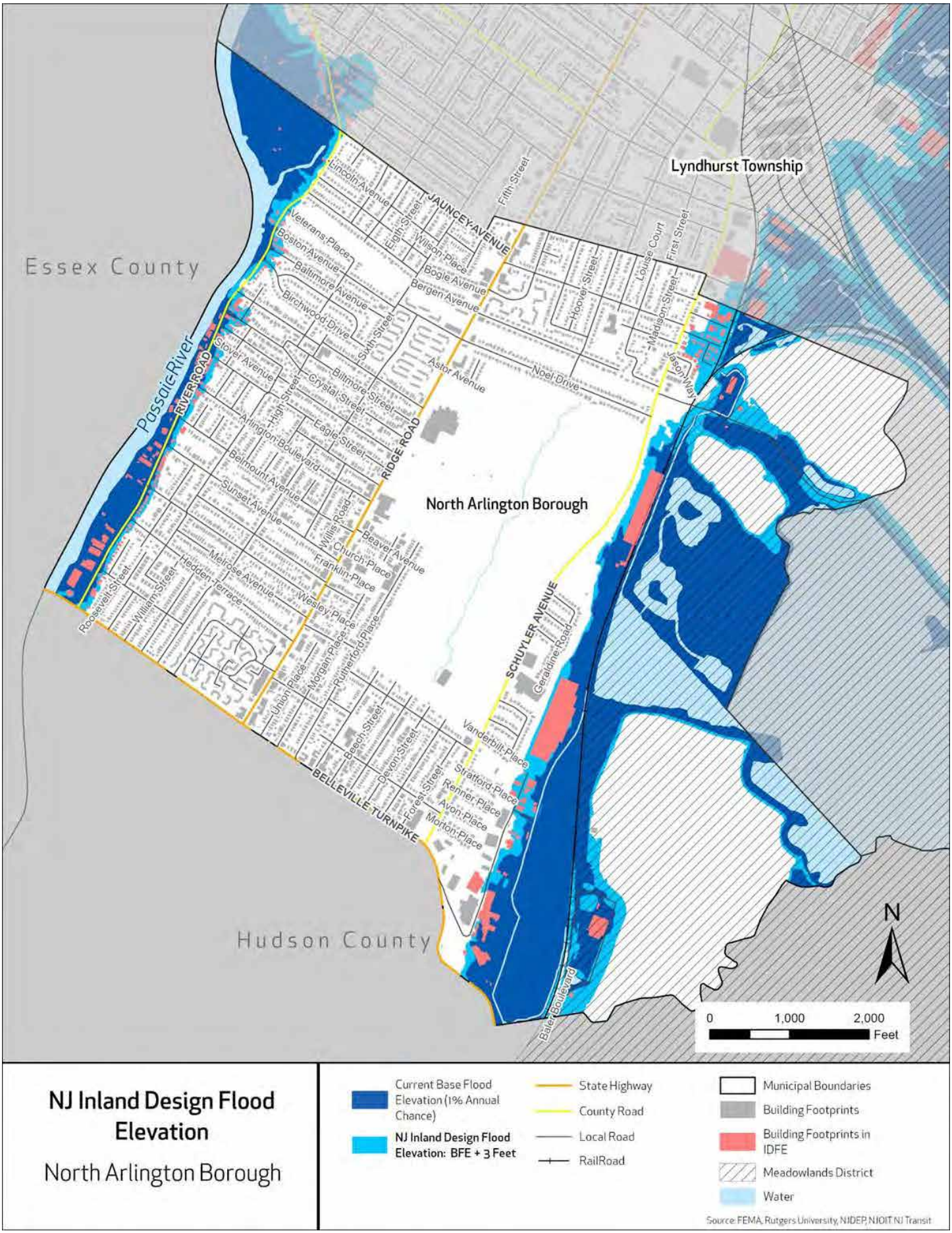
FEMA Flood Zone

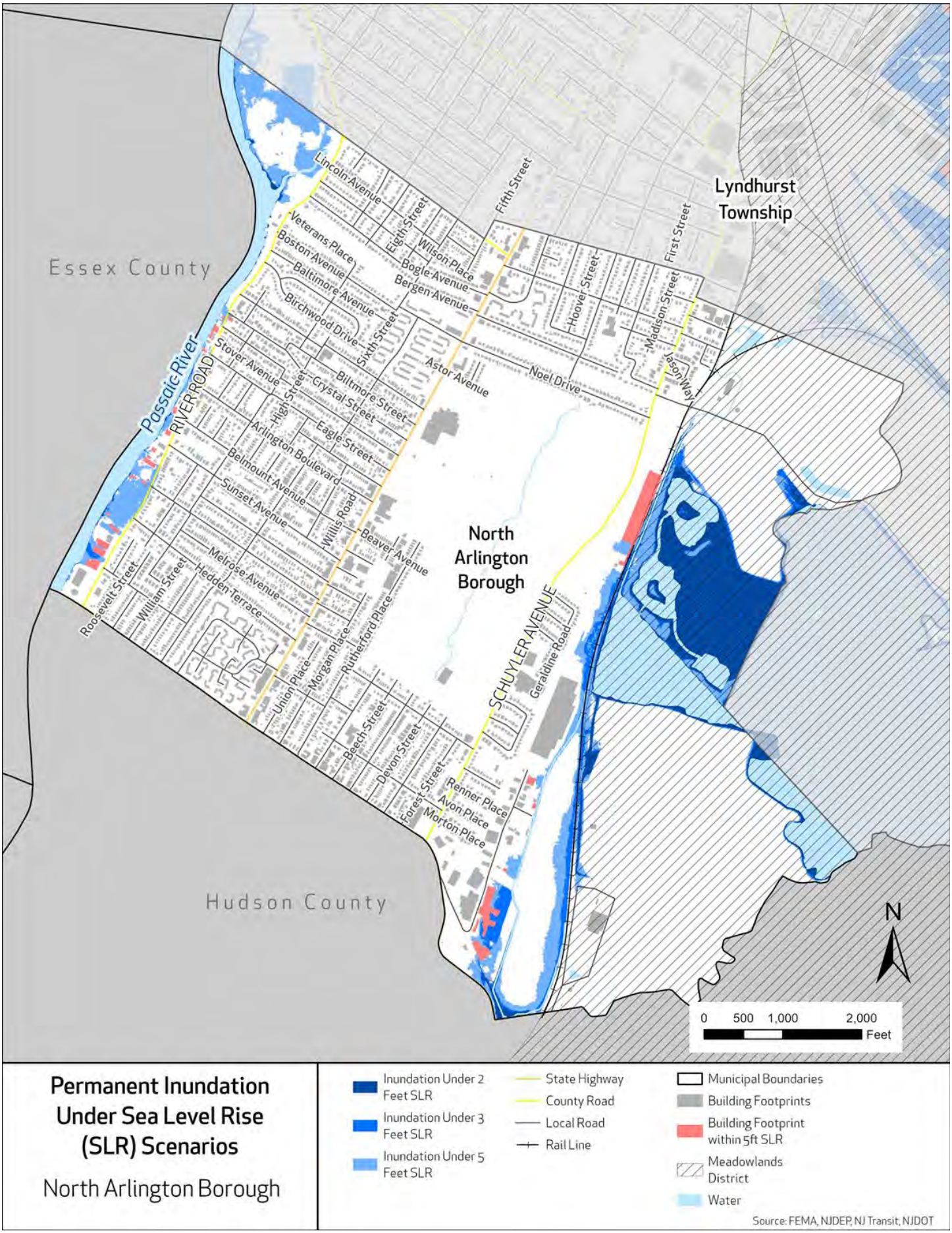
- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Essex County
Hudson County
Lyndhurst Township
North Arlington Borough
Passaic River
RIVER ROAD
RIDGE ROAD
JAUNCEY AVENUE
SCHUYLER AVENUE
BELLEVILLE TURNPIKE
Lincoln Avenue
Veterans Place
Boston Avenue
Baltimore Avenue
Birchwood Drive
Eighth Street
Wilson Place
Bogle Avenue
Bergen Avenue
Fifth Street
Hoover Street
Louise Court
First Street
Madison Street
Jason Way
Noel Drive
Astor Avenue
Smith Street
Stover Avenue
Crystal Street
Biltmore Street
High Street
Eagle Street
Arlington Boulevard
Belmont Avenue
Sunset Avenue
Willis Road
Beaver Avenue
Church Place
Franklin Place
Roosevelt Street
William Street
Hedden Terrace
Melrose Avenue
Wesley Place
Rutherford Place
Morgan Place
Union Place
Beech Street
Devon Street
Forest Street
Geraldine Road
Vanderbilt Place
Stratford Place
Renner Place
Avon Place
Morton Place
Baler Boulevard
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
North Arlington Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
State Highway
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Meadowlands District
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


Essex County
Hudson County
Lyndhurst Township
North Arlington Borough
Passaic River
RIVER ROAD
SCHUYLER AVENUE
Lincoln Avenue
Veterans Place
Boston Avenue
Baltimore Avenue
Birchwood Drive
Stover Avenue
High Street
Crystal Street
Eagle Street
Arlington Boulevard
Belmont Avenue
Sunset Avenue
Melrose Avenue
Hedden Terrace
Roosevelt Street
William Street
Willis Road
Beaver Avenue
Union Place
Morgan Place
Rutherford Place
Beech Street
Devon Street
Forest Street
Renner Place
Avon Place
Morton Place
Geraldine Road
Eighth Street
Wilson Place
Bogle Avenue
Bergen Avenue
Sixth Street
Fifth Street
Astor Avenue
Noel Drive
Hoover Street
Madison Street
First Street
Jason Way
Biltmore Street
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
North Arlington Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

North Arlington Borough 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		05/16/2016	Master Plan has a project to acquire RL properties on west side of River Road and turn it into a park that connects high school fields
Capital Improvement Plan		X		Capital Improvement 5 Year Plan is part of the annual budget. Hazard Mitigations are built into the improvements
Local Emergency Operations Plan/Continuity of Operations Plan	X		August 2023	
Floodplain Development Ordinance	X		08/28/ 2019	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		06/13/2024	Adopted Model
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response	X			Review and inspection by the Construction Department
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Handled by the Construction Department
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

North Arlington Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Full time Construction Official and Borough Engineer
Grant Writer	X		
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Every year North Arlington issues RFPs for engineering, floodplain management, land use planning and various technical assistance from engineering firms.
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations	X		North Arlington EMS, North Arlington Community Emergency Response Team (CERT), North Arlington Health Department, Queen of Peace Church, Bergen County Lunch program and Bergen County Health and Social Service Departments

Education and Outreach Capabilities

North Arlington Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, North Arlington Borough 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		PA Grants for Firehouse 3, Detective Bureau and the DPW Building.
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		Decided by the Administration
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

North Arlington continues to strengthen its infrastructure by upgrading our storm and sanitary sewer system and mitigating property damage along the river by reinforcing the riverbank and purchasing at-risk properties. North Arlington is seeking to strengthen its emergency response by replacing its Police Station/Emergency Operations Center and Fire Headquarters along with providing emergency power to various shelters and critical structures. Also on the list of priorities is to protect borough assets through flood proofing and storage of vital borough records.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
39-01	Install Stand-by Generator at the Police Department	Install stand-by generator- NA Police Department	All Hazards		Local OEM and Municipal Staff	FEMA HMA, Municipal Finances, CDBG-DR			Withdrawn	
39-02	Elevate Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Coordinate with residents to elevate RL/SRL properties.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA, NJDEP Blue Acres		5 + years	Combined with 39-12	Combined with 39-12
39-03	Purchase Brush Truck with Skid Pack	Acquire a brush truck with skid pack for responding to brush fires. Includes a small pump unit for off-road.	Wildfire	Medium	North Arlington	Municipal budget	$50,000.00	1 year	Complete	Completed in 2024
39-04	Improve the Drainage along Front Street to Reduce Flooding	Front Street needs drainage infrastructure improvements.	Flood	Medium	North Arlington	Municipal budget	$350,000.00	1 year	Withdrawn	Corrected with routine maintenance.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
39-05	Purchase Portable Generators for Pump Stations	Install portable generators at pump stations located at Geraldine Rd, Truman Rd, and Porete Ave.	All Hazards	Medium	North Arlington	FEMA HMA, Municipal budget	$216,000.00	1 year	Ongoing	Purchased one portable pump station generator ($100K), would like a second one
39-06	Inspect Catch Basins and Storm Sewer Lines to Mitigate Riverine and Stormwater Flooding	The borough-wide maintenance plan to inspect all catch basins and sewer lines, upgrade catch basins to have smaller holes, and remove debris that may restrict flow.	Flood	Medium	North Arlington	Municipal budget	$1,700,000.00	1 year	Ongoing	DPW conducts ongoing maintenance, as trees remnants end up in catch basins
39-07	Purchase and Install Generator at the Police Department to Ensure Operation during Power Failures	Purchase and Install a new Generator at 214 Ridge Road to ensure operation during power failure.	All Hazards	Medium	North Arlington DPW	FEMA HMA	$170,000.00	2 years	Ongoing	Old generator does not power entire building, but the new police station will install new generator by 2026.
39-08	Stabilize the Passaic Riverbank (Parallel to River Road) with Trees, Shrubs, and Other Ecological Means	Riverbank stabilization along the length of the Passaic River including planting trees, shrubs, and other ecological means that co-exist with the river. Firehouse on 200 block of River Rd needs a gabion wall system.	Flood, Coastal Erosion	Very High	DPW	FEMA HMA, municipal budget	$120,000.00	1 year	Ongoing	This part of the river is tidal and is vulnerable to coastal/riverbank erosion. Planting trees behind firehouse as the stream line between boat ramp and fire house is eroding.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time -line	Action Status	Notes
39-09	Upgrade Generator to Pump Station at Geraldine Road	Upgrade the pumping station to remove rain water that floods homes on Geraldine Road and Truman Road. Pump station needs a backflow preventer chamber and upgraded controls.	Flood	Medium	DPW	FEMA HMA	$200,000 .00	1 year	Ongoing	A Trailer Mounted Portable Generator bought for Sewer Pump Station, but need one more
39-10	Elevate or Acquire Flood-prone, Repetitive Loss (RL), and Severe Repetitive Loss (SRL) Properties Along River Road	Buyout the overgrown and polluted parcels on the 200 block of River Rd between Locust Ave and Stover Ave.	Flood	High	North Arlington	FEMA HMA, NJDEP Blue Acres Green Acres	TBD	1 year	New	Borough acquired 4 properties on West Side of River Road
39-11	Digitize Records and Backup to the Cloud	Digitize all records, including those in the borough hall basement and those that are already stored offsite.	All Hazards	Low	North Arlington	Municipal budget, Homeland Security grants	$300,000 .00	3 years	New	No progress, store off site
39-12	Repair Storm Sewer Line at Hendel Ave and River Rd	This storm sewer needs an attenuation chamber to slow and reroute water under the road.	Flood	High	North Arlington	Municipal budget	$380,000 .00	1 year	New	
39-13	Emergency Generator Solar Battery Backup or address all designated school shelters (all 3 firehouses)	Address all three fire stations. Fire station #1 was destroyed during Sandy and at high risk from flooding. Fire Station #2 at Silkouskil Road serves as an evacuation point for elementary school, heating and cooling.	Flood, Power Failure	High	North Arlington	Municipal Budget	$100,000 .00 Each unit	2 years	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time -line	Action Status	Notes
		Fire Station #3that offers training and scheduled to be rebuilt requires generator.								
39-14	Replace Fire Station #3	Replace fire station behind borough hall due to damage from parking lot runoff during Ida	All Hazards	High	North Arlington	Municipal Capital Budget	$6,000,000.00 – 7,000,000	3 years	New	
39-15	Replace Police Station at end of life (January 2027)	Replace Police station with a standalone building. Is currently part of Borough Hall and has been outgrown.	All Hazards	High	North Arlington	Municipal Capital Budget	$11,000,000.00	3 years	New	

40 – NORTHVALE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Howard Ostrow	**Chief of Police/OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
Briant Bodrato	DPW Superintendent	Internal Review
Scott Loverich	Borough Engineer (Neglia Engineering)	Internal Review

COMMUNITY PROFILE

Overview

Northvale is a borough in northeast Bergen County. The borough's name derives from its location and topography. Northvale borders Norwood, Old Tappan and Rockleigh in Bergen County; and Tappan (in the Town of Orangetown) in Rockland County, New York. Major transportation routes include County Route 505 which travels north-south through Northvale. The borough has a population of around 4,800 residents. Northvale is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Northvale is primarily a residential community, with the MOD-IV dataset showing that 'Residential' (including 'Apartment') use constituted the largest category in 2022, accounting for 54% of the total land use, and covering nearly 361 acres of land. 'Industrial' and 'Civic/Public (Tax Exempt)' uses also accounted for significant portions, comprising 23% and 10% respectively of the total land use in the same year. From 2016 to 2022, there was negligible change in the land composition of the borough.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as 'Urban' occupied the largest share, making up nearly 90% of the area in 2020. Forest and wetlands categories followed, accounting for 5% and 4% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	7.1	6.6	-7%
Forest	21.3	20.1	-6%
Urban	743.4	745.4	0%
Water	3.3	3.3	0%
Wetlands	32	31.8	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Recent development in the borough includes Paris Square condos, a senior living luxury development consisting of 46 units, located within the 1% annual chance floodplain.

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

Proposed development includes a three-story building with 40 residential units located on County Route 505 near the border with New York State. This proposed development is located in the 0.2% annual chance floodplain.

Demographics & Vulnerable Populations

Northvale Borough has a total population estimated at 4,769. Of Northvale's residents, an estimated 5.2% are under age 5, and 16.8% are over age 65. The borough saw an estimated -2.1% population decline in the periods between 2013-2017

and 2018-2022. A notable population loss may indicate potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially mismatched reliance on local resources.

Northvale has two block groups which meet criteria for overburden (OBC) based on indicators of *Minority* populations, both in the borough's eastern portion. There are no parts of Northvale which are designated as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	4,769
Population Change since 2017	-2.1%
Percent of Population Age < 5	5.2%
Percent of Population > 65	16.8%

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	
	Flood	Dam Failure
	Hurricane/Tropical Storm	Drought
	Nor'easter	Earthquake
	Winter Storm	Extreme Temperatures
		Extreme Wind
		Landslide
		Lightning
		Tornado
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
		Power Failure
		Terrorism

Coastal Erosion, Storm Surge, And Wave Action were ranked as N/A by Northvale Borough

Hazard Ranking Explanation

Coastal Erosion, Storm Surge, And Wave Action were ranked as N/A (not applicable) by Northvale because it is an inland community without any tidally influenced waters.

Extreme temperature is of low concern in Northvale. The borough reports a single instance within the last five years that a cooling center was opened but it didn't see any use. Extreme wind is also ranked low concern. Northvale is a rural community without high buildings or major powerlines. Tree downing is the main concern during an event, but the frequency of occurrence is low. Dam failure is ranked low concern. Northvale is about two miles east of Lake Tappan Dam which is a high hazard potential dam, however, Northvale is not located downstream of the dam. Regardless, Northvale could be impacted by a dam failure. Veolia maintains an Emergency Dam plan for Lake Tappan Dam. Power failure is also

ranked as low concern. Orange and Rockland, the power utility for the area has made recent improvements to the grid, which is reliable.

Winter storm is ranked a medium concern, but the Planning Team reports that Northvale DPW does a good job at snow removal. Flood is ranked as medium concern. The main flooding occurs around Sparkill Creek in the east of the borough. During severe flood events, the brough has experienced roadway flooding which impacts access roads in and out of the borough, with a potential duration of 24-36 hours depending on the severity of the flooding.

Significant Hazard Events Since Last Plan Update

The main significant event reported by the borough was the remnants of Hurricane Ida. During that event, Northvale experienced roadway flooding on Livingston Street near Sparkill Brook which caused roadway and bridge buckling. When this occurred, the County came out and mitigated the problem, opening the road within 24 hours and reporting that there was no structural damage to bridge itself. Additional roadway flooding occurred at Paris Ave and Veterans Drive which is a depressed area, as well as the area around Industrial Parkway and Union Street near Coopers Pond. This area is reported to have drainage issues, resulting in frequent flooding restricting travel. During Ida this stretch was shut down for 36 hours. Northvale also experienced some residential flooding of basements in homes near the intersection of Firenze St and Willow Ave.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Northvale. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, potentially exacerbating existing vulnerabilities, particularly in areas prone to flooding such low-lying problem areas identified by the borough and near water bodies such as Sparkill Brook. Additionally, potential future development identified by the borough or development upstream within the watershed, could increase the amount of runoff entering the borough's streams. Actions identified by the borough's mitigation strategy involving flood risk reduction should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Northvale Borough	
Number of Policies In-Force:	62
Total Losses:	46
Total Payments:	$2,001,513.37
Number of RL Properties:	9
Number of Mitigated RL Properties:	0
RL – Total Losses:	24
RL – Total Paid:	$1,664,416.78
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 Borough of Northvale is primarily located adjacent to Sparkill Creek on the eastern side of the borough. Approximately 26 percent of the total area of Northvale lies within the 1% annual chance

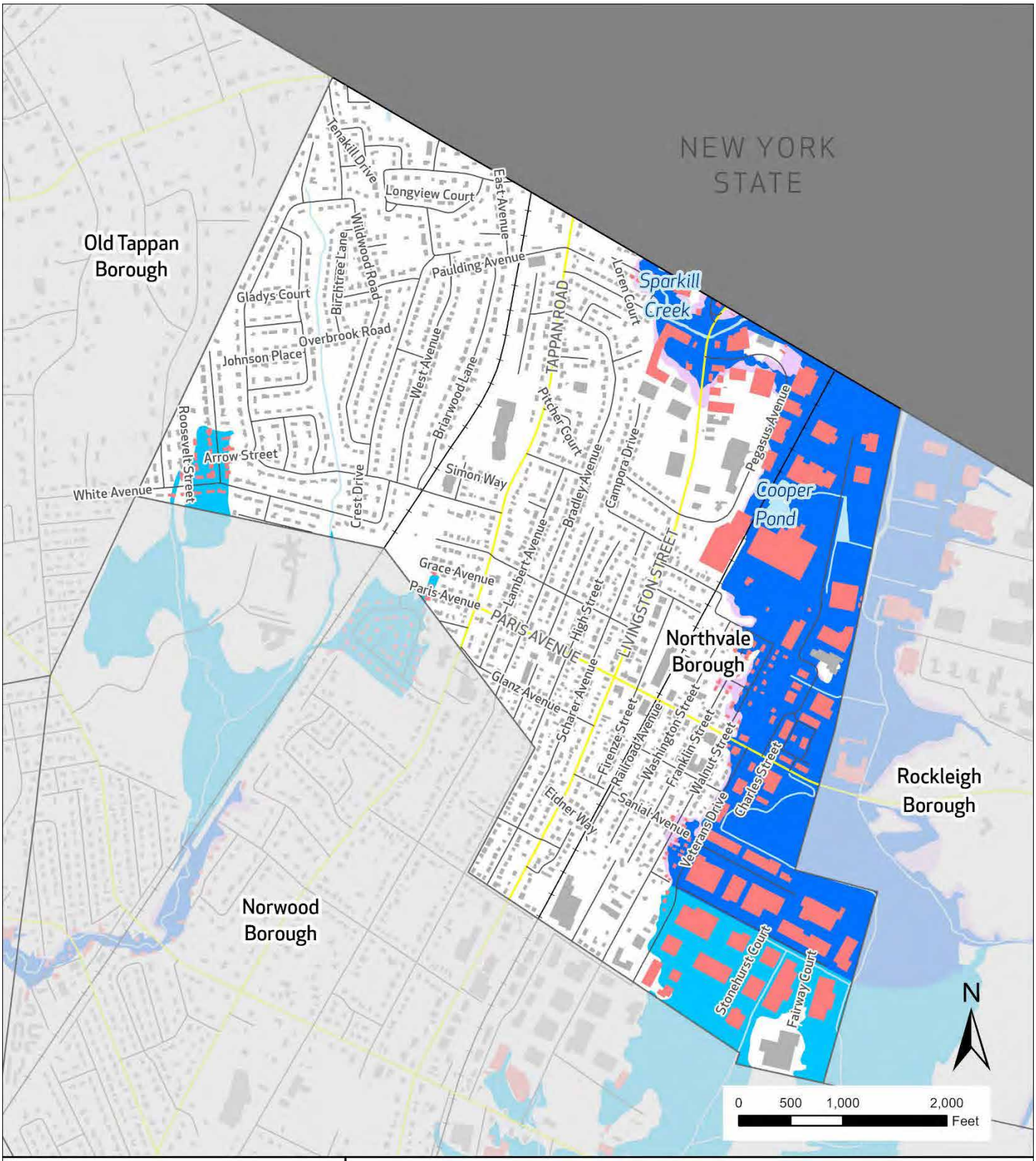
floodplain as defined by FEMA. An additional 1.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 80.3 percent of Northvale is considered developed. Of the developed parcels of the town, 14.7 percent fall at least partially within the 1% annual chance floodplain and 4.8 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	8.7%	8.3%
Exposed Land Area	26%	7.6%

During the planning process, Northvale Borough 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 eight total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain and one is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	1	1



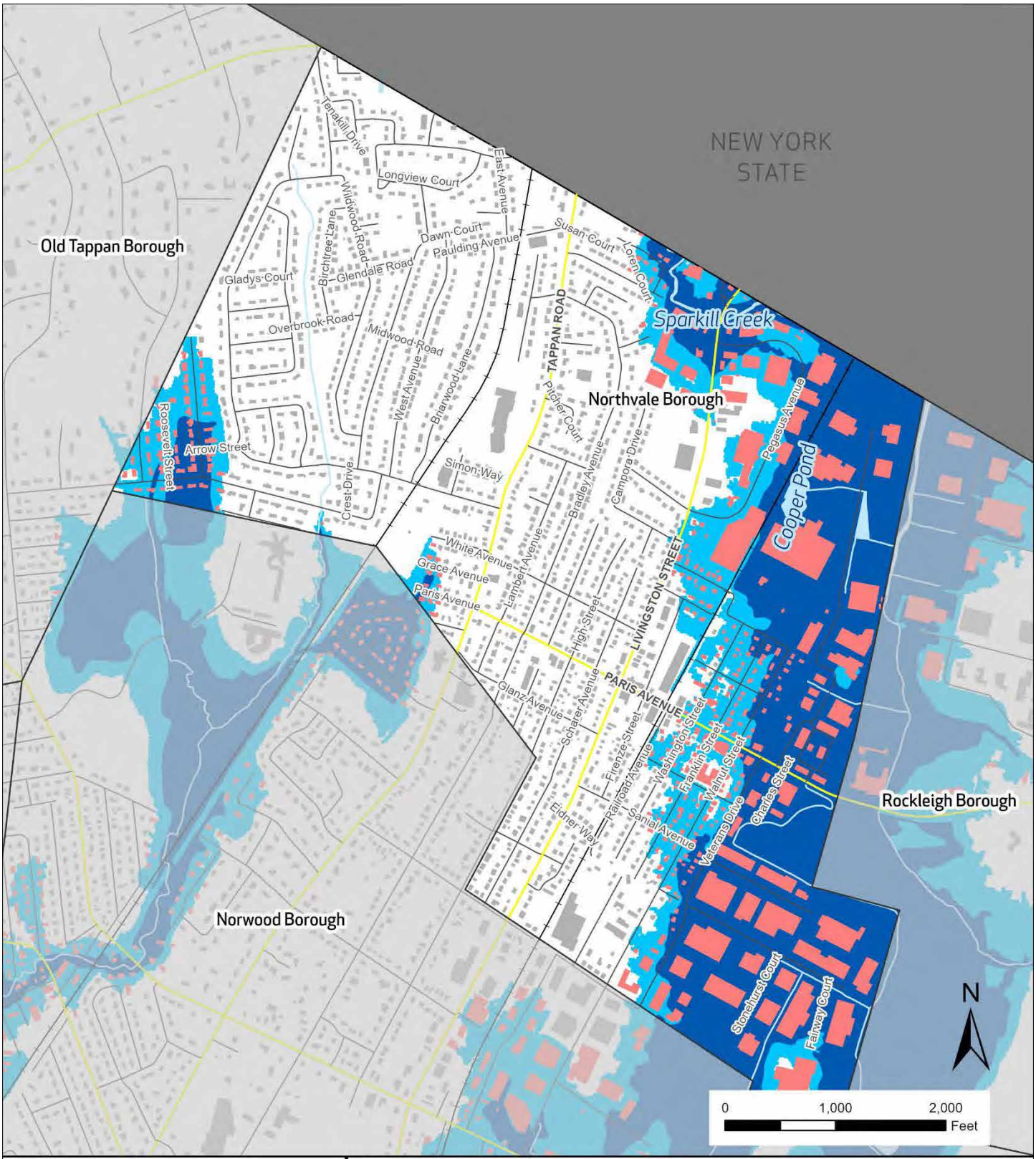
Flood Hazard

Northvale Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- County Road
- Local Road
- Rail Line
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


NEW YORK STATE
Old Tappan Borough
Northvale Borough
Norwood Borough
Rockleigh Borough
Sparkill Creek
Cooper Pond
TAPPAN ROAD
LIVINGSTON STREET
PARIS AVENUE
Tenakill Drive
Longview Court
East Avenue
Wildwood Road
Birchtree Lane
Dawn Court
Paulding Avenue
Susan Court
Loren Court
Gladys Court
Glendale Road
Overbrook Road
Midwood Road
West Avenue
Briarwood Lane
Pitcher Court
Pegasus Avenue
Roosevelt Street
Arrow Street
Crest Drive
Simon Way
Bradley Avenue
Campora Drive
White Avenue
Grace Avenue
Paris Avenue
Lambert Avenue
High Street
Glanz Avenue
Schaefer Avenue
Firenze Street
Railroad Avenue
Washington Street
Franklin Street
Walnut Street
Charles Street
Veterans Drive
Sanial Avenue
Eidner Way
Stonehurst Court
Fairway Court
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Northvale Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Northvale Borough 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		3/4/2020	Prevents future development listed in Hazard Mitigation areas
Capital Improvement Plan		x		
Local Emergency Operations Plan/Continuity of Operations Plan	x		2023	Prepared plans to provide structured guidance and assist in emergency situations
Floodplain Development Ordinance	x		2025	Prevents future development in floodplain areas
Floodplain Management Plan	x		2025	Prevents future development in floodplain areas
Stormwater Management Ordinance	x		2024	Provides plans for Stormwater runoff and mitigation for current and future development
Stormwater Management Plan	x		2024	Provides plans for Stormwater runoff and mitigation for current and future development
Watershed Management Plan		x		
Sheltering Plan	x		2023	See Borough of Northvale EOP
Evacuation Plan	x		2023	See Borough of Northvale EOP
Substantial Damage/Improved Structures Response		x		
Repetitive Loss Plan		x		
Disaster Debris Management Plan		x		
Tracking elevation certificates and/or Letter of Map Change		x		
Post-Disaster Recovery Plan				
Current/recent redevelopment plans or studies	x		2020	Provided in Master Plan
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		

Administrative and Technical Capabilities

Northvale Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	x		Northvale Construction Official
Grant Writer	x		Bruno Associates
Staff trained to support mitigation	x		Neglia Engineering Firm
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	x		Mutual Aid plans contained in Borough EOP
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

Northvale Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Northvale Borough 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		Financial Assistance for storm damage recovery
FEMA HMGP			
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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan update in 2021, The Borough of Northvale has prioritized its efforts specifically by increasing its resources to aid flood mitigation also preventing future erosion. Our critical infrastructure is constantly improving to mitigate natural hazard risks. Completed actions have been reinforcing Borough waterways for stream bank stabilization to prevent residential flooding, enhancing municipal back up servers storing critical data information, and utilizing an new emergency alert system to provide the residents of Northvale with up-to-date information during natural hazard events. Over the next five years we plan to coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation in our continued efforts to safeguard residents when faced with future natural hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
40-01	Reinforce Banks Along the Sparkill Creek to Prevent Erosion and Provide Stream Bank Stabilization	Reinforce banks along the Sparkill Creek to prevent erosion and provide stream bank stabilization.	Flood, Severe Weather	Medium	Borough of Northvale Engineering	FEMA HMA, municipal budget	TBD	2 years	Complete	All work completed during normal work hours
40-02	Construct a Retention Wall along the Sparkill Creek Bank	Install retention wall along the creek bank to prevent flooding of adjacent properties.	Flood, Severe Weather	High	borough Engineering	FEMA HMA	TBD	1 year	Complete	All work completed during normal work hours
40-03	Purchase Temporary Barriers to protect John L. Hogan Memorial Park	Purchase temporary barriers to protect bank and athletic fields.	Flood, Severe Weather	Medium	borough OEM, Police	Municipal budget	$200	2 years	Complete	All work completed during normal work hours
40-04	Purchase Secondary Servers for Municipal and Police Systems and Find an Offsite Storage Facility	Backup municipal data, secondary servers for municipal and police systems, and find an offsite storage facility for data.	Cyber Attack	Medium	borough Administra-tion	Municipal Budget	$8,000	1 year	Complete	borough switched to new system and for increased security and IT backs up all data into an offsite backup system.
40-05	Floodproof DPW Facility and Yard	Floodproof the DPW building and yard to maintain access to critical community resources during flooding related hazard.	Flood, Severe Weather	Medium	borough DPW	FEMA HMA, Municipal budget	TBD	2 years	Withdrawn	Withdrawn and replaced with new action (action 40-

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
40-06	Purchase and Install Generator at Northvale Public School	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	borough School District	FEMA HMA	$150,000	2 years	Ongoing	No progress
40-07	Purchase and Install Generators at St. Anthony Church	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	borough and Church	FEMA HMA	$150,000	1 year	Ongoing	No progress
40-08	Target Harden Schools and borough Hall/Police HQ by Installing Bulletproof Glass for Windows and Doors	Purchase and install bulletproof glass for windows and doors of the Northvale Public School and borough Hall, which houses the Police Department.	Terrorism	Medium	borough School and Adminis-tration	Homeland Security grants	TBD	2 years	Ongoing	School has 3M film over windows which is bullet resistant. Still needed in borough Hall
40-09	Purchase and Install Cameras at DPW Building and Pump Stations	Purchase and install security cameras for extra security at critical facilities.	Terrorism	Medium	borough DPW	Homeland Security grants	TBD	1 year	Ongoing	No progress
40-10	Acquire or Elevate Structures Flooded by Sparkill Brook, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	borough OEM and Home-owners	FEMA HMA	TBD	5 + years	Ongoing	No progress

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
40-11	Construct new DPW Facility and Yard	Construct new DPW building and yard with increased floodproofing to maintain access to critical community resources during flooding related hazard.	Flood, Severe Weather	Medium	borough DPW	FEMA HMA, Municipal budget	TBD	2 years	New	

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PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
John Kuder	**OEM Coordinator**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
James Barsa	Mayor	Internal Meetings
Jordan Padovano	Borough Administrator	Internal Meetings
Robert Tracy	DPW Superintendent	Internal Meetings
Scott Loverich	Borough Engineer	Internal Meetings

COMMUNITY PROFILE

Overview

Norwood Borough spans roughly 2.8 square miles and is located in north-eastern Bergen County. It is bordered by the municipalities of Alpine, Closter, Harrington Park, Northvale, Old Tappan, and Rockleigh. Several small streams run through the borough and a section of the southwestern portion of town borders the Oradell reservoir, a regional source of drinking water. Transportation routes include County Routes 501 and 505, and the borough is serviced by commuter bus service to Manhattan. The borough has a population of around 5,657 residents. Norwood is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Norwood is a predominantly residential community with residential (including apartment) use accounting for 48% of its area, covering nearly 708 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, industrial land, and vacant land made up 35%, 7%, 5% and 4% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of residential (including apartment) use, followed by civic/public (tax exempt), commercial and industrial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 63% of the borough's total land, covering 1,123.8 acres of land. Forest land, wetlands, water and barren land followed, covering 19%, 17%, 1%, and 1% respectively of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	11.9	10.2	-14%
Forest	340.1	338.6	<1%
Urban	1120.6	1123.8	<1%
Water	17.3	17.3	<1%
Wetlands	301.9	301.9	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Two large housing developments were constructed. One contains 40 apartment units and has commercial space on the ground floor. The second has 50-60 units. Neither development is in the floodplain or prone to flooding.

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

Anticipated development includes a 40-unit four-story apartment building. This development is not in the floodplain or prone to flooding.

Demographics & Vulnerable Populations

Norwood Borough has a total estimated population of 5,657. Of Norwood's residents, an estimated 2.7% are under age 5 and 22.1% are over age 65. The borough saw an estimated -3.5% population decline in the periods between 2013-2017

and 2018-2022. With an aging population making up nearly a quarter of the borough's residents, Norwood may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a population loss of over three percent during the last two ACS survey periods may highlight potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

There are two block groups within Norwood meeting criteria for overburden (OBC) according to indicators of *Minority* populations. There are no parts of the borough meeting criteria for potentially vulnerable communities according to CEJST or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	5,657
Population Change since 2017	-3.5%
Percent of Population Age < 5	2.7%
Percent of Population > 65	22.1%

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

Hazard Ranking Explanation

Hurricanes and tropical storms cause the most damage in the borough; this is one of the main reasons the borough ranked it at a high level of concern. On the other hand, the last major winter storm occurred two to three years ago; the borough ranked this hazard as a medium level of concern. Dam failure also sits at a medium level of concern, since failure of the Veolia Retention System would affect the borough. Additionally, wildfire, a medium level of concern, since the borough has experienced notable wildfires in the past. However, the borough has not experienced wildfires recently.

Power failure was ranked as a hazard of medium concern. However, notably, most of the town reenergizes quickly when there is an outage, as there are underground power lines that serve as backup.

While not in the hazard ranking table, the borough mentioned that transport of hazardous materials is a hazard of concern as the railway line passing through the borough carries hazardous goods, including oil.

Significant Hazard Events Since Last Plan Update

The borough experienced flooding from Hurricane Ida in September 2021.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Norwood. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Dwars Kill. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 22% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Norwood Borough	
Number of Policies In-Force:	23
Total Losses:	24
Total Payments:	$299,877.45
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	6
RL – Total Paid:	$32,178.85
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$164,460.86

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

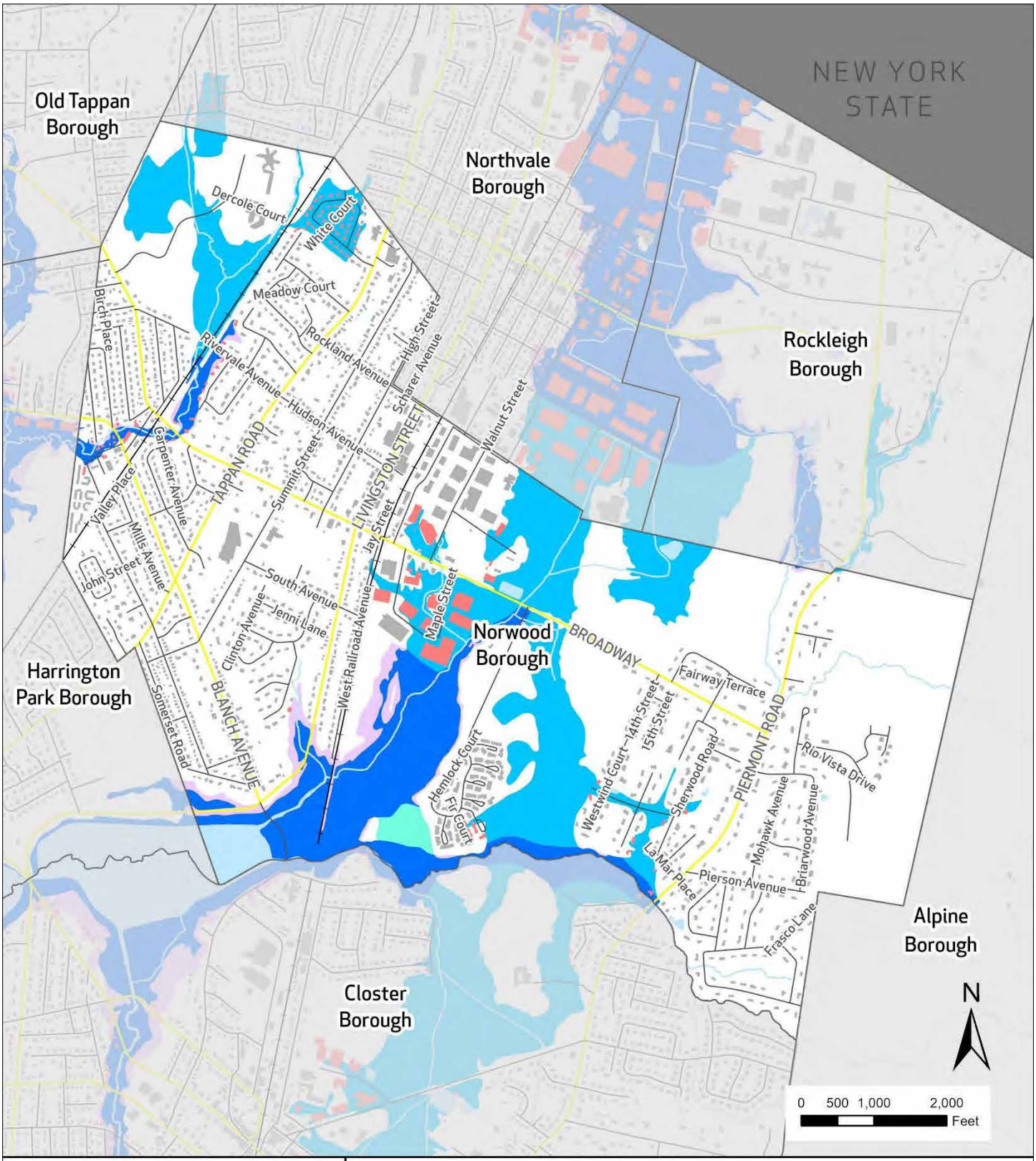
The Special Flood Hazard Area (SFHA) in the Borough of Norwood is primarily located adjacent to the waterbodies of the borough: Dwars Kill along the southern border of town, the tributary of Dorotockeys Run in the western part of town and the stream which flows into Oradell Reservoir flowing through the undeveloped central area of town. Approximately 20.8 percent of the total area of Norwood lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.4 percent of the area of the municipality is in the 0.2% annual chance floodplain.

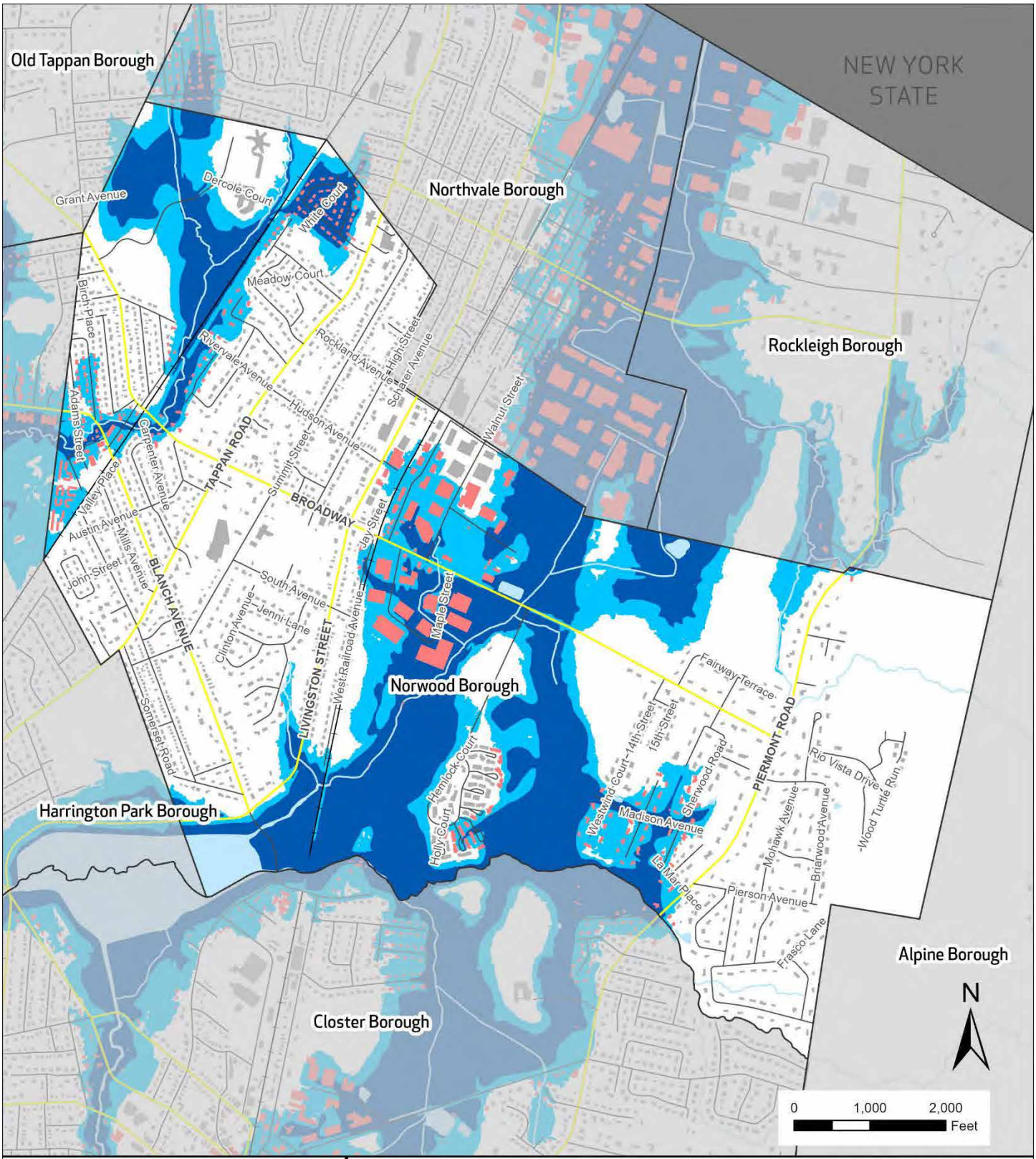
About 59.4 percent of Norwood is considered developed. Of the developed parcels of the town, 9.3 percent fall at least partially within the 1% annual chance floodplain and 3.5 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	7%	10%
Exposed Land Area	20.8%	14.4%

During the planning process, Norwood Borough 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 six total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


NEW YORK STATE
Old Tappan Borough
Northvale Borough
Rockleigh Borough
Harrington Park Borough
Norwood Borough
Closter Borough
Alpine Borough
Dercole Court
White Court
Meadow Court
Birch Place
Rockland Avenue
High Street
Scharer Avenue
Rivervale Avenue
Hudson Avenue
Walnut Street
TAPPAN ROAD
Summit Street
LIVINGSTON STREET
Jay Street
Valley Place
Carpenter Avenue
Mills Avenue
John Street
South Avenue
Jenni Lane
Clinton Avenue
West Railroad Avenue
Maple Street
BROADWAY
Fairway Terrace
14th Street
15th Street
PIERMONT ROAD
Rio Vista Drive
Sherwood Road
Westwind Court
Hemlock Court
Fir Court
Somerset Road
BLANCH AVENUE
Mohawk Avenue
Briarwood Avenue
La Mar Place
Pierson Avenue
Frasco Lane
N
0 500 1,000 2,000
Feet
Flood Hazard
Norwood Borough
FEMA Flood Zone
0.2% Annual Chance
A (1%); AH (1%)
AE (1%)
AO (1%)
County Road
Local Road
Rail Line
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

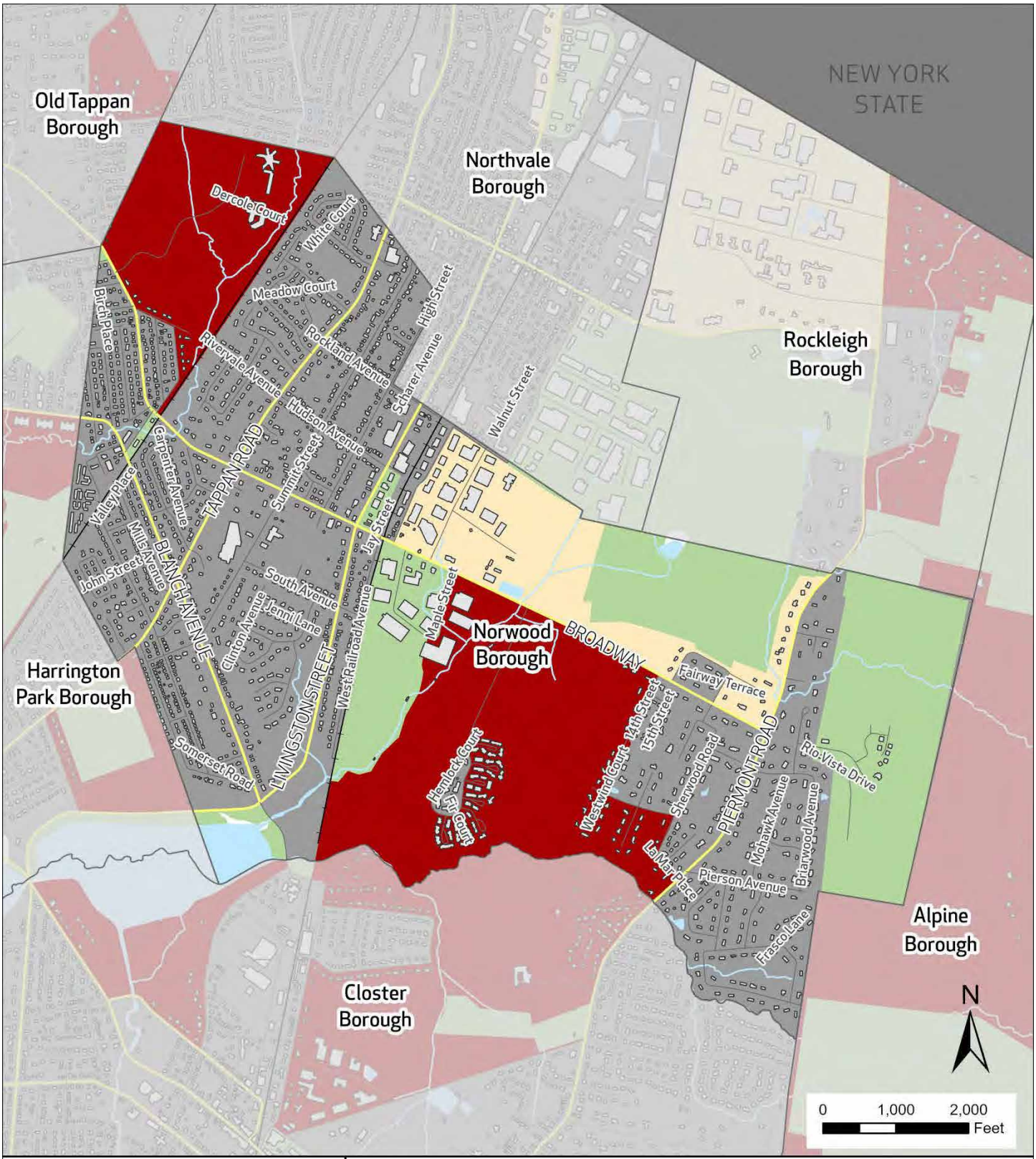


NJ Inland Design Flood Elevation

Norwood Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Wildland Urban Interface (WUI) Classification

Norwood Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads
- RailRoad

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Norwood Borough 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		2021	
Capital Improvement Plan	X		2021	
Local Emergency Operations Plan/Continuity of Operations Plan	X		10/2024	
Floodplain Development Ordinance				
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		02/2022	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Norwood Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	The OEM Coordinator, Mayor, Borough Administrator, DPW Superintendent, and Borough Engineer are responsible for reviewing development in the floodplain.
Grant Writer	X		Contractor
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

Norwood Borough 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, Norwood Borough 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			
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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Norwood has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include elevating homes to meet updated FEMA standards, improving drainage systems, and enhancing backup power at essential facilities and infrastructure. Over the next five years, Norwood aims to prioritize projects that address emerging climate challenges, such as sea-level rise, by expanding mitigation strategies like updated flood mapping, raising structure to alleviate damage or flooding and powering critical infrastructure in times of need. These efforts underscore the Borough of Norwood's commitment to safeguarding residents and promoting sustainable growth with natural disasters occurring more frequently.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Borough has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
41-01	Purchase and Install Generators at Two Pump Stations	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough DPW	FEMA HMA	$400,000.00	1 year	Ongoing	
41-02	Expand and Restore Stream Banks Under Broadway	Expand and restore the normal operating capacity of the stream under Broadway to reduce flooding.	Flood, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineering	FEMA HMA, Municipal budget	$300,000.00	2 years	Ongoing	
41-03	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	$400,000.00	5 + years	Ongoing	

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PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Roy Bauberger	**Emergency Management Coordinator**	**Primary Contact, Attended Local OEM Meeting, Attended Municipal Meeting**
Richard Kunz	Borough Administrator	Reviewed Appendix
Darius Pokoj	Floodplain Manager	Reviewed Appendix
Vincent Pellegrini	Construction Official	Reviewed Appendix
John Yakimik	Borough Engineer	Reviewed Appendix
Anthony Marcucilli	Borough DPW	Reviewed Appendix
Vincent Incorvaia	Borough Fire Department	Reviewed Appendix
Charles Kelly	Borough Police Department	Reviewed Appendix
Matt Goodrich	Borough First Aid Squad	Reviewed Appendix
Rebecca Jones	CRS Representative	Reviewed Appendix

COMMUNITY PROFILE

Overview

The Borough of Oakland spans approximately 8.77 square miles and is located in northwestern Bergen County, New Jersey. The borough borders Franklin Lakes and Mahwah in Bergen County; and Pompton Lakes, Ringwood, Wanaque and Wayne in Passaic County. Oakland is considered part of the New Jersey Highlands Region, an area which provides drinking water to two thirds of the population of the state. The borough is bisected from north to south by the Ramapo River. The borough also contains several brooks and streams which flow into the Ramapo. Interstate 287 and US Route 202 pass through the borough, intersecting near the center. The borough has a population of around 12,700 residents. The borough is not a coastal community, as it is inland and bordered by other municipalities rather than the ocean.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Oakland Borough is a residential community, rural in character, with the MOD-IV dataset showing that residential and civic/public (tax exempt) use constituted the largest category in 2022, accounting for 39% of the total land use each. vacant land followed with 12% of the total. From 2016 to 2022, farm use decreased by a significant percentage (39%), however, in pure numbers the decline was less notable, decreasing from 55.2 acres to 33.8 acres. Industrial use also decreased by 16% during this time.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as forest occupied the largest share, making up nearly 78% of the area in 2020. Urban land use followed, accounting for 17% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	25.0	25.0	0%
Barren Land	32.4	30.2	-7%
Forest	2,504.1	2,492.1	-<1%
Urban	2,659.2	2,676.1	1%
Water	174.8	174.9	0%
Wetlands	217.3	214.6	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified. As mentioned previously, Oakland is located within the Highlands Region of the state. The Highlands Act, passed in 2004 to protect and preserve the natural resources of the region, places limitations on development in the borough.

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

There is a planned 200-unit condominium development on McCoy Road near the High School. This development is not located in the floodplain or a steep slope area.

Demographics & Vulnerable Populations

Oakland Borough has a total estimated population of 12,734. Of Oakland's residents, an estimated 5.7% are under age 5, and 15.5% are over age 65. The Borough experienced a population decline of over 3.0% (an estimated -3.13%) in the periods between 2013-2017 and 2018-2022. A notable population decline of over three percent may indicate potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources. The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	12,734
Population Change since 2017	-3.1%
Percent of Population Age < 5	5.7%
Percent of Population > 65	15.5%

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 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	
Flood	Dam Failure	Extreme Temperatures
	Drought	
	Lightning	
	Earthquake	
	Extreme Wind	
	Wildfire	
	Hurricane/Tropical Storm	
	Landslide	
	Nor'easter	
	Tornado	
	Winter Strom	
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Power Failure	
	Terrorism	

Coastal Erosion, torm Surge, and Wave Action have been ranked as N/A.

Hazard Ranking Explanation

Coastal erosion, storm surge, and wave action are ranked as N/A (not applicable) because Oakland is an inland community without the presence of any tidally influenced waters.

Earthquake is ranked as a higher medium concern because the borough is located along the Ramapo Fault, one of the more significant fault lines within the region. There is an electrical substation on the fault line, and homes on steep slopes within the borough.

Flood is ranked high concern with the presence of waterways in the borough such as the Ramapo River with the borough estimating an event occurs on average every couple of years. The Army Corps of Engineers completed a control device project in the 1990s on the Pompton River within Pompton Lakes Borough which has helped mitigate some flooding. Wildfire is also of high concern in Oakland, which is more rural in character than much of Bergen County. Due to the elevation and rough terrain, not a lot of controlled burning takes place, leading to a buildup of fuel in some of the forested areas in the borough. Many residences are located in close proximity to forest with much of the borough being considered wildland urban interface or intermix (WUI).

Terrorism is ranked as medium concern as the Tennessee Pipeline passes through the borough and could be a potential target. Power failure is medium as well, but the borough reports that they have created a utility restoration of operations plan.

Significant Hazard Events Since Last Plan Update

The most significant event since the last plan update was the remnants of Hurricane Ida. Flooding from the heavy rainfall during that event caused the Ramapo River to flood, impacting about 12 homes near the river. In addition to the area near the Ramapo, the Crystal Lake area floods occasionally, in that case runoff from I-287 enters Allerman Brook which flows into Crystal Lake causing flooding. The borough has attempted to coordinate with DOT to address the issue but has not had success.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the borough of Oakland. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase exacerbating existing vulnerabilities, particularly in areas prone to flooding around the Ramapo River. Additionally, although development in the borough is limited due to the Highlands Act, any development that does occur in the Borough or upstream within the watershed, could increase impervious surfaces and the amount of runoff entering the borough's streams, especially if the development takes place on greenfield. Actions identified by the borough's mitigation strategy such as drainage improvements (such as action 8-07) should consider future conditions and climate change in the design phase. Additionally, higher temperatures and prolonged heatwaves could increase the risk of wildfires, which may become more frequent and harder to manage, putting WUI areas at increased risk.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Oakland Borough	
Number of Policies In-Force:	89
Total Losses:	683
Total Payments:	$10,408,405.56
Number of RL Properties:	31
Number of Mitigated RL Properties:	0
RL – Total Losses:	104
RL – Total Paid:	$2,118,846.83

Oakland Borough	
Number of SRL Properties:	22
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	120
SRL – Total Paid:	$3,166,079.36

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

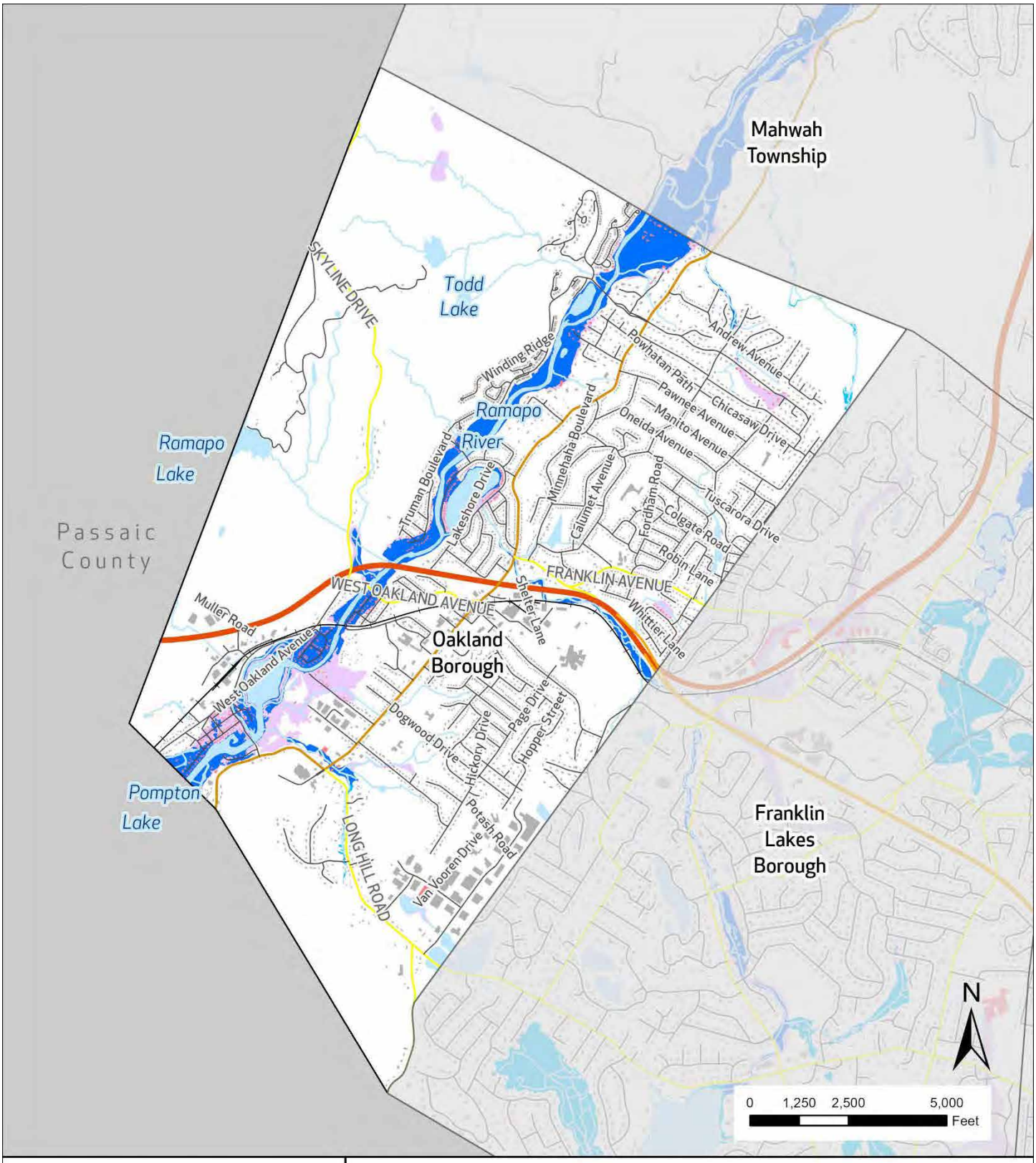
The Special Flood Hazard Area (SFHA) in the Borough of Oakland is primarily located adjacent to the Ramapo River and its smaller tributaries. Approximately 6.3 percent of the total area of Oakland lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 59.8 percent of Oakland is considered developed. Of the developed parcels of the borough, 11.8 percent fall at least partially within the 1% annual chance floodplain and 9.5 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	11.8%	9.5%
Exposed Land Area	6.3%	2.6%

During the planning process, Oakland Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

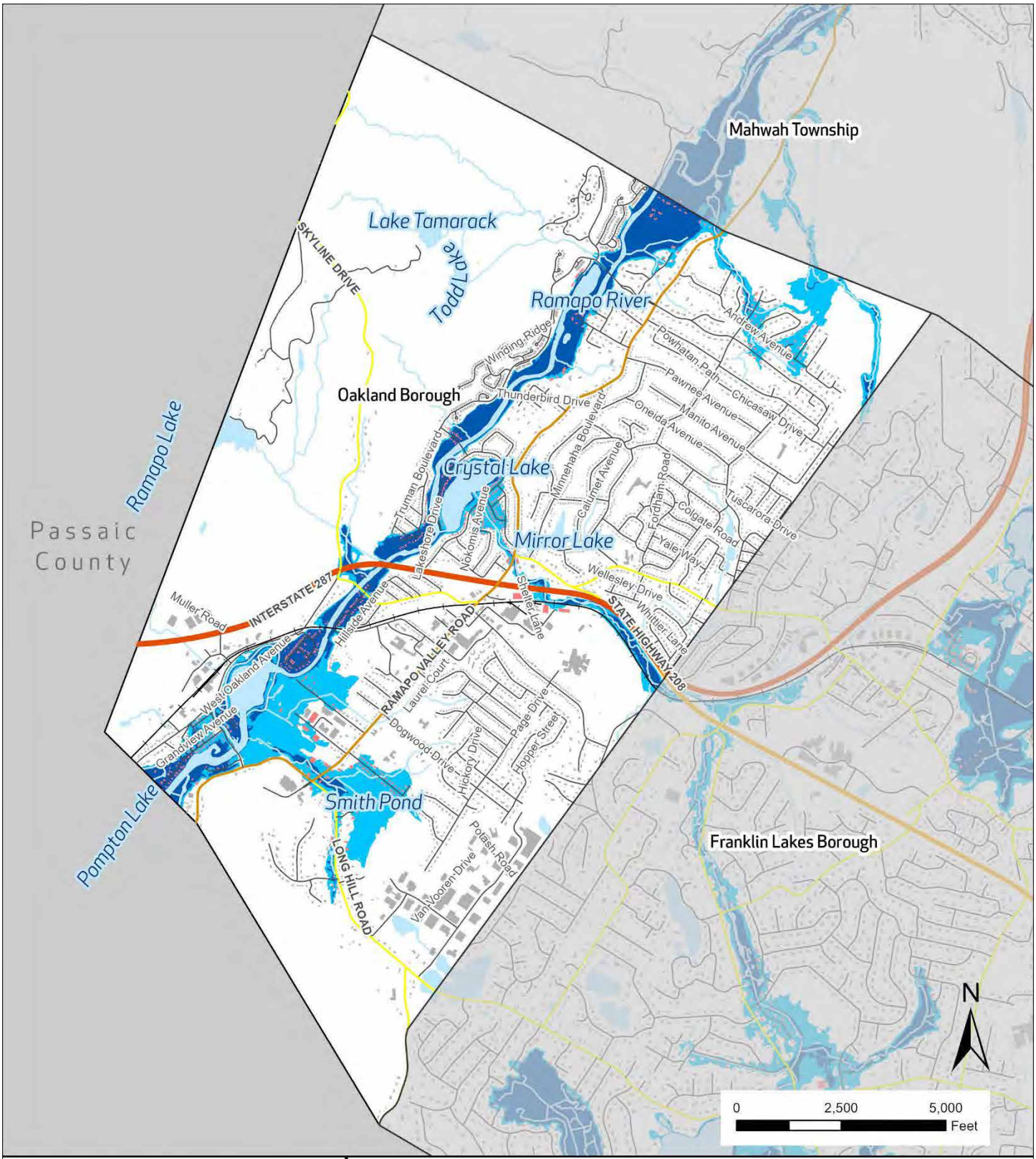
Oakland Borough

FEMA Flood Zone
- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)

- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

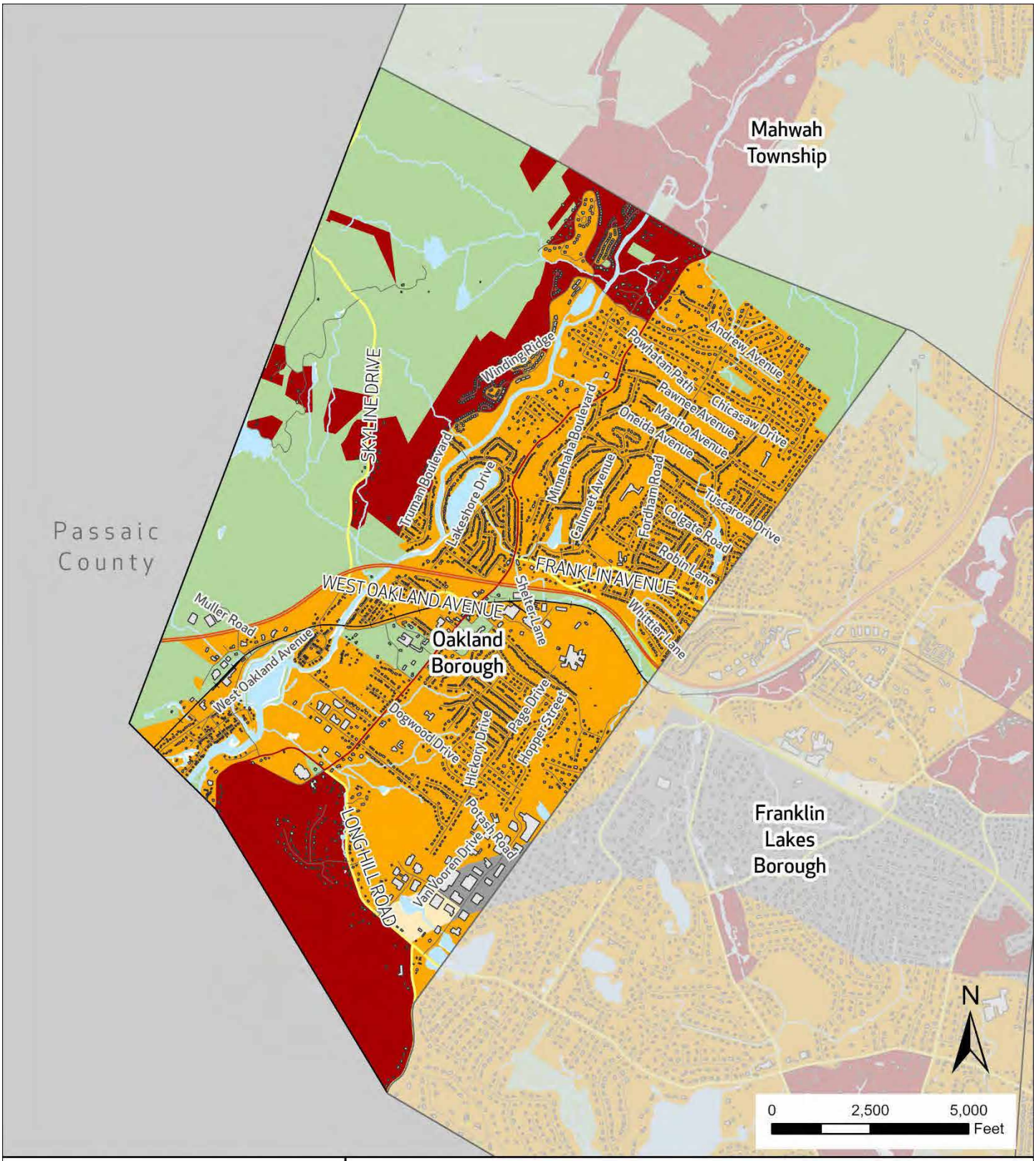


NJ Inland Design Flood Elevation

Oakland Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Wildland Urban Interface (WUI) Classification

Oakland Borough

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Oakland Borough 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	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2022	
Floodplain Development Ordinance	X		2025	Update in process, will be compliant by state deadline.
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X		2024	
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Managed by the borough Construction and Code Enforcement office per UCC.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan				
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards	X			The borough has a steep slope ordinance in place.

Administrative and Technical Capabilities

Oakland Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		The FPA is a part time code officer with the borough.
Grant Writer	X		The Borough Administrator and Engineer have grant writing capabilities. Also hire consultants as needed.
Staff trained to support mitigation	X		The Borough Engineer and OEM staff.
Existing mutual aid or technical assistance agreements to support hazard mitigation projects		X	No, only mutual aid agreements for hazard response.
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Trout Unlimited
Organizations that work with socially vulnerable or underserved populations	X		Local Churches, Elks Association

Education and Outreach Capabilities

Oakland Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The borough uses social media, reverse 911, borough website, and EBI signage to do so. OEM monitors flood gauges in two flood prone areas. Borough provides training to seniors on how to stay safe during an emergency.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Oakland Borough 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		Firefighter grant
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Life and safety
Other ongoing efforts to build additional financial capabilities	X		Grant applications

MITIGATION STRATEGY

Overview and Progress Since Last Update

Oakland has performed 12 flood buyouts and is in the process of 7 more. The borough has updated its flood maps, continued participating in the CRS program, enhanced its public alert methodology and installed multiple generators at its critical facilities.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
42-01	Conduct a Hydrology Study to Control Water Level in Crystal Lake	Create more efficient means of controlling water level in Crystal Lake.	Dam and Levee Failure	Medium	Borough of Oakland	Municipal budget		1 year	Withdrawn	Crystal Lake is now a private lake
42-02	Training for Hazmat Response	Training for Hazmat Response	All Hazards	Low	Borough of Oakland	Municipal budget		3 years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
42-03	Restore and Stabilize Banks of the Ramapo River, Allerman Brook and Pond Brook	Reconstruct and stabilize bank. Flooding in these areas causes significant Repetitive Loss (RL) and Severe Repetitive Loss (SRL) flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Oakland, NJDOT	FEMA HMA	$8.186 million	1 year	Ongoing	
42-04	Remove Shoals and Log Jams in the Ramapo River and Allerman Brook and Pond Brook.	Restore riverbed by removing shoals to prevent erosion.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Oakland OEM and DPW	Municipal budget	Combined with Action 42-02	1 year	Ongoing	
42-05	Acquire and Demolish 12 Repetitive Loss Properties on Roosevelt Blvd.	Acquire 12 Repetitive Loss properties on Roosevelt Blvd.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Oakland	FEMA HMA	$4 million	1 year	Ongoing	Eleven of the twelve homes have been acquired. The borough is in the process of demolishing them.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
42-06	Purchase and Install Generator for Critical Facilities	Purchase and install natural gas, dual hookup generators for critical facilities including schools, fire station, library.	All Hazards	High	Local OEM and Municipal Staff	FEMA HMA	$600,000	1 year	Ongoing	
42-07	Purchase and Install Cameras at First Aid Center	Purchase and Install Cameras at First Aid Center	Terrorism, All Hazards	High	Local OEM and Municipal Staff	Homeland Security grants, Municipal budget	$200,000	1 year	Ongoing	Cost is a part of the borough budget.
42-08	Purchase Light Towers, Variable Message Boards, and Movable Barriers	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	All Hazards	Medium	Local OEM and Municipal Staff	Homeland Security grants, Municipal budget	TBD	1 year	Ongoing	Some have been purchased however the borough needs additional. The borough is pursuing grants to cover the cost.
42-09	Acquire or Elevate RL and SRL Properties in the Borough, with a focus on Lenape Lane and Lakeshore Drive.	Structures on Lakeshore Drive and Lenape Lane have the most RL and SRL properties and need to be acquired or elevated.	Flood	Medium	Local OEM and Municipal Staff	FEMA HMA	$3 million	3 years	Ongoing	Four homes have been acquired on Lenape Road. The remainder still need mitigation.
42-10	Coordinate with NJDOT for Drainage Improvements along US 202 and I-278.	Coordinate with NJDOT for drainage improvements along US 202 and I-278.	Flood	High	Local OEM and Municipal Staff	FEMA HMA, DOT	TBD	1 year	Ongoing	
42-11	Repair, Remove, or Rehabilitate the Ramapo Lake Dam	Repair, remove, or rehabilitate the Ramapo Lake Dam, a High-Hazard Potential Dam, located on the Crystal Lake.	Dam and Levee Failure	High	Lake Community	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	TBD	3 years	Ongoing	The borough may participate with the lake homeowners association to back the loan for necessary repairs.

43 – OLD TAPPAN BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Andrew Brackenbury	**EM Coordinator/DPW Superintendent**	**Primary Contact, Municipal Meeting**
Anna Haverilla	Deputy EM Coordinator/Borough Administrator	Alternative Point of Contact, Municipal Meeting
Tom Skrable	Borough Engineer	Municipal Meeting

COMMUNITY PROFILE

Overview

Old Tappan is a suburban borough in northern Bergen County, located within the Hackensack River watershed and crossed by the Musquapsink Brook and Dorotockey's Run, as well as other smaller tributaries. The community is characterized by gently rolling topography and a mix of residential development and preserved natural areas. Notably, the borough is home to the southern portions of Lake Tappan, a major reservoir that lies along the borough's eastern edge and plays a critical role in regional water supply and conservation. Land use in Old Tappan is primarily residential, with limited commercial zones and substantial green space, contributing to the community's low-density character.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Old Tappan is a primarily residential community, with 56% of the borough's area (nearly 1,165 acres) dedicated to residential use (single- and multi-family apartment) in 2022. Civic/public (tax exempt) land uses also made up a large portion of Old Tappan, with 11% of the borough (233 acres) classified as such in 2022. Commercial land uses account for 48 acres (2% of the borough), and vacant land, as of 2022, made up a notable 30% of Old Tappan, with 632 acres noted as vacant. These land uses changed somewhat between 2016 and 2022 MOD-IV releases; commercial land decreased by 27%, and vacant land dropped by 4%. In this same time frame, residential use (including apartments) grew by over 3% and civic/public (tax exempt) by 2%.

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, the area classified as urban occupied the largest share of Old Tappan, making up 57% of the borough as of 2020 estimates. Water accounted for an additional 21% of the area within borough boundaries, and forest cover made up an additional 13% of the borough. Wetlands coverage was 8% of Old Tappan as of 2020 LULC estimates. The acreages of these land uses did not change significantly since estimates in 2015, with the exception of barren land which saw a growth of 78%, reaching nearly 20 acres in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	11.7	11.7	0%
Barren Land	11	19.6	78%
Forest	363.4	358	-1%
Urban	1519.3	1516.3	0%
Water	546.6	546.6	0%
Wetlands	212.6	212.2	0%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

In 2024, a 130-unit townhome development known as "Park & Arbor" was completed at the former site of the Pearson Education building on Park Avenue. The development includes a separate building for retail uses. This new complex lies just south of Lake Tappan but is located outside of the flood zone.

Another new townhome development, the 'Aida Old Tappan' brings redevelopment just south of the Park Avenue complex to a residential community along Central Avenue. This development lies outside of the flood zone.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Some proposed residential development within Old Tappan includes a three-story, 80,000-square-foot assisted living development which would include some affordable units. The proposal for this development includes a stormwater retention pond, as well as necessitating the relocation of a historic home which has existed on the property for nearly 300 years and is currently listed on the National Register. This is planned for a 5.5-acre undeveloped parcel along Old Tappan Road which had previously been zoned for single-family housing.

Demographics & Vulnerable Populations

Old Tappan Borough's total population is estimated at 5,863. These residents are estimated to be 4.7% under age 5, and 17.8% over age 65. The borough experienced an estimated -2.3% population shift in the period between 2013-2017 and 2018-2022. With an aging population making up nearly eighteen percent of the borough's residents, Old Tappan may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a loss of population, if continued, may highlight potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

One block group in Old Tappan's southeast qualifies as overburdened (OBC) based on criteria of Minority populations. No parts of the borough qualify as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	5,863
Population Change since 2017	-2.3%
Percent of Population Age < 5	4.7%
Percent of Population > 65	17.8%

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 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	
Winter Storm	Extreme Temperatures	Drought
Dam Failure	Extreme Wind	Wildfire
Flood	Hurricane/Tropical Storm	
	Lightning	
	Nor'easter	
	Tornado	
	Landslide	
	Earthquake	
	Human-made Hazards	
Cyber Attack	Economic Disruption	Civil Unrest
Power Failure	Pandemic	
Terrorism		

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

Old Tappan notes winter storm, flood, and dam failure as hazards of high concern. Flood and winter storm are hazards which have presented in the borough in recent years (as in nuisance flooding post-heavy rainfall event, impacts to travel and services from winter storm risk). Risk of dam failure, and resulting impacts of dam failure along the Hackensack River which forms Lake Tappan, make this the other primarily high-concern hazard.

Other hazards which pose current manageable risk to Old Tappan include extreme temperatures and wind, hurricanes, tropical storms, and nor'easters, and risks of tornado, landslide, and earthquake, which are less commonly seen in Old Tappan and surrounding geographies. Both drought and wildfire were ranked as natural hazards of low concern by the borough.

Significant Hazard Events Since Last Plan Update

Old Tappan has experienced heavy rainfall events causing roadway flooding in years since the 2021 plan update. The borough also notes the COVID-19 Pandemic as a human-made hazard which impacted the community significantly.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Old Tappan Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, and present higher frequency of hazards of concern to the borough including extreme temperature and extreme wind. These changes will exacerbate existing vulnerabilities, particularly in areas already prone to flooding.

River geographies surrounding Old Tappan, and riparian areas along the Hackensack, may experience more frequent and severe flooding events and increased erosion, threatening the borough's existing infrastructure. Ongoing local development which threatens the wetland geographies of Old Tappan, including the site along Old Tappan Road, may decrease the natural capacity to respond to these ongoing changes, presenting additional vulnerabilities to the borough.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Old Tappan Borough	
Number of Policies In-Force:	11
Total Losses:	37
Total Payments:	$575,536.65
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	13
RL – Total Paid:	$116,209.41
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

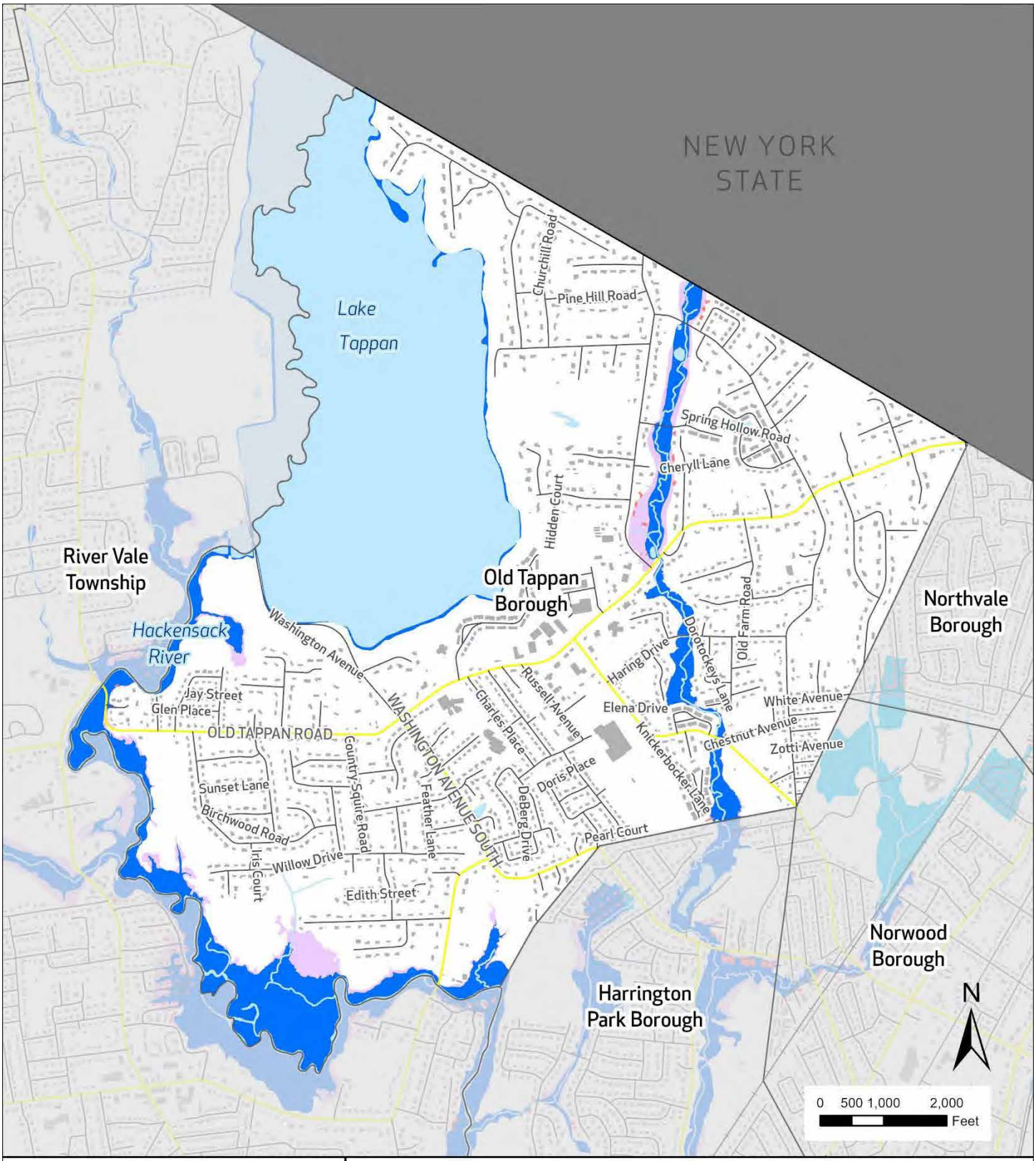
The Special Flood Hazard Area (SFHA) in the Borough of Old Tappan is primarily located adjacent to the waterbodies of the borough: Lake Tappan, the Hackensack River which forms the western border with River Vale Township, and Dorotockeys Run which runs north-south through the eastern central area of town. Approximately 26.5 percent of the total area of Old Tappan lies within the 1% annual chance flood zone as defined by FEMA. An additional 1.6 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 65 percent of Old Tappan is considered developed. Of the developed parcels of the town, 5.2 percent fall at least partially within the 1% annual chance flood zone and 4.4 percent are at least partially within the 0.2% annual chance flood zone. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	5.2	4.4
Exposed Land Area	26.5	1.6

During the planning process, Old Tappan Borough 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 10 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Old Tappan Borough

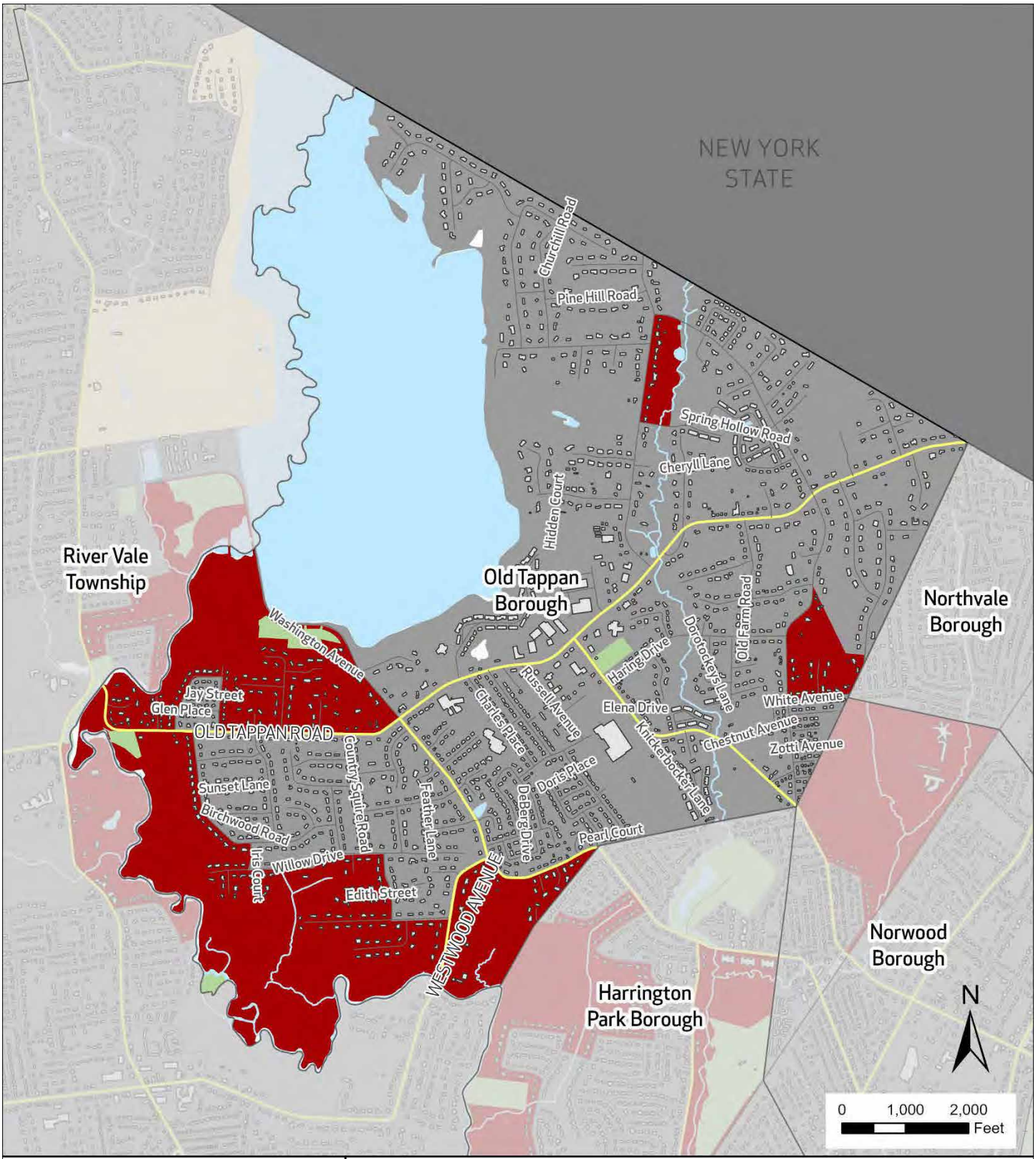
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



Wildland Urban Interface (WUI) Classification

Old Tappan Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Old Tappan Borough 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		2016	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Code Enforcement
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Borough Engineer
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X			
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		

Administrative and Technical Capabilities

Old Tappan Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Borough Engineer Tom Skrable
Grant Writer	X		Stephanie Gunderman
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		Currently not involved

Education and Outreach Capabilities

Old Tappan Borough 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, email, emergency notification system
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Old Tappan Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Old Tappan is dedicated to the protection of its residents and its infrastructure. The borough has prioritized its sanitary sewer infrastructure that is susceptible to the impacts of flooding. Some of these projects are already in the planning phase.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
43-01	Install Pump by-Pass Ability at all Sewer Pump Stations	Pump by-pass ability at all sewer pump stations.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough of Old Tappan	Municipal budget	$20,000	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
43-02	Elevate Generator at Sewer Pump Station #1	Raise generator at sewer pump station #1 out of flood risk.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Old Tappan	FEMA HMA	$200,000	1 year	Ongoing	
43-03	Elevate Control Panel at Sewer Pump Station #1	Raise control panel at sewer pump station #1 above flood risk.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Old Tappan	FEMA HMA	$120,000	1 year	Ongoing	
43-04	Elevate Vents at Sewer Pump Station #1	Raise vents at sewer pump station #1 above flood risk.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Old Tappan	FEMA HMA	$20,000	1 year	Ongoing	
43-05	Flood-proof Wet Well Doors at Sewer Pump Station #1	Flood proof wet well doors at sewer pump station #1.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Old Tappan	FEMA HMA	$30,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
43-06	Purchase Quick Connects and Portable Generator at all Sewer Pump Stations to Allow Continuity of Operations	Quick connects and portable generator at all sewer pump stations.	All Hazards	Low	Borough of Old Tappan	FEMA HMA	$100,000	1 year	Ongoing	
43-07	Purchase and Install LP Generator for Critical Facilities to Operate During Hazard Event	LP generator at golf course for alternate OEM site and alternate heating/cooling site.	All Hazards	High	Borough of Old Tappan	FEMA HMA	$150,000	1 year	Ongoing	This was reprioritized as a high priority.
43-08	Purchase Generators for Traffic Lights to Ensure Continuity of Operations during Power Failure Emergencies	Install generators at traffic lights in Old Tappan.	Power Failure, All Hazards	Low	Borough of Old Tappan	Municipal budget	$100,000	1 year	Ongoing	
43-09	Install Dam Break Early Warning Siren and Make Necessary Repairs or Rehabilitate Lake Tappan Dam	Install dam break early warning siren and make necessary repairs or rehabilitate Lake Tappan Dam along the Hackensack River.	Dam and Levee Failure	High	Borough of Old Tappan	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	$155,000	3 years	Ongoing	
43-10	Coordinate with Orange & Rockland and PSE&G for Removal of Trees and Wires	Coordinate with Orange & Rockland and PSE&G utility companies for removal of problem tree/wire issues.	Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Borough of Old Tappan, Orange & Rockland Utility	Municipal budget	$3,000,000	1 year	Ongoing	
43-11	Coordinate with Orange & Rockland for Installation of Higher/Stronger Utility Poles	Coordinate with Orange & Rockland for installation of higher/stronger utility poles.	Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Low	Borough of Old Tappan, Orange & Rockland Utility	Municipal budget	$3,000,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
43-12	Coordinate with Orange & Rockland for Upgrades to Existing Substation	Coordinate with Orange & Rockland for upgrades to existing substation.	All Hazards	Medium	Borough of Old Tappan, Orange & Rockland Utility	Municipal budget, FEMA HMA	$15,000,000	1 year	Ongoing	
43-13	Replace Corrugated Metal Pipe Drainage Infrastructure	Replace corrugated metal pipe drainage infrastructure.	Flood	Medium	Local OEM and Municipal Staff	Municipal Finances	$35,000	2 years	Ongoing	
43-14	Implement Cyber Security Measures through an Off-site Data Storage	Provide offsite data storage.	Cyber Attack	Low	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	$10,000	1 year	Ongoing	
43-15	Purchase and Install Cameras for Critical Facilities	Purchase and Install Cameras for Critical Facilities.	Terrorism	High	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	$30,000	1 year	Ongoing	
43-16	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties along the Hackensack River.	Mitigate RL, SRL Properties.	Flood	High	Local OEM and Municipal Staff	FEMA HMA	$2,000,000	5 + years	Ongoing	

44 – ORADELL BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Joseph Gothelf	**Emergency Management Coordinator**	**Primary Contact; attended local OEM meeting and municipal meeting**
Dereck Kahill	Deputy Coordinator	Attended public meeting 2

COMMUNITY PROFILE

Overview

The Borough of Oradell covers approximately 2.2 square miles as is located in central Bergen County, New Jersey. The Behnke Brook, Van Saun Mill Brook, and Hackensack River flow through the borough from north to south. The Oradell Reservoir shapes the borough's northeastern boundary, meeting the Hackensack River at Oradell Ave. The borough also has an NJ Transit station at Oradell Ave along the Pascack Valley Line. The borough has a population of 8,208. The Borough of Oradell is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Oradell is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 52% of the total land use, and covering 728 acres of land. Commercial and civic/public (tax exempt) uses also accounted for significant portions, covering 324.3 acres and 346.9 acres respectively in the same year. Although the commercial land use accounts for the significant share of land use, the total commercial witnessed a 26% decline from 2016 to 2022, while civic/public (tax exempt) increased by 54% during the same period.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as water occupied the largest share, making up nearly 43% of the area in 2020. Urban and forest categories followed, accounting for 43% and 13% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	-	-	-
Barren Land	0	1.4	-
Forest	131.4	130.7	-1%
Urban	1379.6	1379	<-1%
Water	98.3	98.3	0%
Wetlands	28.1	28.1	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified

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

There is redevelopment planned in various locations along the Kinderkamack corridor, outside of the floodplain.

Demographics & Vulnerable Populations

Oradell Borough has a total population of an estimated 8,208. Of Oradell's residents, 4.4% are estimated to be under age 5, and 16.5% are over age 65. The borough has had a relatively consistent population over the ACS survey periods between 2013-2017 and 2018-2022, seeing a -0.17% shift. Potential hazard vulnerabilities may arise from an aging

borough population – Oradell may focus hazard mitigation efforts on populations with mobility issues, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

One block group in Oradell's southwest qualifies as potentially overburdened (OBC) according to criteria of *Minority* populations. No part of the borough qualifies as a CDRZ or CEJST community.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	8,208
Population Change since 2017	-0.2%
Percent of Population Age < 5	4.4%
Percent of Population > 65	16.5%

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

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

The borough experiences major issues with storms/water/wind, so the associated hazards are ranked higher. The borough is concerned with the potential for tornado and earthquake despite little experience with either hazard. Pandemic is ranked as high because of the borough's recent experience with the COVID-19 pandemic.

Significant Hazard Events Since Last Plan Update

April 2022 flooding damaged over 100 homes and businesses in the borough.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Oradell Borough	
Number of Policies In-Force:	22
Total Losses:	35
Total Payments:	$635,954.28
Number of RL Properties:	1
Number of Mitigated RL Properties:	0
RL – Total Losses:	2
RL – Total Paid:	$76,453.26
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

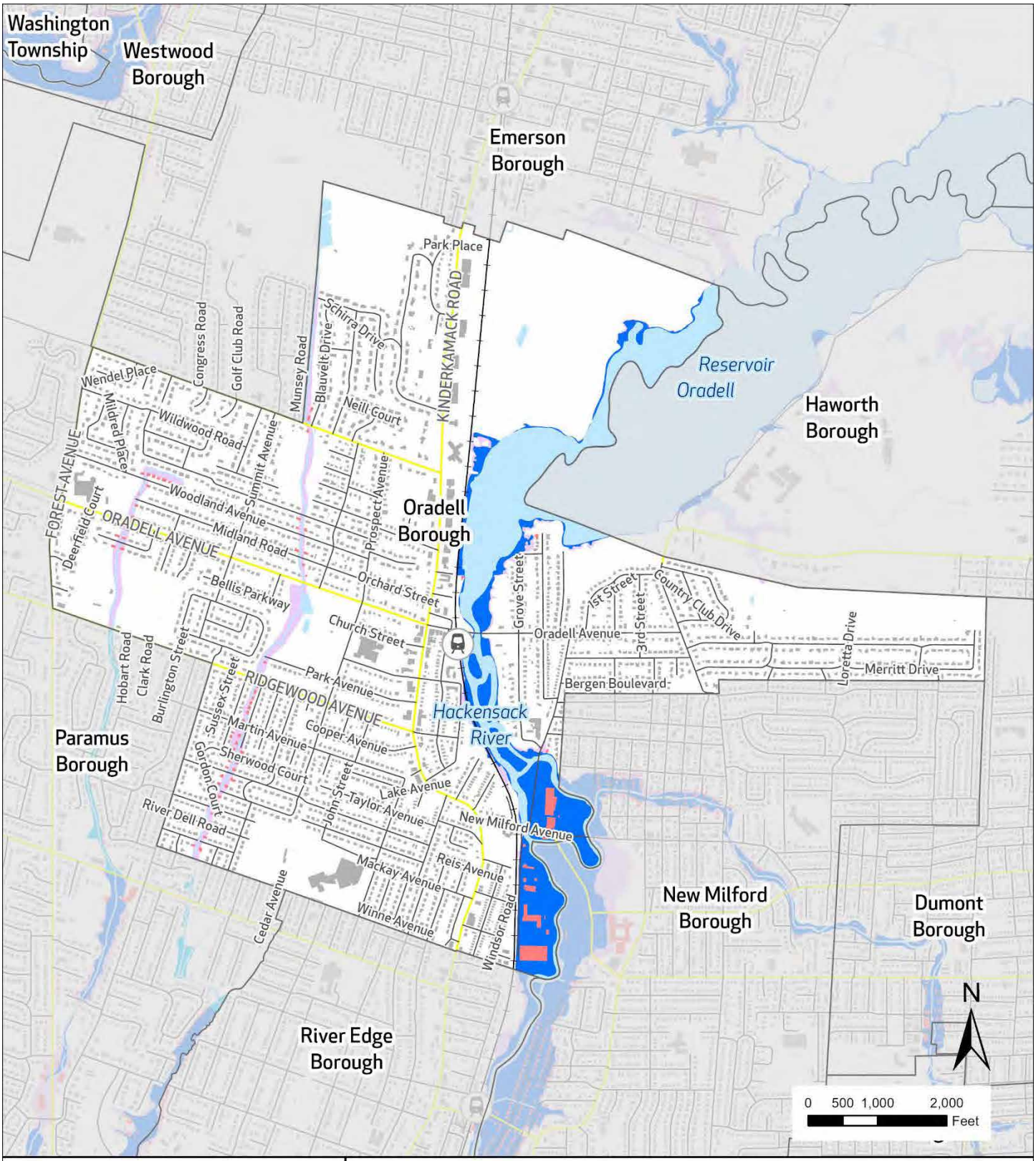
The Special Flood Hazard Area (SFHA) in the Borough of Oradell is primarily located adjacent to the waterbodies of the borough: Oradell Reservoir, the Hackensack River and Van Saun Mill Brook and Behnke Brook. Approximately 9.7 percent of the total area of Oradell lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.2 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 70.4 percent of Oradell is considered developed. Of the developed parcels of the borough, 0.5 percent fall at least partially within the 1% annual chance floodplain and 4.7 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	0.5	4.7
Exposed Land Area	9.7	2.2

During the planning process, Oradell Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are within the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	0	0	0



Flood Hazard

Oradell Borough

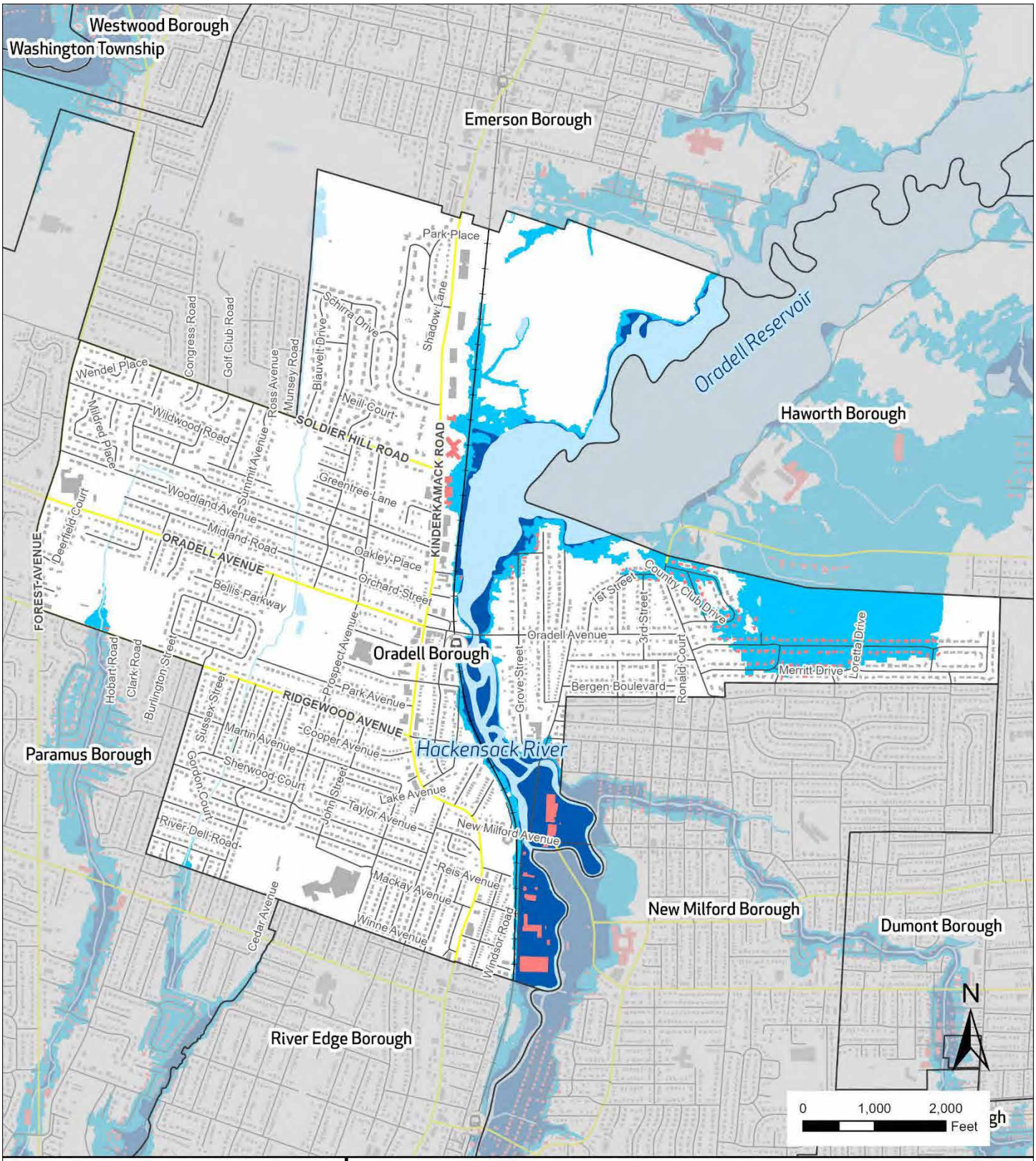
FEMA Flood Zone

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

- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Oradell Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Oradell Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Oradell Borough 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		2018	Provides long-term guidance for land use, zoning, and development patterns, helping reduce exposure to hazards by discouraging development in flood-prone or high-risk areas.
Capital Improvement Plan	X		2024	Aligns infrastructure investment with community needs, allowing prioritization of projects that increase resilience, such as floodproofing facilities or upgrading stormwater systems.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	Outlines response and recovery procedures for natural and human-caused hazards, ensuring essential services continue during emergencies and disruptions.
Floodplain Development Ordinance	X		2019	Regulates development within designated flood zones, reducing the risk of property damage and preserving natural floodplain functions.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X			Implements local controls to reduce runoff, prevent storm drain blockages, and protect water quality by regulating development, retrofitting storm drains, managing yard and pet waste, controlling litter, and prohibiting illicit discharges—minimizing flood risk and environmental hazards.
Stormwater Management Plan	X			Guides the design and implementation of infrastructure improvements to control runoff, reduce localized flooding, and improve drainage.
Watershed Management Plan		X		
Sheltering Plan	X			Establishes procedures for setting up and operating shelters during emergencies, ensuring resident safety and continuity of care.
Evacuation Plan	X			Identifies evacuation routes and protocols for safely moving residents out of harm's way during emergencies, such as flooding or severe weather.
Substantial Damage/Improved Structures Response	X			Assessments conducted by the Building Department and Construction Official
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Through the Building Department and Construction Official
Post-Disaster Recovery Plan	X			Supports organized, efficient recovery operations by identifying roles, responsibilities, and resources needed for post-disaster rebuilding, with a focus on reducing future risk.
Current/recent redevelopment plans or studies	X			Plans and procedures are on file with the Building Department and with various boards (Zoning and Planning)
Community Wildfire Protection Plan		X		N/A
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			The borough is looking into additional studies to address natural hazards, particularly focusing on flooding. Structures like the Oradell Public Works building and properties along Marginal Road are impacted by stormwater.
Other ordinance and regulation that mitigate the impacts of natural hazards	X			Overlay zone for central business districts

Administrative and Technical Capabilities

Oradell Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Oradell's Planning Board, consultant
Grant Writer	X		Consultant, Millenium Strategies
Staff trained to support mitigation	X		Staff involved with OEM, public works, and emergency services receive general training and support mitigation efforts. This includes participation in FEM, state-level emergency management training.

Position	Yes	No	Explanation
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Through Bergen County and neighboring municipalities, which provide technical assistance and resources for hazard mitigation projects. Agreements cover areas such as flood responses, public works support, and emergency services.
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

Oradell Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		OradellALERT (text, phone, and email notifications), local media, social media, the Borough website, and public service announcements.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week	X		The Borough of Oradell promotes Severe Weather Awareness Week through its official social media channels, using platforms like Facebook and Instagram to share preparedness tips, safety information, and emergency planning resources. These communications help raise public awareness, encourage readiness, and ensure residents stay informed about potential weather threats.
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Oradell Borough 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		Oradell has successfully utilized FEMA Public Assistance funding in recent years to support recovery efforts following major storm events. This assistance has been critical in offsetting costs related to emergency response, debris removal, and infrastructure repairs, helping the Borough recover more efficiently and maintain essential public services during and after severe weather incidents.
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		Through a collaboration involving Office of Emergency Management (OEM), the Borough Administrator, and other municipal departments. Factors include severity of hazards, potential impacts on residents and infrastructure, alignment with existing plans, and availability of funding/external grants. Risk reduction projects are often weighed against other municipal priorities during budget planning and through public input at council meetings.
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Since the 2021 update, the Borough of Oradell's strategy has centered on advancing cost-effective and achievable projects that strengthen community resilience. Oradell completed the borough-wide flood warning system and removed actions that were outside the borough's control or lacked feasibility. Over the next five years, the borough's focus is on hardening critical infrastructure—specifically enhancing the resilience of the DPW building by relocating essential operations above flood level and installing backup power—to ensure continuity of operations during severe weather and flood events.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
44-01	Install a Flood Warning System	Install a Flood Warning System.	Flood, All Hazards	High	Oradell Borough	Municipal Funding	$750,000	1 Year	Completed	The Borough has completed the installation of a flood warning system to improve situational awareness and emergency response capabilities during heavy rain and flood events. This system is supported by new Standard Operating Guidelines (SOGs) and internal processes that enable timely monitoring, alerting, and coordination during pre-flood and active flooding conditions.
44-02	Design, Construct, and Install enhanced Culverts and drainage Infrastructure	Design, construct, and install enhanced Culverts and drainage infrastructure.	Flood		Local OEM and Municipal Staff				Withdrawn	These actions were withdrawn from the mitigation plan because the Borough of Oradell does not own or maintain the identified culverts, drainage infrastructure, or watercourses. Responsibility for these facilities lies with other jurisdictions or entities, making the proposed improvements outside the Borough's direct control or authority.
44-03	Widening of Drainage Ditches, Small Streams	Widening of Drainage Ditches, Small Streams	Flood		Oradell Borough				Withdrawn	These actions were withdrawn from the mitigation plan because the Borough of Oradell does not own or maintain the identified culverts, drainage infrastructure, or watercourses. Responsibility for these facilities lies with other jurisdictions or entities, making the proposed improvements outside the Borough's direct control or authority.
44-04	Use the County's Radio System to Improve	Utilize the county's system and move away from the current analog system.	All Hazards	High	Oradell Borough	FEMA Grant & Municipal Funding	$750,00	2 Years	Completed	This action was completed in 2023. The Borough successfully migrated to the Bergen County Trunked Radio System, retiring its legacy analog

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Emergency Communications									system. This transition has enhanced interoperability, improved coverage, and ensured more reliable communication for all-hazards response and coordination across public safety agencies.
44-05	Acquire and Install Natural Gas Generators for Oradell Public School, River Dell High School, Bergen Catholic High School, and St. Joseph Grammar School.	Acquire natural gas generators for Oradell Public School, River Dell High School, Bergen Catholic High School, and St. Joseph Grammar School.							Withdrawn	This action was withdrawn from the plan. The responsibility for acquiring and installing natural gas generators at Oradell Public School, River Dell High School, Bergen Catholic, and St. Joseph Grammar School lies with their respective school districts and administrations. The Borough of Oradell does not currently rely on these facilities for emergency operations and therefore has no direct role in their power infrastructure planning.
44-06	Elevate New Milford Avenue Above the BFE	Elevate New Milford Ave where it crosses the Hackensack River.	Flood						Withdrawn	This action was withdrawn from the plan. While elevating New Milford Avenue above the Base Flood Elevation would be beneficial for regional flood resilience, the project is not feasible due to its high cost, engineering complexity, and lack of support or consideration from any responsible agency. It is not currently under review or planning by any jurisdiction.
44-07	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation. Currently, there is one RL property in the Borough along the							Withdrawn	This action was withdrawn from the plan. With the exception of four commercial entities along Marginal Road, there are no private properties in Oradell significantly impacted by flooding. While repetitive losses have occurred historically, the Borough is not pursuing acquisition, elevation, or floodproofing of private structures at this time. The only facility currently under consideration for floodproofing is the Department of Public Works building.

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
44-08	Repair, Remove, or Rehabilitate the Oradell Reservoir Dam	Repair, remove, or rehabilitate the Oradell Reservoir Dam, a High-Hazard Potential Dam, located on the Hackensack River.	Dam and Levee Failure						Withdrawn	This action was withdrawn from the plan because the Oradell Reservoir Dam is owned and operated by Veolia, not the Borough of Oradell. As such, responsibility for any repair, removal, or rehabilitation of the dam falls solely with Veolia and relevant state regulatory agencies.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
44-09	Floodproof the DPW facility using flood barriers that prevents water from entering the facility	Floodproof the DPW facility using flood barriers that prevents water from entering the facility	Flood	Medium	Oradell Borough	Municipal Budget & FEMA	$300,000	1-Year	New	This action remains under consideration as part of broader efforts to improve the resilience of the DPW facility. The Borough is evaluating the feasibility of purchasing portable flood barriers or modular flood wall systems to protect key entry points and equipment areas from water intrusion during flood events. These solutions would offer a flexible, cost-effective approach to floodproofing without requiring major structural modifications.
44-10	Construct a Second Floor to DPW Building for Equipment Room and Offices and Purchase and Install a Generator	Add a second floor to DPW building to move the equipment room and key offices upstairs. Add an elevated natural gas generator.	Flood	Medium	Oradell Borough	Municipal Budget & FEMA	$2,000,000	1 year	New	This action remains ongoing and under active consideration. The Borough is exploring the construction of a second floor at the DPW building to relocate critical equipment and office functions above potential flood levels. As part of the project, an elevated natural gas generator would also be installed to ensure operational continuity during power outages and severe weather events.

45 – PALISADES PARK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Alex Monteleone	**Fire Chief/ OEM Manager**	**Primary Contact, Attended Local OEM Meeting, Attended Municipal Meeting**

COMMUNITY PROFILE

Overview

The Borough of Palisades Park spans approximately 1.28 square miles and is located in southeastern Bergen County, New Jersey. The borough was named for its location atop the New Jersey Palisades. Palisades Park is bordered by Leonia, Fort Lee, and Ridgefield. Overpeck Creek forms the western border of the borough with neighboring Ridgefield Park. Palisades Park is bisected from US Route 46 and Broad Ave, the main commercial thoroughfare of the borough, and is serviced by NJ Transit bus routes 83, 127, 154, 155, 157, 166 and 168, as well as several local lines. The borough has a population of around 20,100 residents, having grown rapidly since the 1990s due to changes in zoning laws permitting duplexes on most lots. Palisades Park is not considered a coastal community, as it does not have direct access to the coast.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Palisades Park is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 57% of the total land use, and covering nearly 284 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, covering 22% and 12% of the total land use respectively in the same year. From 2016 to 2022, the makeup of use categories remained relatively constant.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 90% of the area in 2020. The Forest category followed, accounting for 8% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	5.6	21.5	284%
Forest	60.4	46.8	-23%
Urban	715.3	713	0%
Water	28.5	28.5	0%
Wetlands	11.2	11.2	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough reports no major developments in the last five years. However, many single-family homes in the borough are being torn down and replaced with duplexes, increasing density and impervious surface in the borough. Some of these developments are within the floodplain, particularly off of West Ruby Ave just west of Grand Ave.

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

There was a builder's remedy lawsuit recently leading to 2 large developments being proposed on lots near Grand Ave and Route 46. The borough reports the potential for around 1,000 units, including affordable units, located within floodplain. Additional proposed developments include mid-rises on W. Columbia Ave and E. Edsall Blvd. These sites are not located in the floodplain.

Demographics & Vulnerable Populations

Palisades Park Borough has a total population of estimated at 20,231. Of Borough residents, an estimated 5.0% are under age 5, and 15.5% are over age 65. The municipality saw an estimated -2.3% population decline over the survey periods of 2013-2017 and 2018-2022. With an aging population making up over fifteen percent of borough residents, Palisades Park may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a population loss over two percent, if continued, may indicate potential hazard vulnerabilities to changing landscape conditions including redevelopment, loss of density, and potentially, mismatched reliance on local resources.

The entire area of Palisades Park (fifteen block groups) qualifies as an overburdened community (OBC) based on indicators related to Low Income and Minority (three block groups), Low Income, Minority, and Limited English (two block groups), Minority and Limited English (one block group), and Minority (nine block groups) categorizations. Two census tracts within the Borough are identified under CEJST criteria, both meeting Workforce Development indicators of potential vulnerability. No parts of the Borough are identified under CDRZ criteria designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	20,231
Population Change since 2017	-2.3%
Percent of Population Age < 5	5.0%
Percent of Population > 65	15.5%

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

Coastal Erosion, Dam Failure, Storm Surge, Wave Action were ranked as N/A.

Hazard Ranking Explanation

Wave action is ranked as N/A (not applicable) because Palisades Park is inland and contains no bodies of water that are large enough to cause impacts from wave action. Likewise, storm surge and wave action are ranked as NA because of the inland location of Palisades Park with a lack of any tidally influenced water bodies. Dam failure is NA as well, as the borough reports no dams in the vicinity which could impact the borough.

Flooding is the highest concern for the borough. Minor flooding occurs on west side of the borough near Overpeck Creek, however, the land use in that area is mostly industrial and commercial as well as open space. More of a concern is basements/garages flooding from rain events. Many homes in the borough have driveways at steep grades due to the geography of the borough. During heavy rain events, runoff runs down the driveways and into the garages, flooding them.

Hurricane/tropical Storm was ranked as medium. Sandy was the last storm to have any major impacts in the borough. Winter storm is ranked as medium concern due to geography: the borough is located on a slope, so ice and snow can be a safety issue. Cyber-attack is ranked medium. The borough reports that borough hall and police department have both been targets in recent years.

Extreme temperatures are ranked low. Palisades Park OEM utilizes the borough pool and borough hall as cooling locations. However, these cooling centers do not see heavy use.

Significant Hazard Events Since Last Plan Update

No significant events were reported within the five years since the last plan update. Local officials report minimal impacts from the remnants of Hurricane Ida, especially compared to nearby areas.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the borough of Maywood. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. Although Palisades Park officials reported minimal flood impacts, especially in comparison to some other municipalities in Bergen County, this pattern has the potential to exacerbate existing vulnerabilities, such as drainage issues and the residential flooding in garages which was identified by the borough as an issue. Potential sea level rise could cause more frequent flooding in the area of the borough near Overpeck Creek, which is mostly industrial or parkland. Additionally, potential future development identified by the borough (such as duplex infill) or development upstream within the watershed, could increase the amount of runoff in borough streams and flowing down the hill the borough is located on. Actions identified by the borough's mitigation strategy involving flood risk reduction (such as action 45-05 and 45-11) should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Palisades Park Borough	
Number of Policies In-Force:	2
Total Losses:	23
Total Payments:	$4,384,912.82
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	0
RL – Total Paid:	0
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	14
SRL – Total Paid:	$4,365,065.71

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

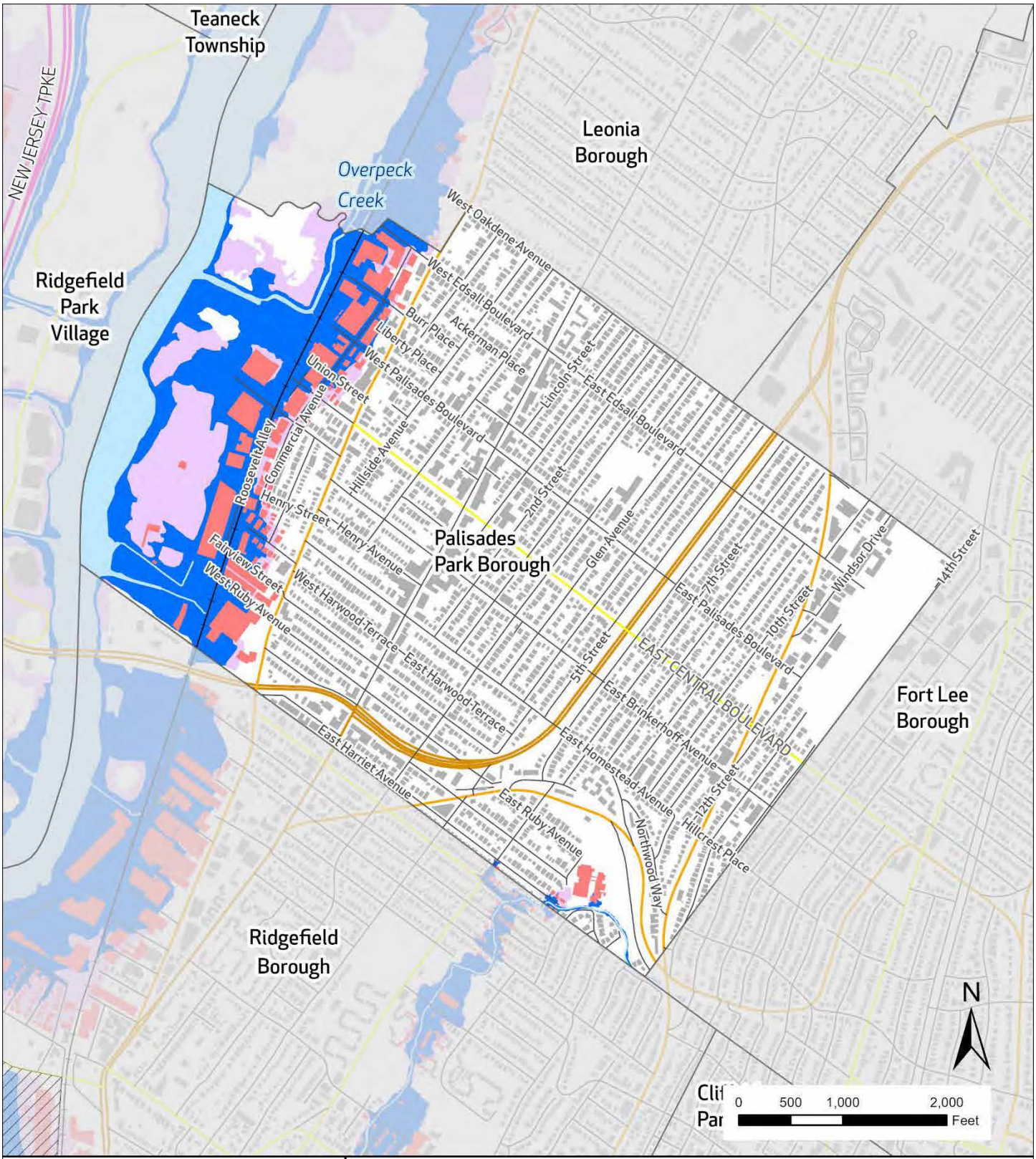
The Special Flood Hazard Area (SFHA) in the Borough of Palisades Park is primarily located adjacent to Overpeck Creek in the western side of borough. Approximately 15.1 percent of the total area of Palisades Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 6.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 59.4 percent of Palisades Park is considered developed. Of the developed parcels of the borough, 2.4 percent fall at least partially within the 1% annual chance floodplain and 2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development in the borough has generally occurred in areas that are less flood-prone.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	2.4%	2.0%
Exposed Land Area	15.1%	6.1%

During the planning process, Palisades Park Borough 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 14 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, three are within the 1% annual chance floodplain. These facilities are also within the area of the borough at risk from sea level rise. An additional facility is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Communications	1	0	1
Food, Hydration and Shelter	0	1	0
Hazardous Materials	1	0	1
Safety and Security	1	0	1



Flood Hazard

Palisades Park Borough

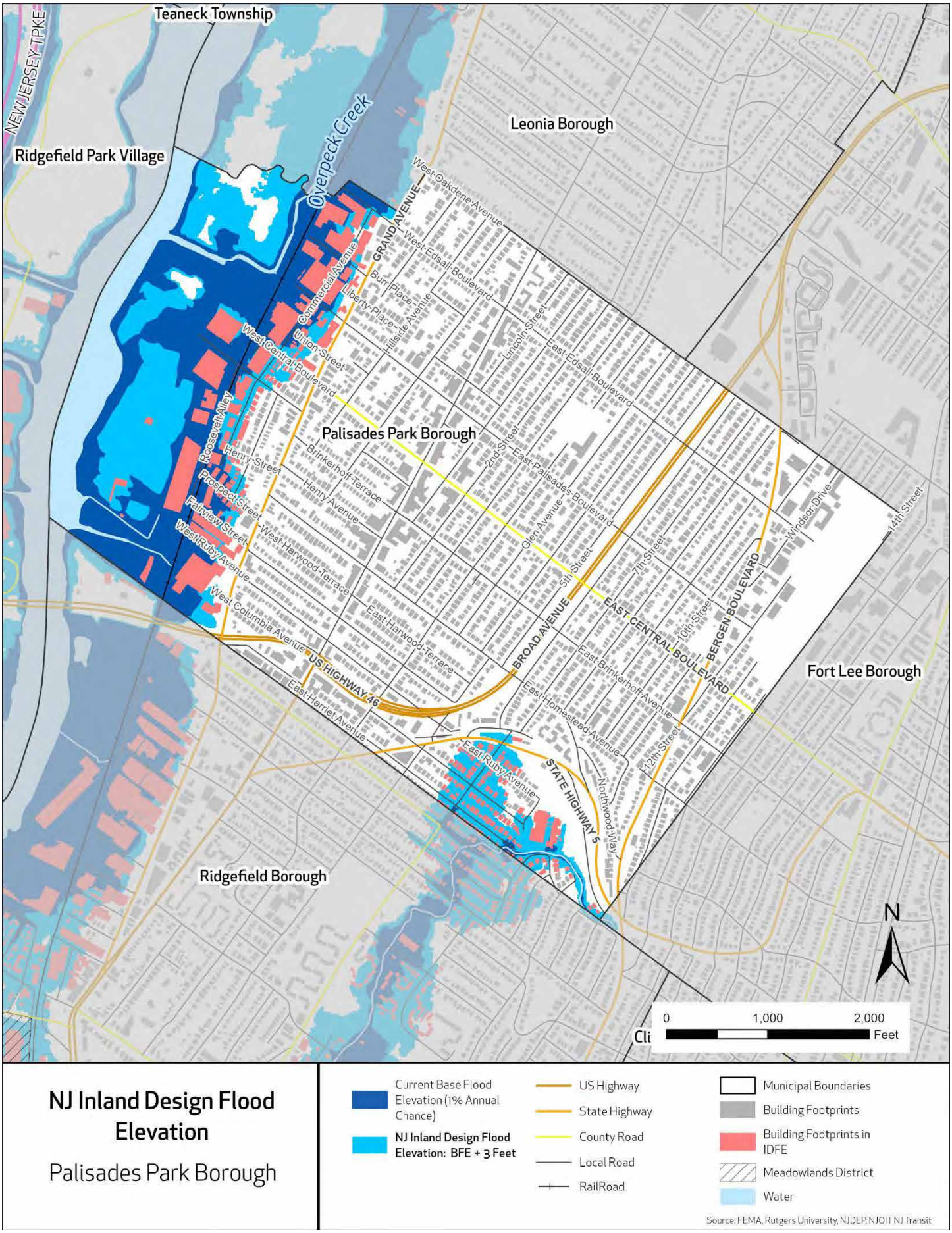
FEMA Flood Zone

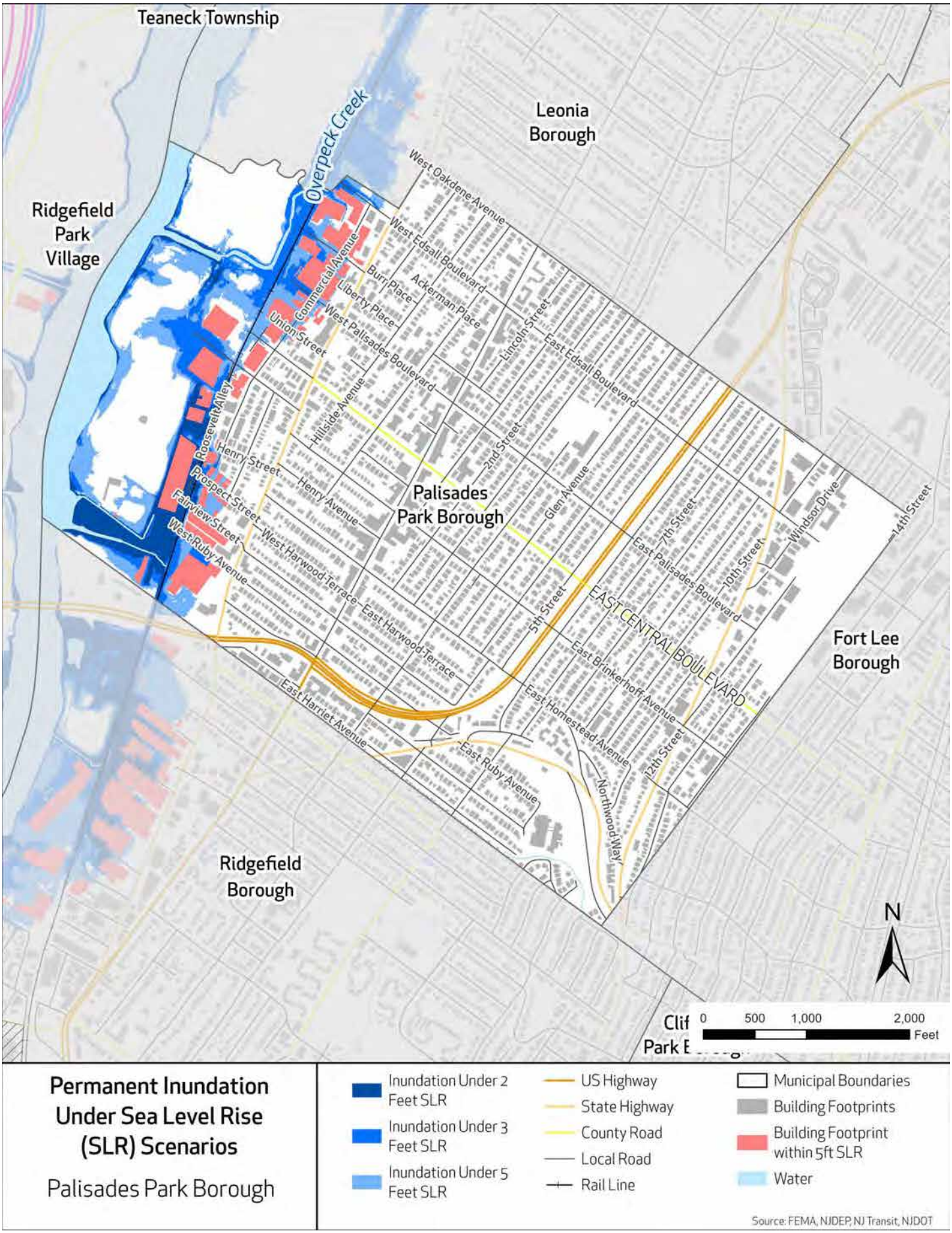
- 0.2% Annual Chance
- AE (1%)

- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Teaneck Township
NEW JERSEY TPKE
Overpeck Creek
Leonia Borough
Ridgefield Park Village
Palisades Park Borough
Fort Lee Borough
Ridgefield Borough
GRAND AVENUE
BROAD AVENUE
EAST CENTRAL BOULEVARD
BERGEN BOULEVARD
US HIGHWAY 46
STATE HIGHWAY 5
West Oakdene Avenue
West Edsall Boulevard
Commercial Avenue
Burr Place
Liberty Place
Hillside Avenue
Union Street
West Central Boulevard
Roosevelt Alley
Henry Street
Prospect Street
Fairview Street
West Ruby Avenue
Brinkerhoff Terrace
Henry Avenue
West Harwood Terrace
West Columbia Avenue
East Harwood Terrace
East Harriet Avenue
Lincoln Street
East Edsall Boulevard
2nd Street
East Palisades Boulevard
Glen Avenue
5th Street
7th Street
10th Street
12th Street
East Brinkerhoff Avenue
East Homestead Avenue
East Ruby Avenue
Northwood Way
Windsor Drive
14th Street
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Palisades Park Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
US Highway
State Highway
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Meadowlands District
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


Teaneck Township
Leonia Borough
Overpeck Creek
Ridgefield Park Village
West Oakdene Avenue
West Edsall Boulevard
Commercial Avenue
Burr Place
Ackerman Place
Liberty Place
Union Street
West Palisades Boulevard
Lincoln Street
East Edsall Boulevard
Roosevelt Alley
Hillside Avenue
2nd Street
Henry Street
Prospect Street
Henry Avenue
Fairview Street
West Ruby Avenue
Palisades Park Borough
Glen Avenue
7th Street
East Palisades Boulevard
10th Street
Windsor Drive
14th Street
West Harwood Terrace
East Harwood Terrace
5th Street
EAST CENTRAL BOULEVARD
East Brinkerhoff Avenue
East Homestead Avenue
12th Street
Fort Lee Borough
East Harriet Avenue
East Ruby Avenue
Northwood Way
Ridgefield Borough
N
0 500 1,000 2,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Palisades Park Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Palisades Park Borough 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		Master Plan has been in progress for the past year
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X			
Floodplain Management Plan	X		2019	
Stormwater Management Ordinance	X			
Stormwater Management Plan	X		2019	
Watershed Management Plan		X		
Sheltering Plan	X		2024	Part of EOP plan for Borough
Evacuation Plan	X		2024	Part of EOP plan for Borough
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			Watershed Management Plan
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			Watershed Management Plan
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Palisades Park Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Kim O'Malley Floodplain Administrator
Grant Writer	X		Millenium Strategies
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

Palisades Park Borough 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, Palisades Park Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Palisades Park has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include creating additional storm drains, improving drainage systems, and enhancing backup power at essential facilities (Borough Hall). Over the next five years, Palisades Park aims to prioritize projects that address the growth of the borough with high-rises being built and continue growth in construction and population. These efforts underscore the Borough of Palisades Park commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
45-01	Purchase and Install Generator for DPW Garage	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Mediu m	Palisades Park DPW	FEMA HMA	$300,000	2 years	Withdrawn	DPW is located within flood zone, may not make sense to store backup generator there.
45-02	Purchase New Emergency Communication Tower/PA System	Purchase a new siren/PA system for on top of borough Hall.	Severe Weather	Low	Palisades Park DPW	FEMA HMA, Homeland Security grants	$30,000	2 years	Withdrawn	No longer needed as dispatch is handled through the County.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
45-03	Coordinate with NJDEP and Bergen County to Dredge Outfalls to Overpeck Creek	Dredge outfalls leading to Overpeck Creek to prevent flooding along properties near Overpeck County Park.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Palisades Park DPW, Bergen County, and NJDEP	County budget, Municipal Budget	TBD	2 years	Ongoing	No progress has been reported on this action. Land near Overpeck Creek belongs to County
45-04	Install Larger Storm Drains in Low-lying Areas Near Overpeck Creek	Problematic areas have been identified and are currently being addressed however need manpower and equipment.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Palisades Park DPW, Bergen County Engineering	Municipal budget	TBD	2 years	Ongoing	Drains installed near W. Central Blvd and Highland Ave. Land near Overpeck Creek belongs to County.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
45-05	Prevent Sediment from Entering Overpeck Creek Restoration	Prevent sediment from entering and eroding Overpeck Creek, which increases flood risk to the borough.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Palisades Park DPW, Bergen County	Municipal budget	TBD	5 + years	Ongoing	Park land near Creek belongs to county.
45-06	Increase Education on Flood Risk and NFIP	Educate borough residents of flooding issues as well as potential flood insurance premium reduction.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Palisades Park Planning	Municipal Budget	$5,000	2 years	Ongoing	No progress on this action was reported.
45-07	Use FEMA's Model Ordinance to Write and Adopt Flood Ordinance	Use FEMA's Model Ordinance to write flood ordinance.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Council - Ordinance Committee	Municipal Budget	TBD	2 years	Ongoing	No progress on this action was reported.
45-08	Purchase Equipment for Flood/Emergency Events such as Light Towers, Trailer with Yodock Barriers, and Variable Message Boards	Purchase the necessary equipment in the event of flooding or other emergency events such as light towers, trailer with Yodock barriers, and variable message boards.	All Hazards	High	Palisades Park OEM	Municipal Budget	$30, 000	1 year	Ongoing	Borough OEM obtained trailer with supplies which cost around $7,000 from the municipal budget. Palisades Park PD currently has one message board. OEM reports that they need two light towers to aid in emergency events.
45-09	Purchase and Install Cameras at Traffic Intersections	Purchase and install security cameras at intersections to provide additional security at intersections, such as access to reading license plates.	Terrorism	Low	Palisades Park Borough	Homeland Security grants	TBD	1 year	Ongoing	No progress on this action was reported.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
45-10	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties within Grand Ave. and the Overpeck Creek	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	Only one repetitive loss property in the borough. It is a commercial property and the borough has communicated the risk.
45-11	Construct Flood Reduction Measures along Overpeck Creek to Prevent Flooding Along Properties near Overpeck County Park	Construct minor structural projects (e.g., floodwalls or small berms) along Overpeck Creek to protect Repetitive Loss Properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County	FEMA HMA	TBD	3 years	Ongoing	County owns park land near Overpeck Creek
45-12	Move DPW outside of the floodplain if land becomes available.	DPW is currently located within floodplain, possibly impacting the boroughs ability to respond to an emergency event. The borough would like to move the DPW but there is no available city owned land at the moment	Flood, Hurricane and Tropical Storm, Nor'easter	Medium	Borough DPW	Grants, Municipal Budget, FEMA	TBD	5+ years	Ongoing	

46 – PARAMUS BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Guy Picone	**OEM Coordinator**	**Primary Contact**
Steve Mehl	Emergency Preparedness Coordinator	Municipal Meeting
Chris DiPiazza	Mayor	Municipal Meeting
Eric Picone	Deputy Coordinator	Municipal Meeting
William Stallone	Deputy Coordinator	Municipal Meeting
Hector Olmo	Borough Administrator	Municipal Meeting
Hassan Brown	Director of Public Works	Municipal Meeting
Michael O'Connell	Construction Official	Municipal Meeting
Ken Hook	Zoning Officer	Municipal Meeting
Harold Cherven	Deputy Coordinator	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Paramus spans approximately 10.45 square miles and is located in central Bergen County, New Jersey, approximately 8 miles west of Upper Manhattan. It serves as a major commercial hub for New Jersey and is home to the Bergen Community College. The Behnke Brook, Herring Brook and Saint Andrews Brook are important streams flowing through the borough. Highways in Paramus include Route 17, Route 4 and the Garden State Parkway. The borough has a population of approximately 26,698 residents. Paramus is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Paramus is a predominantly residential community with residential (including apartment) use accounting for 44% of its area, covering nearly 2,330 acres of land in 2022. In the same year, civic/public (tax exempt) land and commercial land made up 28% and 24% respectively of its area. Between 2016 and 2022, there was a 69 -acre decrease in vacant land, which fell from 187 acres to 117 acres, while farm land increased from 8 acres to 29 acres, land under apartment use increased from 4 acres to 20 acres, and commercial land rose by 9 acres, covering 1494 acres in 2022.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 88% of the borough's total land, covering 5904 acres. Forest land and wetlands followed, covering 6% and 5% respectively of the borough's total area. Between 2015 and 2020, barren land decreased by 26 acres, falling from 58 acres to 32 acres in 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	7.3	8.8	21%
Barren Land	58.0	32.0	-45%
Forest	388.4	381.1	-2%
Urban	5872.5	5904.4	1%
Water	51.5	52.3	2%
Wetlands	343.8	342.9	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The borough underwent considerable development and redevelopment since 2021. Notable projects are shamrock creek on soldier hill road consisting of 140 apartments, the former Revicki farm now consisting of 15 townhouses, 5058 midland avenue consisting of 45 apartments, and Holland acres at Midland Avenue having 16 townhouses. These developments are not in a regulatory floodplain. On the other hand, the ongoing 461 farm road development, consisting of 14 apartments is located in a floodplain.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Expected to break ground in early 2025 is the Garden State Plaza, due to have 400 residential units, shops, a hotel, a senior care facility, and park/town green. It will be located in the 0.2% floodplain. The Bergen Town Center, consisting of 426 apartments will also fall in the 0.2% floodplain. Other developments approved by the Planning Board include Winters Ave consisting of 136 apartment units, Metro Paramus at 10 Route 17 consisting of 104 apartment units, Victories Nursery consisting of 42 townhouse units, Columbus Crossing of 120 apartment units, Paramus Park of 159 apartment units, and lastly, JK Farm – Joys Farm consisting of 170 Assisted Living and 162 apartment units.

Demographics & Vulnerable Populations

Paramus Borough has a total population of an estimated 26,582 residents. Of Paramus population, an estimated 3.6% are under age 5, and 25.7% are over age 65. The borough's population has been steady over surveys between 2013-2017 and 2018-2022, with an estimated -1.3% population decline. An aging population making up over one-quarter of the borough's residents may highlight potential hazard vulnerability, for populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

There are seven block groups within Paramus Borough that meet criteria as overburdened communities (OBC) based on *Minority* population indicators. There are no parts of the borough which meet criteria for designation as CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	26,582
Population Change since 2017	-1.3%
Percent of Population Age < 5	3.6%
Percent of Population > 65	25.7%

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	
Severe Thunderstorm	Hurricane / TS	Tornado
Snow Fall	Ice Storm	Earthquake
Blizzard		Drought
Temperature Extremes		Epidemic/Pandemic
Flooding		
	Human-made Hazards	
	Mass Casualty Incident (Trauma)	Terrorism, Biological
	Mass Casualty Incident (Medical / Infectious)	

Hazard Ranking Explanation

Flooding is a significant issue in the borough, particularly during heavy rainfall. It is a recurring issue in the southeastern part of the Borough, where there are Repetitive Loss properties along Saddle River. Areas particularly prone to flooding are Swan Court, Spring Valley Avenue and the Bergen Town Center. According to the borough, additional parking lots at the Bergen Town Center have exacerbated the flooding. Additionally, during heavy rainfall, there is flooding along Herring

Brook. The Chase Mortgage building by Behnke Brook also experiences flooding. Furthermore, Spring Valley Road and Forest Avenue, which are not located in a regulatory floodplain, also experience recurring flooding.

Significant Hazard Events Since Last Plan Update

The last significant hazard event that impacted the Borough was Hurricane Ida in 2021.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Paramus. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplain running through the borough's western boundary and center. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 26% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Paramus Borough	
Number of Policies In-Force:	136
Total Losses:	194
Total Payments:	$4,838,585.07
Number of RL Properties:	13
Number of Mitigated RL Properties:	0
RL – Total Losses:	36
RL – Total Paid:	$549,047.77
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$505,666.54

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

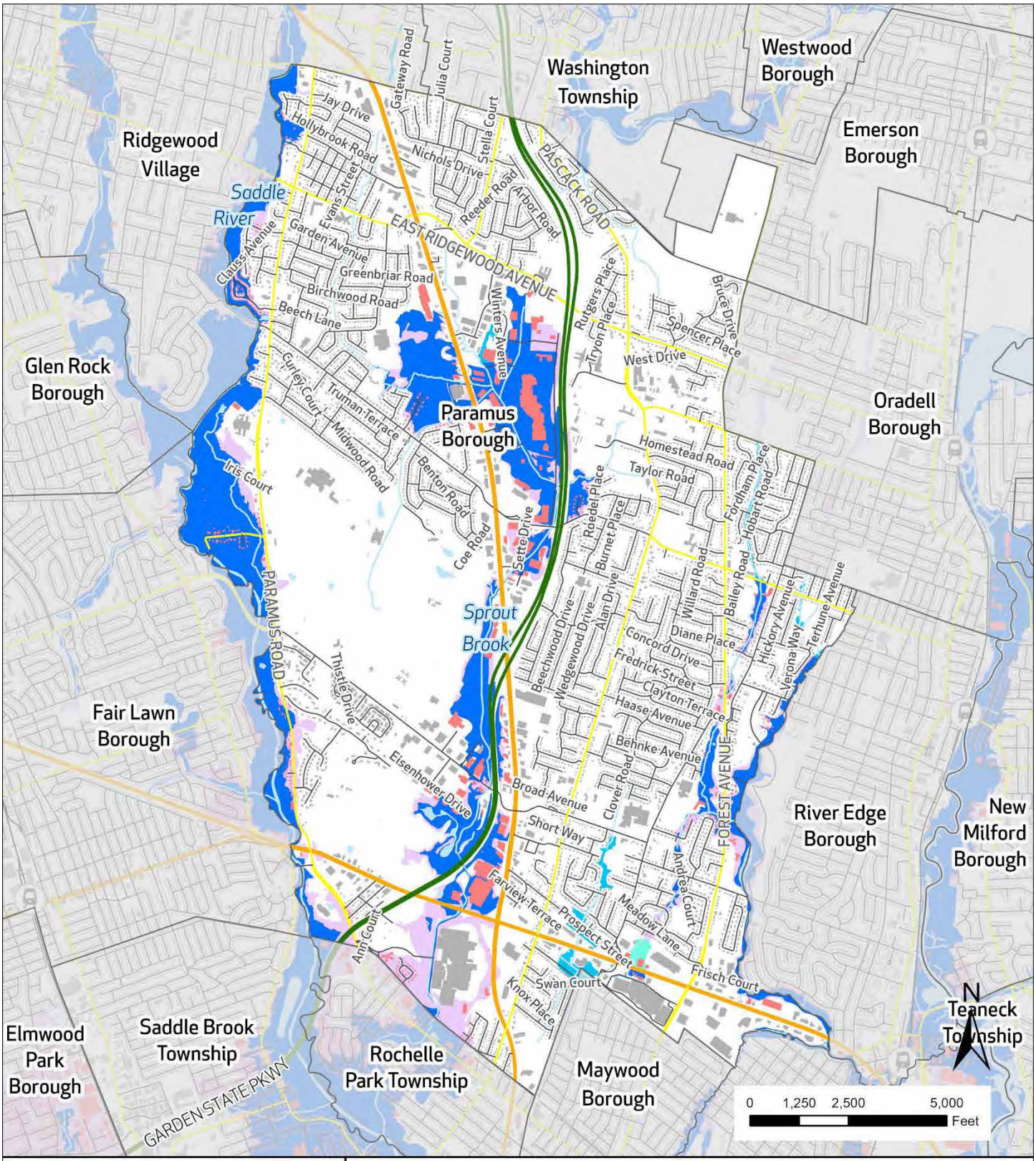
The Special Flood Hazard Area (SFHA) in the Borough of Paramus is primarily located adjacent to the waterbodies of the borough: Saddle River, Sprout Brook, and Van Saun Mill Brook and Behnke Brook. Approximately 11.6 percent of the total area of Paramus lies within the 1% annual chance floodplain as defined by FEMA. An additional 4.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

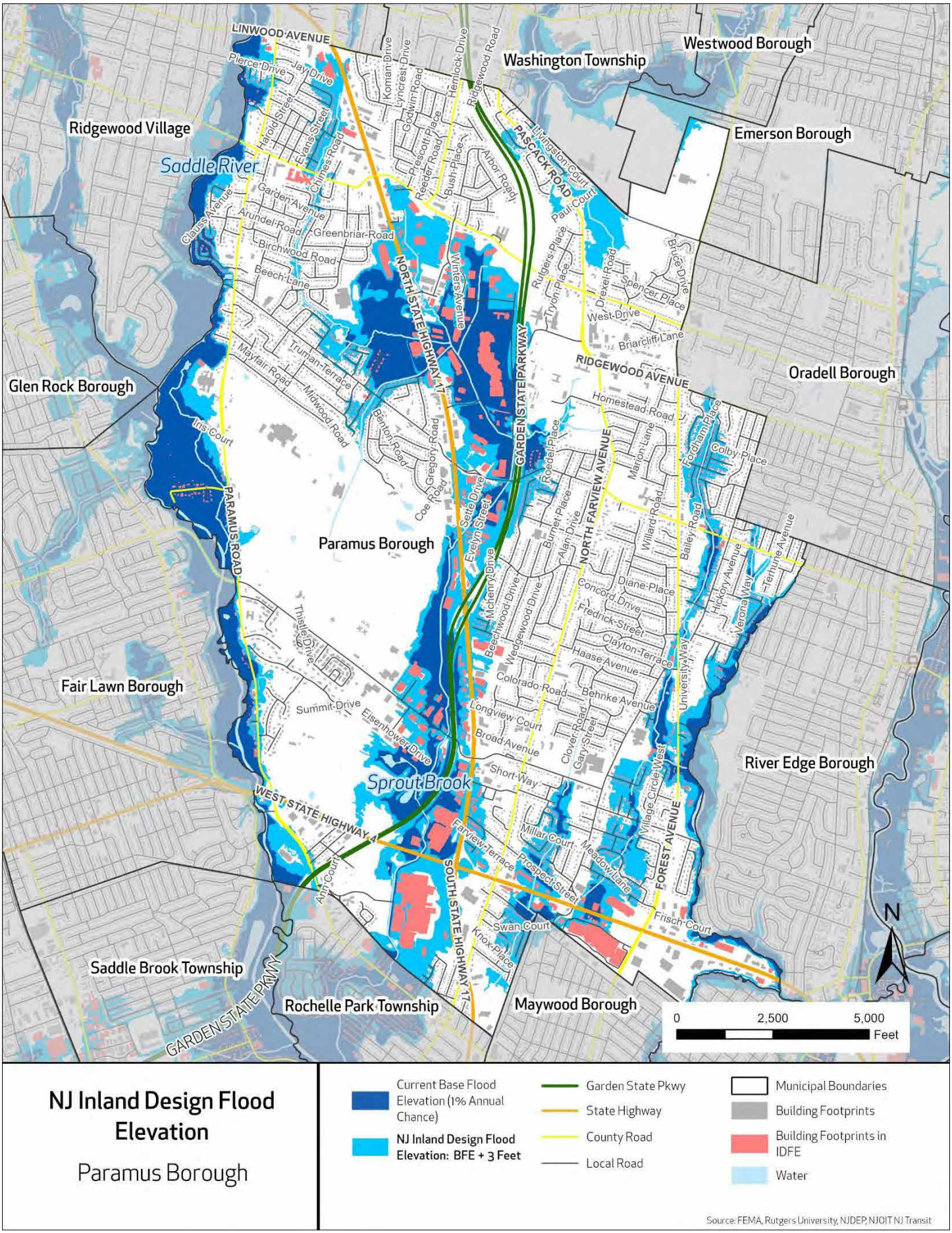
About 74.4 percent of Paramus is considered developed. Of the developed parcels of the borough, 8.5 percent fall at least partially within the 1% annual chance floodplain and 6.3 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	8.5	6.3
Exposed Land Area	11.6	4.6

During the planning process, Paramus Borough 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 38 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain. An additional facility is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Water Systems	1	1


Paramus Borough
Ridgewood Village
Glen Rock Borough
Washington Township
Westwood Borough
Emerson Borough
Oradell Borough
River Edge Borough
New Milford Borough
Teaneck Township
Maywood Borough
Rochelle Park Township
Saddle Brook Township
Elmwood Park Borough
Fair Lawn Borough
Saddle River
Sprout Brook
EAST RIDGEWOOD AVENUE
PASCACK ROAD
PARAMUS ROAD
FOREST AVENUE
GARDEN STATE PKWY
Gateway Road
Julia Court
Jay Drive
Hollybrook Road
Nichols Drive
Stella Court
Reeder Road
Arbor Road
Evans Street
Garden Avenue
Clauss Avenue
Greenbriar Road
Birchwood Road
Beech Lane
Winters Avenue
Rutgers Place
Tryon Place
Bruce Drive
Spencer Place
West Drive
Curley Court
Truman Terrace
Midwood Road
Iris Court
Benton Road
Coe Road
Sette Drive
Roedel Place
Burnet Place
Homestead Road
Taylor Road
Fordham Place
Hobart Road
Willard Road
Bailey Road
Hickory Avenue
Verona Way
Terhune Avenue
Beechwood Drive
Wedgewood Drive
Alan Drive
Diane Place
Concord Drive
Fredrick Street
Clayton Terrace
Haase Avenue
Behnke Avenue
Clover Road
Thistle Drive
Eisenhower Drive
Broad Avenue
Short Way
Andrea Court
Meadow Lane
Farview Terrace
Prospect Street
Frisch Court
Swan Court
Knox Place
Ann Court
0 1,250 2,500 5,000 Feet
N
Flood Hazard
Paramus Borough
FEMA Flood Zone
0.2% Annual Chance
A (1%); AH (1%)
AE (1%)
AO (1%)
Garden State Pkwy
State Highway
County Road
Local Road
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Paramus Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Paramus Borough 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		2016	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2025	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan	X		2019	
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X		2024	
Watershed Management Plan				
Sheltering Plan	X		2025	
Evacuation Plan	X		2025	
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		2023	
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X		2025	
Current/recent redevelopment plans or studies	X		2024	
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		2024	Flood and storm water management plans

Administrative and Technical Capabilities

Paramus Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	
Grant Writer	X		Bruno Associates
Staff trained to support mitigation	X		Paramus OEM Staff
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Bergen County Hazard Mitigation Plan Bergen County OEM
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Borough Engineers
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Paramus Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Reverse 9-1-1 – Voice / Text Alerting, RAVE System, Social Media
StormReady	X		Storm Ready Community
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Paramus Borough 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:

The Borough of Paramus is focused on assisting the community understand their resources and capacity to reduce the impact of potential disasters. The assessment identifies the available resources, and tools to implement mitigation strategies. Essentially a self-evaluation of the borough's readiness to act, considering planning and regulatory tools, administrative and technical support, financial resources and educational initiatives.

MITIGATION STRATEGY

Overview and Progress Since Last Update

With the increasing frequency and intensity of extreme weather events, such as hurricanes and flooding, the Borough of Paramus is focused on taking proactive measures to reduce the potential harm from these events. Priority is to improve stormwater runoff capability and to safeguard the borough's infrastructure such as sewer pump stations and stormwater facilities. The borough is committed to protecting the residents and businesses of Paramus from repetitive loss.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
46-01	Floodproof the Prospect St. Pump Station	Install a new Flood Protection System at the Prospect St. Pump Station.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Mediu m	Borough DPW	FEMA HMA	N/A	1 year	Withdrawn	Combine with Action 46-01

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priorit y	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
46-02	Install New Watertight Doors at Four Sewer Pump Stations	Install new watertight doors at the following sewer pump stations: Prospect St/Route 17, Dunkerhook, Winters Ave., and Grove St.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Mediu m	Borough of Paramus	FEMA HMA	$250,000	1 year	Ongoing	No progress.
46-03	Work with Property Owners on Elevating or Acquiring Repetitive Loss Structures in the Mill Run Neighborhood	Work with property owners on elevating, acquiring, or demolishing Repetitive Loss structures in Mill Run neighborhood.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough, Property Owners	FEMA HMA	$1.5 Million	2 years	Ongoing	No progress. Basements by Beech Lane that have been filled are getting flooded.
46-04	Use Public Easements to Return Stormwater to the Sprout Brook, Saint Andrews Brook, and Saddle River	Use public easements to manage stormwater from roadways and properties to the Sprout Brook, Saint Andrews Brook, and Saddle River	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Mediu m	Borough Engineering	FEMA HMA	$250,000	3 years	Ongoing	Need to reconsider this project because the borough knows how to mitigate flooding here. Typically, water gets cleared up after rain stops.
46-05	Install Stormwater Pump and	Install stormwater pump station and check	Flood, Nor'easter, Hurricane and	Mediu m	Borough Engineering	Municipal budget,	$500,000	1 year	Ongoing	No progress. Need engineer plans and recommendations.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Check Valve within the Dunkerhook Road Area	valve within Dunkerhook Road area.	Tropical Storm, Severe Weather			FEMA HMA				
46-06	Install Duck Bills on Stormwater Outfalls	Install duck bills, or one-way valves, on stormwater outfalls.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough Engineering	FEMA HMA	$200,000	5+ years	Ongoing	Early stages of project. Being overseen by the Department of Public Works.
46-07	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties in the Regulatory Floodway	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	No elevations or acquisitions within the last five years.
46-08	Install Popup Walls Along Saddle River	Install popup walls along Saddle River.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineer	FEMA HMA	$750,000	2 years	Ongoing	No progress.
46-09	Install French drains on exterior of Borough Hall building.	Installing French drains will reduce flooding in lower level of Borough Hall.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Engineer	Municipal Capital	$150,000	2 years	New	No progress.
46-10	Retention pond in Borough-owned land at Spring Valley Park		Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough Engineer	FEMA HMA	$400,000	5 years	New	No progress.
46-11	Clean out Herring Brook		Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	DPW / Borough Engineer	FEMA HMA	$50,000	3 years	New	No progress. Need DEP permits.

47 – PARK RIDGE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Babcock	**Emergency Management Coordinator**	**Primary Contact**
Michael Marsh	Emergency Management	Alternative Point of Contact
Gerry Powers	Police Detective Sergeant	Responded to Local Municipal Hazards ID
Magdalena Giandomenico	Borough Administrator	Responded to Local Municipal Hazards ID

COMMUNITY PROFILE

Overview

Park Ridge is a borough in far northern Bergen County, New Jersey, bordering Hillsdale, Montvale, River Vale, and Woodcliff Lake municipalities. The borough was initially formed by an act of the New Jersey Legislature in 1894 and today has a total area of 2.63 square miles. Park Ridge is part of the Pascack Valley region of Bergen County and lies just south of New Jersey's northern border with New York State. No major highways run through the borough. County Route 503 passes through Park Ridge as Kinderkamack Road, initially a trail used by the Lenape Native Americans. Park Ridge lies just to the east of the Garden State Parkway (north-to-south) and can be accessed by Exit 172 along that route.

Park Ridge is located at the northern end of Woodcliff Lake, a reservoir of approximately 871 million gallons, formed from the Pascack Brook, which continues from the north in Park Ridge Borough. Pascack Brook also flows through Silver Lake, a dammed reservoir running north-to-south along Park Ridge's boundary. Additionally, Bear Brook forms the southern border of Park Ridge boundary with Woodcliff Lake.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Park Ridge is a primarily residential community, with 69% of the total land area within the borough (over 981 acres) dedicated to single- and multi-family residential development. Civic/public (tax exempt) land uses made up an additional 12% of the borough (over 166 acres) and vacant land (177 acres) made up an additional 12%, as of 2022. Commercial land use in Park Ridge accounted for 6% (90 acres) during this time period. These land uses have changed somewhat since 2016 estimates; vacant land grew an additional 93 acres, while commercial land uses lost 26% of their coverage (over 32 acres).

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, the area classified as urban occupied the largest share of Park Ridge, making up nearly 86.5% of the area in 2020. The forest and wetlands categories followed, each accounting for 6% of the total land area. These land use acreages have not changed significantly since the 2015 estimates.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1.8	1.8	<1%
Barren Land	0.5	0.5	<1%
Forest	101.9	99.8	-2%
Urban	1452.8	1455.3	<1%
Water	19.7	19.7	<1%
Wetlands	105.3	105	<1%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

There has been no major development identified within Park Ridge's boundary in recent years (since 2021's HMP update). However, local officials report that significant development and redevelopment occurring just north of Park Ridge (in Montvale Borough and across the state border in New York) has occurred and has contributed to significant runoff and silt deposits found in waterways within Park Ridge Borough.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Park Ridge is the home of ongoing redevelopment being planned for (and litigated over) at the existing Sony property, a 30+ acre site used at one point for Sony's North American headquarters campus. This site lies in Park Ridge's northwest corner along its frontage with the Garden State Parkway and border with Montvale Borough. The current plans for this site include nearly 450 units of housing in Park Ridge, including 68 affordable housing units.

Demographics & Vulnerable Populations

Park Ridge Borough has an estimated total population of 9,098. Of Park Ridge residents, an estimated 3.4% are under age 5, and 21.0% are over age 65. The borough saw an estimated 2.2% population growth in the periods between 2013-2017 and 2018-2022. With an aging population making up twenty-one percent of borough residents, Park Ridge may address hazard vulnerability by focusing mitigation efforts on populations with mobility issues, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9,098
Population Change since 2017	2.2%
Percent of Population Age < 5	3.4%
Percent of Population > 65	21.0%

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 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	
Flood	Hurricanes/Tropical Storms	Wildfire
	Nor'easter	Earthquake
	Winter Storms	Drought
	Dam and Levee Failure	Extreme Temperatures
	Extreme Wind	Tornado
	Lightning	Landslide
	Power Failure	
	Human-made Hazards	
	Cyber Attack	Terrorism
	Pandemic	Economic Disruption
		Civil Unrest

As an inland community, coastal hazards of storm surge, coastal erosion, and wave action were ranked as N/A.

Hazard Ranking Explanation

Flood is the only hazard of high concern for the borough. Park Ridge experiences consistent nuisance flooding after heavy rain events and many storm events. These impacts have caused municipal-owned buildings to flood, as well as other local flood impacts which have been primarily limited to buildings and assets within the defined floodplain along Pascack Creek and downstream of Silver Lake. This floodplain area sees standing water consistently with any significant storm or rainfall event.

With runoff impacts from heavy rainfall, Park Ridge notes that increasing silt and debris build up in the creeks leading to Silver Lake—and Silver Lake itself—have caused the shallower reservoir to flood more consistently. This flooding has been increasing in frequency and intensity as Silver Lake sees more debris build up, blamed in part on increasing development north of the borough and north of the state line in New York.

Other hazards including hurricanes/tropical storms, nor'easters, winter storms, and lightning are each defined as hazards of medium concern to Park Ridge – these storms have impacted the borough, but often in the form of nuisance flooding in the noted floodplain. Secondary natural hazards such as power-failure are of medium concern due to the impacts of previous storms and noted flood events. A dam does mark the southern end of Silver Lake; although no issues have been currently noted with this dam, its integral location creates a potential hazard event of medium concern.

Low-concern ranked natural hazards include those which the borough has not had previous instances, and which are relatively low-risk for the area; including earthquake, landslide, and tornado.

The borough notes a low concern for particular human-made hazards including terrorism and civil unrest due to their location and community make-up, without a central point of potential impact (i.e., no major infrastructural or central community targets identified), although cyber-attack and potential pandemic remain priority medium concern hazards.

Significant Hazard Events Since Last Plan Update

Park Ridge Borough identifies no significant damage-causing storms or hazard events in the past five years. As noted in ongoing hazard rankings and explanation, regular nuisance flooding is the main concern for the borough, and damage from such flooding has been localized to the known flood plain, although it has been known to impact buildings and critical assets including the Borough Hall, Library, Police Range, and Fire Department.

A noted storm in 2022 caused heavier flooding than was typically seen; during this event, a borough-owned park facility was inundated and the turf field was dismantled and uprooted, necessitating full replacement. The borough library and Borough Hall were also flooded during this event and have seen impacts from nuisance flooding during other smaller events over the years since the last plan update.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Park Ridge. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplain running through the Borough's center. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 20% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Park Ridge Borough	
Number of Policies In-Force:	104
Total Losses:	25
Total Payments:	$301,898.37
Number of RL Properties:	-

Park Ridge Borough	
Number of Mitigated RL Properties:	-
RL – Total Losses:	-
RL – Total Paid:	-
Number of SRL Properties:	-
Number of Mitigated SRL Properties:	-
SRL – Total Losses:	-
SRL – Total Paid:	-

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

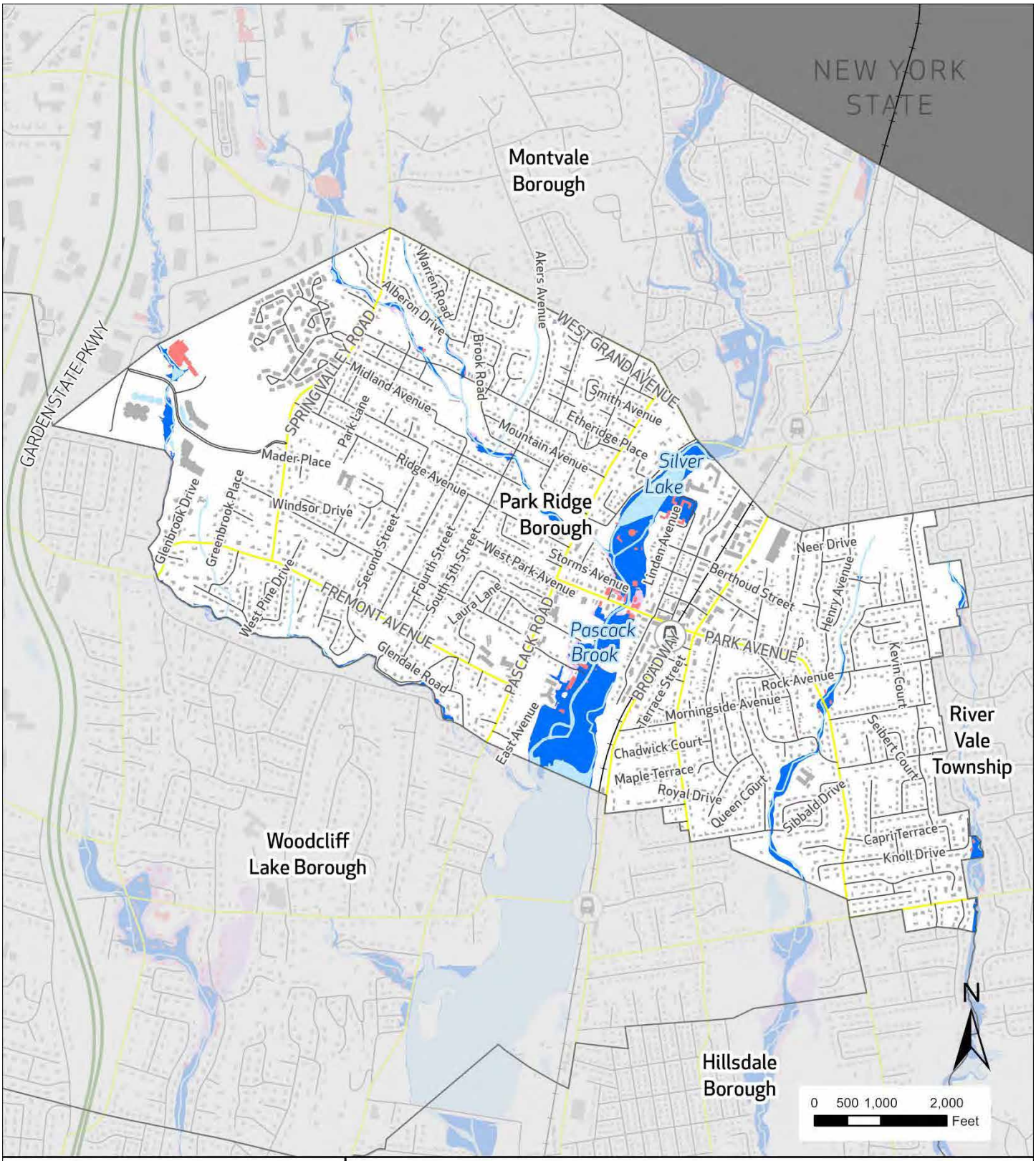
The Special Flood Hazard Area (SFHA) in the Borough of Park Ridge is primarily located adjacent to the waterbodies of the borough: Pascack Brook and to a lesser extent, Mill Brook, Holdrum Brook, and Hillsdale Brook. Approximately 5.8 percent of the total area of Park Ridge lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 77.4 percent of Park Ridge is considered developed. Of the developed parcels of the town, 6.5 percent fall at least partially within the 1% annual chance floodplain and 3.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the vulnerability of 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
Developed Parcels	6.5	3.2
Exposed Land Area	5.8	0.5

During the planning process, Park Ridge Borough 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 five total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, three are within the 1% annual chance floodplain and none are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	3	0



Flood Hazard

Park Ridge Borough

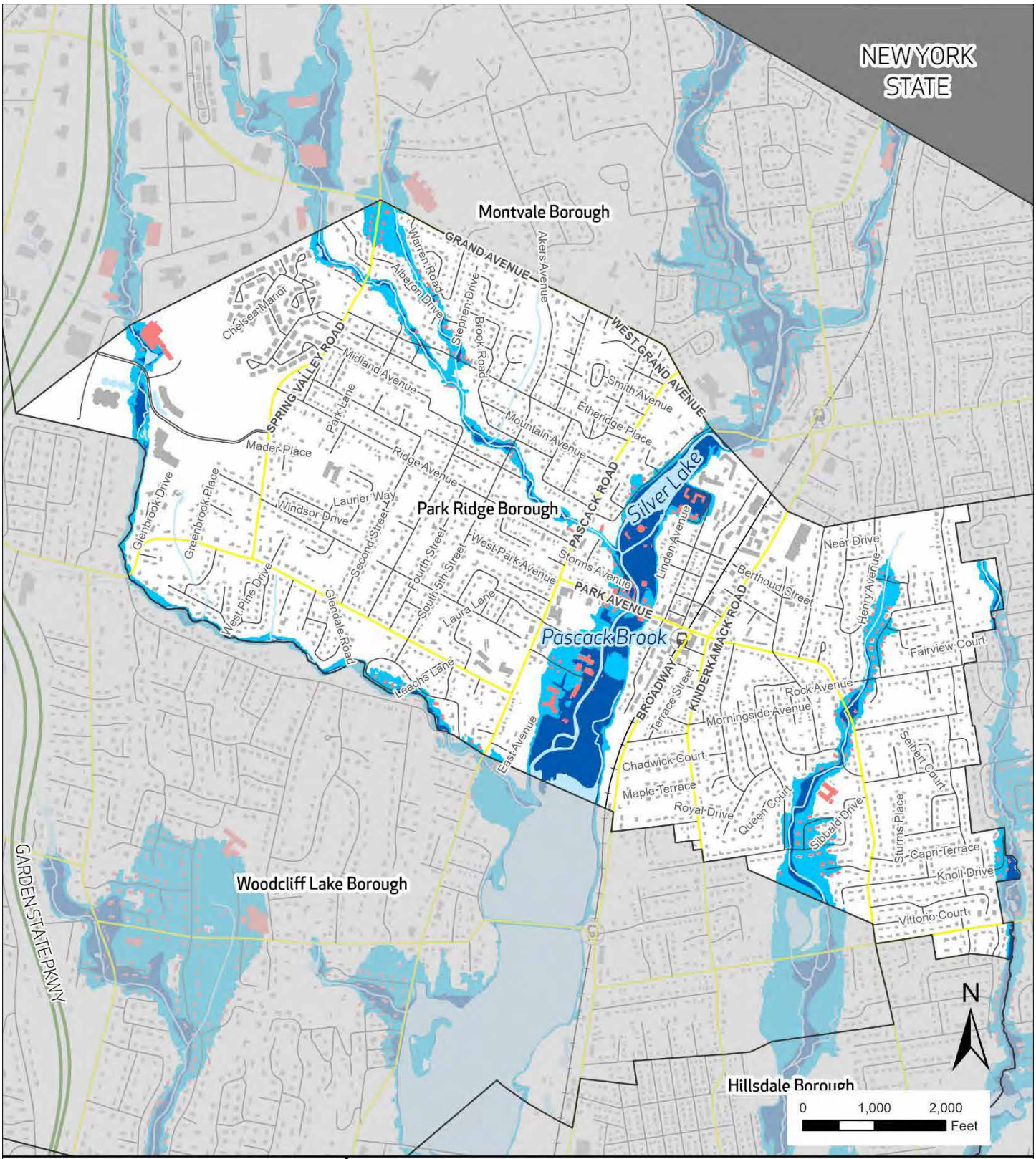
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


NEW YORK STATE
Montvale Borough
Park Ridge Borough
Woodcliff Lake Borough
Hillsdale Borough
GRAND AVENUE
WEST GRAND AVENUE
SPRING VALLEY ROAD
PASCACK ROAD
PARK AVENUE
KINDERKAMACK ROAD
BROADWAY
Silver Lake
Pascack Brook
Chelsea Manor
Warren Road
Alberton Drive
Stephen Drive
Akers Avenue
Brook Road
Midland Avenue
Park Lane
Smith Avenue
Etheridge Place
Mountain Avenue
Mader Place
Ridge Avenue
Laurier Way
Windsor Drive
Second Street
Glenbrook Drive
Greenbrook Place
West Pine Drive
Glendale Road
Fourth Street
South 5th Street
West Park Avenue
Storms Avenue
Laura Lane
Teachs Lane
East Avenue
Linden Avenue
Neer Drive
Berthoud Street
Henry Avenue
Fairview Court
Rock Avenue
Morningside Avenue
Terrace Street
Chadwick Court
Maple Terrace
Royal Drive
Queen Court
Selbert Court
Sibbald Drive
Sturms Place
Capri Terrace
Knoll Drive
Vittorio Court
GARDEN STATE PKWY
N
0 1,000 2,000 Feet
NJ Inland Design Flood Elevation
Park Ridge Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
RailRoad
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Park Ridge Borough 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	OEM Emergency Annex through county OEM
Capital Improvement Plan		x		
Local Emergency Operations Plan/Continuity of Operations Plan	x		2023	OEM Emergency Annex through county OEM
Floodplain Development Ordinance		x		
Floodplain Management Plan		x		
Stormwater Management Ordinance		x		
Stormwater Management Plan		x		
Watershed Management Plan		x		
Sheltering Plan	x			OEM Emergency Annex through county OEM
Evacuation Plan	x			OEM Emergency Annex through county OEM
Substantial Damage/Improved Structures Response	x			OEM Emergency Annex through county OEM
Repetitive Loss Plan		x		
Disaster Debris Management Plan	x			OEM Emergency Annex through county OEM
Tracking elevation certificates and/or Letter of Map Change		x		
Post-Disaster Recovery Plan	x			OEM Emergency Annex through county OEM
Current/recent redevelopment plans or studies		x		
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		

Administrative and Technical Capabilities

Park Ridge Borough 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

Park Ridge Borough 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, Park Ridge Borough 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		We have a state grant of $1.5 million for Mill Pond Dredging
Other FEMA resources	X		
NJ Infrastructure Bank	X		For one of our wells for PFAS treatment.
Other state municipal assistance or grant programs			
Evaluation process on the prioritization of risk reduction projects against other local activities	X		
Other ongoing efforts to build additional financial capabilities	X		

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last update provided, the Borough of Park Ridge has focused on enhancing flood resilience specifically around Davies Field which has sustained various flooding issues due to its location near Mill Pond "Silver Lake." Steps have been taken to alleviate any future damage to borough facilities, specifically the borough hall, through various flood gates and water damning. It is noted that steps are being taken to plan for dredging Mill Pond which should help with flooding due to tropical storms and hurricanes.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
47-01	Establish a CERT Team	The CERT team was formed, but no trailer of clothing was purchased.	All Hazards		Park Ridge OEM		TBD		Completed	
47-02	Mill Pond Dam Restoration	The dam was evaluated, and a scope of work was established. The work has since been completed, and the state has inspected and signed off on it.	Flood		Park Ridge OEM		TBD		Completed	
47-03	Install Elevate Generator at PD	Install Elevate Generator at PD.	Flood		Local OEM and Municipal Staff		$30,000.00		Completed	
47-04	Bank Stabilization Measures along the Pascack Brook	Bank stabilization was needed, along with removal of trees and roots along the brook. The scope of work was developed and implemented. The work was contracted and completed this year.	Flood		Park Ridge OEM		TBD		Completed	
47-05	Purchase Flood Caps/Panels	Purchase flood caps/panels.	Flood		Local OEM and Municipal Staff		$150,000.00		Completed	
47-06	Radio Communications/ Interoperability	Several radios were purchased through a grant the local Fire Department received.	All Hazards		Park Ridge OEM	The Borough was awarded a HMGP grant of $14,396 in	TBD		Completed	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
						2010 for a Multi-hazard Communication Project.				
47-07	Acquire Flood-prone Properties on West Side of Town		Flood		Local OEM and Municipal Staff		$400,000.00		Withdrawn	
47-08	Purchase Enhancements to Existing Generators	Purchase enhancements to existing generators	Flood		Local OEM and Municipal Staff		$75,000.00		Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
47-09	Clean and De-snag Mill Brook to Mitigate Flooding along Fifth St.	Clean and de-snag mill brook to mitigate flooding along Fifth St.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Park Ridge Borough	Municipal budget	$250,000.00	5 + years	Ongoing	
47-10	Install Radio Repeater in High School	Purchase emergency communications equipment to improve coordination between responders and to community members during disasters.	All Hazards	Medium	Borough Police and Schools	Homeland Security grants, Municipal budget	$40,000.00	5 + years	Ongoing	
47-11	Purchase a Mobile EOC Vehicle	Purchase a mobile EOC vehicle to improve Borough emergency services.	All Hazards	Medium	Park Ridge OEM	Municipal budget	TBD	2 years	Ongoing	
47-12	Purchase and Install Generators for West Ridge Elementary School	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough School District	FEMA HMA	$30,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
47-13	Purchase and Maintain Mobile Generators to Continue Critical Community Services during Utility Interruptions and Storm Events	Purchase and maintain generators to continue critical community services during utility interruptions and storm events. Prefer diesel multi-functional generators for multi-family and retirement centers.	All Hazards	Medium	Borough of Park Ridge	FEMA HMA	$100,000.00	5 + years	Ongoing	
47-14	Improve Cyber Security Through Providing Backup Data Locations, Purchasing Secondary Servers for Municipal Systems, and Providing Training in Cyber Security	Backup municipal data, purchase secondary servers for municipal systems, and provide training in cyber security.	Cyber Attack	Medium	Borough of Park Ridge	Homeland Security grants	TBD	1 year	Ongoing	
47-15	Elevate Generator at Fire Department	Elevate generator to continue critical community services during utility interruptions and storm events.	All Hazards	Medium	Borough Fire	FEMA HMA	$100,000.00	1 year	Ongoing	
47-16	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, and/or Running Fiber-optic in the Borough	Purchase and install surveillance cameras and FOB systems for critical facilities within the Borough, in addition to converting utilities to cellular and running fiber between shop and Borough Hall. These critical facilities include, but are not limited to, Borough Hall, wells, pump stations, transit stops, and places of worship.	Terrorism	Medium	Borough of Park Ridge	Homeland Security grants	TBD	3 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
47-17	Coordinate with Woodcliff Lake Borough to Reduce Flooding (i.e. Cleaning Brook, Installing Retention Walls) from Bear Brook	Coordinate with Woodcliff Lake Borough to reduce the flooding of Glendale Rd properties from Bear Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Park Ridge	FEMA HMA, Municipal budget (depends on project)	TBD	2 years	Ongoing	
47-18	Elevate Structures in Flood-prone Areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Currently, there are no RL/SRL properties in the borough.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	

48 – RAMSEY BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jake Englishman	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**
Peter Kilman	Councilman- Public Safety Committee Chair	Municipal Meeting
Tom Lanning	Assistant DPW Superintendent	Municipal Meeting
Judy Cusick	Councilman- Public Safety Committee Chair	Municipal Meeting
Jonathan Krehel	OEM Deputy Coordinator	Municipal Meeting

COMMUNITY PROFILE

Landscape

Ramsey is a borough in northwestern Bergen County, New Jersey, incorporated in 1908 from portions of Ho-Ho-Kus Township (now Mahwah). The borough, with a total area of 5.57 miles squared, is bordered by Bergen County municipalities of Allendale, Mahwah, Saddle River, and Upper Saddle River. It is served by several roadways providing access to New York State (including New York City) and several points within New Jersey. To the west of Ramsey Borough's boundary is open space including Ramapo Valley County Reservation, the Campgaw Mountain Ski Area, and Darlington County Park. Other recreational space within Ramsey includes Finch Park just north of central Ramsey. The southeastern border of Ramsey is made by Wyckoff Lake, running north to south from Ramsey Brook.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Ramsey is a predominantly residential community with residential (including apartment) use accounting for 59% of its area, covering 1,745.7 acres of land in 2022. In the same year, civic/public (tax exempt) land, commercial land, industrial, and vacant land made up 22%, 11%, 5%, and 3% respectively of its total area. Between 2016 and 2022, the 8 acres of farmland disappeared completely, while residential land increased by more than 100 acres. Commercial land increased by 29%, jumping from 246 acres to 317 acres.

The significant share of residential use, followed by civic/public (tax exempt), commercial use and industrial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 77% of the borough's total land, covering nearly 2,756 acres. Forested land, wetlands, and water followed, accounting for 13%, 7%, and 1% respectively of Ramsey's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	12.2	13.7	12%
Barren Land	1.6	7.2	350%
Forest	489	479.5	-2%
Urban	2752.4	2755.5	0%
Water	50.5	50.5	0%
Wetlands	261.2	260.5	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

None identified at this time by the borough.

Demographics & Vulnerable Populations

Ramsey Borough's total population is estimated to be 14,739. Of Ramsey residents, an estimated 3.3% are under age 5, and 13.6% are over age 65. The borough saw an estimated -2.5% population decline over the survey periods between 2013-2017 and 2018-2022. A notable population loss, if continued, may highlight potential hazard vulnerabilities to changing landscape conditions including loss of density, redevelopment, and potentially, mismatched reliance on local resources.

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	14,739
Population Change since 2017	-2.5%
Percent of Population Age < 5	3.3%
Percent of Population > 65	13.6%

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 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	Dam Failure
	Extreme Wind	Storm Surge
	Drought	Wave Action
	Flood	Earthquake
	Winter Storm	Coastal Erosion
	Lightning	Landslide
		Wildfire
	Human-made Hazards	
	Cyber Attack	Pandemic
	Terrorism	Civil Unrest
	Power Failure	

Hurricane/Tropical Storm, Extreme Temperatures, Tornado and Economic Disruption were identified as N/A.

Hazard Ranking Explanation

The Borough of Ramsey is susceptible to both natural and human-made hazards. Severe weather remains a persistent concern, with past events including damaging snowstorms, flooding, lightning, and high winds. While these prioritized natural hazards pose significant risks, human-made hazards are also ranked higher in priority due to their potential impact and likelihood. These include cyber-attacks, power outages, and terrorism, particularly given Ramsey's frequent public gatherings, vulnerability to downed power infrastructure, and past incidents involving cyber system compromises.

Significant Hazard Events Since Last Plan Update

Since the last Hazard Mitigation Plan update, Ramsey has experienced an uptick in flooding at the end of DeBaun Avenue and along the lakefront homes on Ronald Court. Flooding has also been observed along the Ramsey Brook, near Spear Road. It was observed that on multiple occasions, several homes and properties experienced food damage. There has also been severe erosion along Ramsey Brook due to increased rainfall, causing water to crest the brook's banks.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Ramsey. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplains running through the borough's center. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 14% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Ramsey Borough	
Number of Policies In-Force:	53
Total Losses:	35
Total Payments:	$170,383.18
Number of RL Properties:	-
Number of Mitigated RL Properties:	-
RL – Total Losses:	-
RL – Total Paid:	-
Number of SRL Properties:	-
Number of Mitigated SRL Properties:	-
SRL – Total Losses:	-
SRL – Total Paid:	-

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

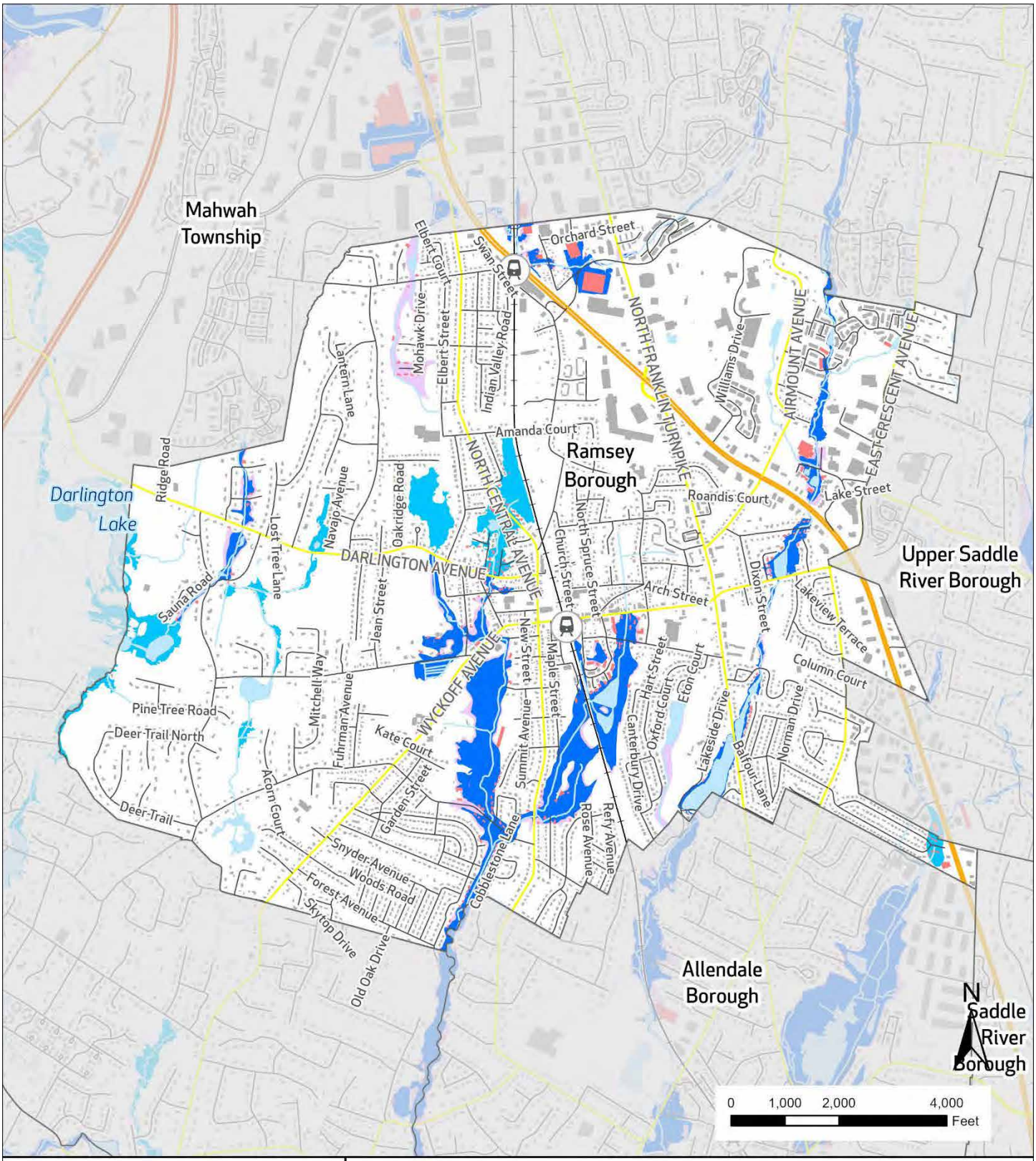
The Special Flood Hazard Area (SFHA) in the Borough of Ramsey is primarily located adjacent to the various streams of the borough: Darlington Brook, Masonicus Brook, Ramsey Brook, and Valentine Brook. Approximately 8 percent of the total area of Ramsey lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 77.6 percent of Ramsey is considered developed. Of the developed parcels of the town, 8.4 percent fall at least partially within the 1% annual chance floodplain and 5.6 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	8.4	5.6
Exposed Land Area	8.0	1.6

During the planning process, Ramsey Borough 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 nine total facilities. Of these facilities, none are within the floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Ramsey Borough

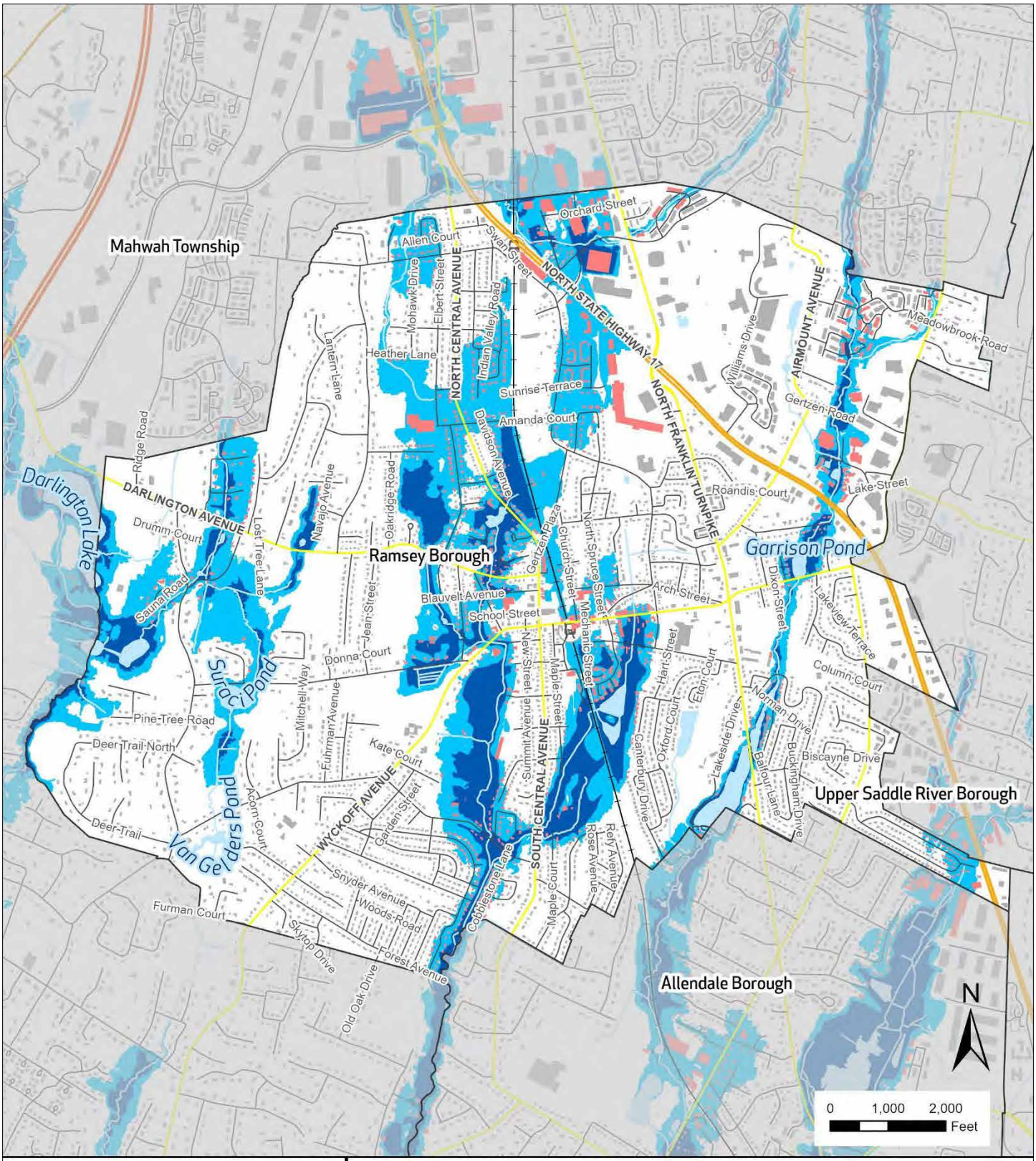
FEMA Flood Zone

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

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Ramsey Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Ramsey Borough 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		2021	
Capital Improvement Plan	X		2021	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Identification of damaged/improved structures begins with an assessment from the borough construction department. These structures are brough in compliance and enforced by the construction department, borough engineer, zoning/planning board.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			They are received and filed in the Borough Engineer's office.
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Ramsey Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer (full-time municipal employee; not a CFM)
Grant Writer	X		Bruno Associates
Staff trained to support mitigation	X		Ramsey Office of Emergency Management, Borough Engineer, Borough Administrator, Governing Body
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

Ramsey Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Ramsey Borough 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		State funded floodwater management grant of $15,000
Evaluation process on the prioritization of risk reduction projects against other local activities	X		The Borough prioritizes risk reduction projects by taking in account life safety and property damage.
Other ongoing efforts to build additional financial capabilities	X		The small municipality of Ramsey is constantly seeking funding to assist with mitigation efforts. Therefore, there is a constant initiative to build financial capabilities through grant money.

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last Hazard Mitigation Plan update, the Borough of Ramsey has directed its focus to enhance flood control studies/measures, improve emergency response capabilities, and upgrade/install security devices. Actions would include identifying remediation methods along the Ramsey Brook to prevent cresting, continue hosting training among first responder agencies, and install target hardening and monitoring devices throughout town. Over the next several years, the Borough of Ramsey aims to prioritize comprehensive risk reduction efforts by implementing long-term infrastructure improvements, fostering inter-agency collaboration, and ensuring community resilience through proactive planning and public engagement.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
48-01	Repair the Overflow Release Gate at the Crystal Spring Lake Dam	Repair the overflow release gate at the Crystal Spring Lake Dam along the Ramsey Brook.	Dam and Levee Failure, Flood	High	Ramsey Municipal Engineer/ Ramsey Golf and CC Engineering	NJDEP Bureau of Dam Safety and Flood Control	$1,000,000	3 years	Completed	Completed in 2024.
48-02	Create a Hazard Planning Committee to Solve Joint Municipal Planning Issues	Create a local/area wide Hazard planning Committee to solve joint municipal planning issues.	All Hazards	Low	Ramsey, Mahwah, Allendale	Municipal budget	$0 0	3 years	Completed	Completed in 2024.
48-03	Purchase Mobile Emergency Generators for Critical Facilities	Provide mobile emergency backup generator capable of powering the entire critical facility in the event of a power failure such as experienced during Hurricane Sandy.	All Hazards	Medium	Ramsey Municipal Engineer, Public Works, Superintendent	FEMA HMA and local municipal funding	$500,000	3 years	Completed	Completed in 2024. Acquired government property. The cost was $0.00.
48-04	Purchase and Maintain 10,000-watt Generators for Critical Facilities and Lift Station to Continue Critical Community Services During Utility Interruptions	Purchase and maintain 10,000-watt generators to continue critical community services during utility interruptions and storm events at critical facilities and lift stations.	All Hazards	Medium	Borough OEM	FEMA HMA	$200,000	1 year	Completed	Completed in 2024. Completed in 2024. Acquired government property. The cost was $0.00.

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
48-05	Purchase and Install Backup Servers and Off-site Data Storage for Police and Municipal Use	Purchase and Install backup servers and off-site data storage for Police and municipal use.	Cyber Attack	Mediu m	Borough Administrati on, Borough IT	Homeland Security grants	$5,000	1 year	Completed	Completed in 2024 due to a cyber attack. Cost was covered by insurance to restore normalcy.
48-06	Purchase Hookups and Mobile Generators for Traffic Lights on Evacuation Routes	Purchase and install 2,000-watt mobile generators and hookups at traffic lights along evacuation routes. Coordinate with Bergen County to also protect evacuation routes along county roads.	All Hazards	Mediu m	Borough	FEMA HMA, Borough Funds	$100,000 .00	1 year	Completed	Completed in 2024.
48-07	Active Shooter Training for Places of Worship	Provide places of worship with active shooter training to protect against acts of violent extremism.	Terrorism	Low	Borough	Homeland Security grants	$0.00	1 year	Completed	Completed in 2024. Completed by the police department on a training day that did not incur financial burden.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimat e	Time-line	Action Status	Notes
48-08	Prune Trees That Can Cause Power Disturbances	Trees throughout Ramsey were pruned by the utility at various times. Maintenance continues.	Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Orange and Rockland Electric Utility	O&R Municipal Budget	$150,000	3 years	Ongoing	This is an ongoing project to protect utility infrastructure. Orange and Rockland provide this service at zero cost to the borough. The borough Shade Tree Commission also conducts assessments and maintains vegetation that may jeopardize Ramsey's utilities.
48-09	Purchase and Install a Generator for Ramsey DPW and Westside Fire Station	Provide an emergency backup generator capable of powering the entire critical facility in the event of a power failure such as experienced during Hurricane Sandy.	All Hazards	Medium	Ramsey Municipal Engineer and DPW	FEMA HMA, Municipal Financies, CDBG-DR	$87,000	3 years	Ongoing	Ramsey is prioritizing this effort in an attempt to power essential locations during times of power outages. Ramsey will be looking into various methods to protect our infrastructure.
48-10	Continue to Protect Water Systems through	Certain security measures have been implemented. Locking devices installed.	Flood, Terrorism, Nor'easter,	Medium	Ramsey DPW Water Department	Municipal budget, Homeland	$250,00 0	3 years	Ongoing	Ramsey studied various security devices. We plan to prioritize further securing our infrastructure due to it

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	the Installation of Security Cameras and Tamper Alarms	PD observance. Security cameras and tamper alarms are needed.	Hurricane and Tropical Storm, Severe Weather			Security grants				being a critical component of our community.
48-11	Perform a Study on How to Reduce Flooding from Valentine and Ramsey Brooks	Perform an engineering and resiliency study to understand potential corrective measures to reduce roadway flooding.	Flood	Low	Bergen County & Borough of Ramsey	Municipal budget	$2,000,000	3 years	Ongoing	Ramsey plans to prioritize flooding studies for residents have been stranded before and during a storm event due to flooding from the Ramsey Brook. This is in an effort to preserve life and property.
48-12	Construct Flood Control Measures	Construct flood control measures.	Flood	High	Ramsey and Bergen County Engineers	FEMA HMA	$500,000	3 years	Ongoing	Ramsey plans to prioritize flood control measures for residents that have been stranded before and during a storm event due to flooding from the Ramsey Brook. This is in an effort to preserve life and property.
48-13	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	There are currently no RL/SRL properties; however, that may change for the borough with SLR and climate change. There are flood-prone properties that are a result of nuisance flooding.	Flood	Medium	Private and Federal	FEMA HMA	$1,500,000	3 years	Ongoing	Ramsey plans to investigate and prioritize flood proofing measures for residents that have been stranded before and during a storm event due to flooding from the Ramsey Brook. This is in an effort to preserve life and property.
48-14	Purchase Traffic Diversion Barriers	Purchase moveable traffic diversion barriers that can be deployed when needed and stored when not needed.	Terrorism	Medium	Borough	Homeland Security grants, municipal budget	$180,000	1 year	Ongoing	Ramsey will continue prioritize the purchase of traffic safety devices that will help harden local community events and roadway closures in an effort to preserve life and property.
48-15	Install Surveillance Equipment for Critical locations including DPW, State Highways, Downtown Shopping District,	Install surveillance equipment at critical facilities including at the Department of Public Works, public library, and train station.	Terrorism	Medium	Borough	Homeland Security grants	$180,000	1 year	Ongoing	Ramsey will continue prioritizing the purchase of security monitoring devices that will help harden local community facilities and areas to maintain an overwatch of possible criminal and suspicious activities.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Public Library, and Train Station									
48-16	Coordinate with County OEM for Additional Training for Emergency First Response	Coordinate with county OEM for additional training for first response.	All Hazards	Low	Borough	Municipal budget, County budget	$30,000	1 year	Ongoing	Ramsey will prioritize the funding for full-scale exercises and training for first responders. This will better coordinate our response efforts to critical incidents.
48-17	Connect the Verizon Tower at Erie Plaza to the Communication Shed	Create a physical connection between the Verizon tower at Erie Plaza and the communication shed dedicated to the Borough of Ramsey.	Cyber Attack	Low	Borough	Municipal budget	$200,000	1 year	Ongoing	Ramsey has identified a possible communications failure that will take priority in the mitigation process. A fiber loop is necessary for points of redundancy if the main fiber system goes down.
48-18	Target Harden Community Center by Purchasing and Installing Surveillance Cameras and a Generator, in Addition to Security Personnel	New community center is under construction, but will require target hardening, surveillance, and generators once it is built.	Terrorism	Medium	Borough	FEMA HMA, Borough Funds, Homeland Security grants	$500,000	2 years	Ongoing	Ramsey will continue prioritize the purchase of security monitoring devices and a generator that will help harden the local community facility.
48-19	Purchase a Mobile Surveillance Van or Mobile Command Post	Purchase a mobile surveillance van or mobile command post to be deployed at major Borough events and for heightened security when necessary.	Terrorism	Low	Borough	Homeland Security grants	$280,000	1 year	Ongoing	Ramsey is in need to prioritizing mobile command vehicles to assist with large scale events. This will enhance better coordination and include technology that isn't currently accessible.

49 – RIDGEFIELD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Joseph Greco	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Craig Zimmerman	Borough Engineer (Colliers Engineering)	Strategy Discussion
Greg Yfantis	Floodplain Administrator	Strategy Discussion

COMMUNITY PROFILE

Overview

The Borough of Ridgefield spans approximately 2.87 square miles and is located in southern Bergen County, New Jersey. It is unofficially divided into three sections because of the geographical contour of the land. The first section is Ridgefield, and it lies partly in the valley, on both the east and west of the borough. The second section, called Morsemere, is named by a real estate development company in honor of Samuel F.B. Morse, inventor of the telegraph key and the Morse Code, lies in the northern part of the borough. The third section is Ridgefield Heights, on the second hill in the extreme eastern part of the borough, running from north to south. The Overpeck Creek runs from east to west along the northern border of Ridgefield, while the Hackensack River flows from north to south along the borough's western border. The Hackensack River then branches to the east along Ridgefield's southern border, before splitting into more tributaries including the Wolf Creek. Several channels connecting to the Hackensack River spread over the western and southern part of the borough. given its proximity to Hackensack River, and other water bodies, the borough is particularly vulnerable to flooding. The population of Ridgefield is approximately 11,501 residents. Ridgefield is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Ridgefield is a predominantly residential community with Residential (including Apartment) use accounting for 55% of its area, covering nearly 348 acres in 2022. In the same year, civic/public (tax exempt) land, industrial land, commercial land, and vacant land made up 16%, 14%, 10%, and 6% respectively of its area. Between 2016 and 2022, civic/public (tax exempt) land increased by 16 acres, while vacant land and land designated as railroad property decreased by 13 acres and 5 acres respectively.

The significant share of residential use, followed by civic/public (tax exempt), industrial and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 68% of the borough's total land. Wetlands, water and forest land followed, accounting for 14%, 13%, and 4% of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	4.2	17.1	307%
Forest	81.0	70.0	-14%
Urban	1247.3	1246.7	<1%
Water	239.8	239.9	<1%
Wetlands	254.7	253.3	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

None identified at this time by the borough.

Demographics & Vulnerable Populations

Ridgefield Borough has a total population of an estimated 11,465. Of Ridgefield residents, an estimated 2.5% are under age 5 and 14.8% are over age 65. Ridgefield's population has remained steady over ACS survey periods of 2013-2017 and 2018-2022, estimating an 0.84% increase. Ridgefield may identify potential hazard vulnerabilities with an aging population making up nearly fifteen percent of all residents – to target these populations pre-disaster, plans may encompass populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

There are eleven block groups in Ridgefield, nearly the borough's entire area, which meet criteria as overburdened communities (OBC) according to the State of New Jersey. Of these, eight block groups qualify due to indicators of *Minority* populations, one due to indicators of *Low-Income* populations, and two due to indicators of *Low Income and Minority* populations. No areas of Ridgefield Borough meet criteria for qualification as CEJST or CDRZ communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	11,465
Population Change since 2017	0.8%
Percent of Population Age < 5	2.5%
Percent of Population > 65	14.8%

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

Wave action was ranked as N/A.

Hazard Ranking Explanation

The borough ranked flood as a hazard of high concern because it frequently experiences flooding. During heavy rainfall, Overpeck Creek, which flows in the Hackensack River, typically overflows, flooding and several areas of the borough. However, it should be noted that floodgates installed by U.S. Route 46 have partially addressed the flooding from Overpeck Creek. The borough also experiences flooding from wolf creek.

The borough ranked extreme wind as medium because it experiences strong winds blowing wind blowing from the Meadowlands. It also ranked dam failure as medium because it is the last community downstream by the Hackensack River, and as a result, prone to flooding from potential failure of the Oradell reservoir, Zabriskie Pond dam, and Indian Lake reservoir.
Among the human-made hazards, the borough ranked cyber-attacks as medium owing to its experience with phishing attempts. Additionally, because the borough is home to several utility lifelines including a PSE&G station, terrorism was ranked as a hazard of medium concern.

Significant Hazard Events Since Last Plan Update

The last significant hazard experienced by the borough was Hurricane Ida in 2021, which caused substantial damage withing its jurisdiction.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Ridgefield. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding, and the floodplain constituting the western part of the borough. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the boroughs over 15% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Ridgefield Borough	
Number of Policies In-Force:	82
Total Losses:	126
Total Payments:	$2,897,614.89
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	26
RL – Total Paid:	$600,300.77
Number of SRL Properties:	2
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	10
SRL – Total Paid:	$315,374.18

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

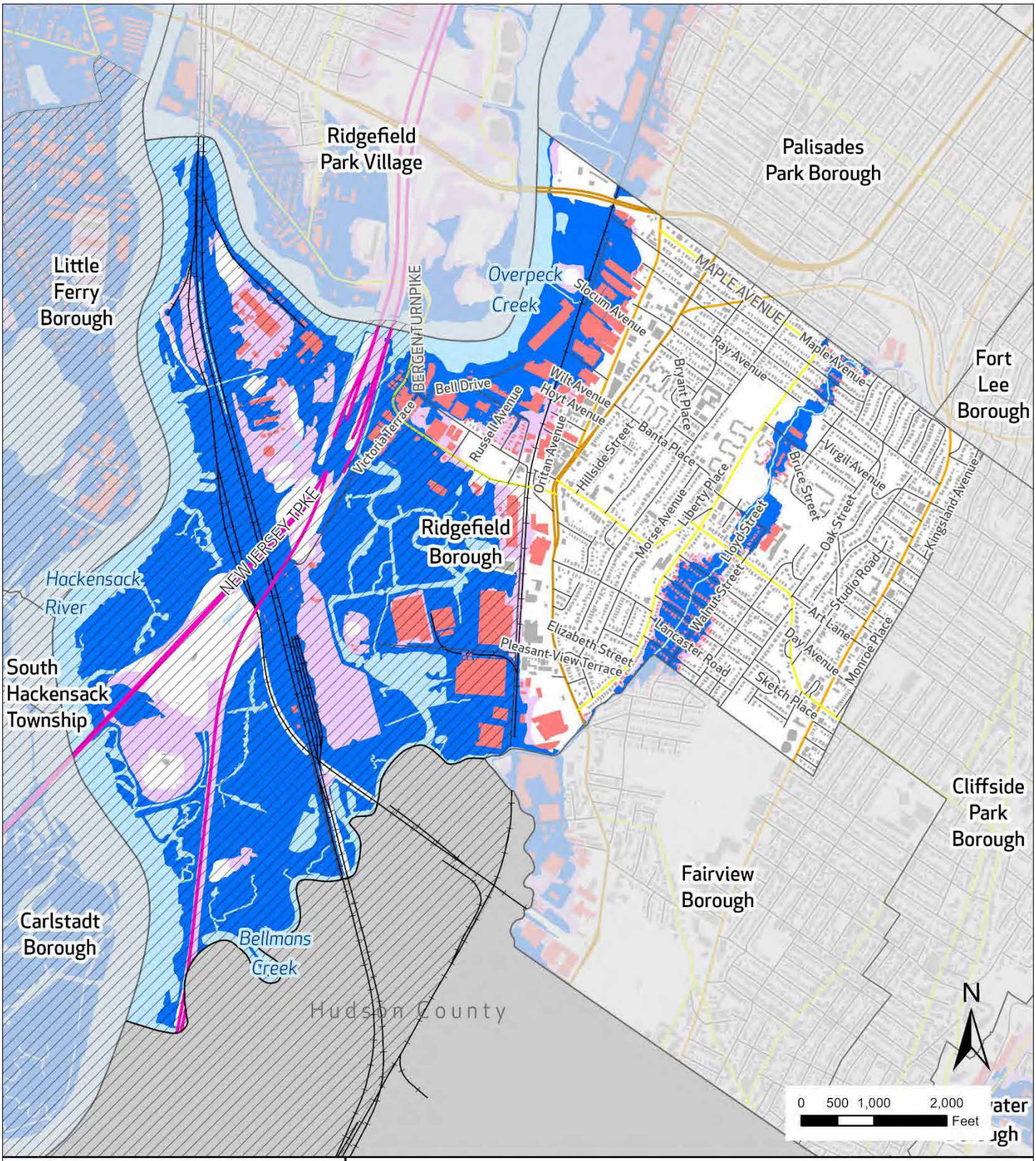
The Special Flood Hazard Area (SFHA) in the Borough of Ridgefield is primarily located adjacent to the various streams of the borough: Overpeck Creek, Wolf Creek, and the western portion of the borough that is considered part of the Meadowlands District. Approximately 49.8 percent of the total area of Ridgefield lies within the 1% annual chance floodplain as defined by FEMA. An additional 10.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 79.3 percent of Ridgefield is considered developed. Of the developed parcels of the borough 13.7 percent fall at least partially within the 1% annual chance floodplain and 10.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	13.7	10.2
Exposed Land Area	49.8	10.1

During the planning process, Ridgefield Borough 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 14 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 1% annual chance floodplain and two are within the 0.2% annual chance area. None are within the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Energy	-	1
Safety and Security	1	1



Flood Hazard

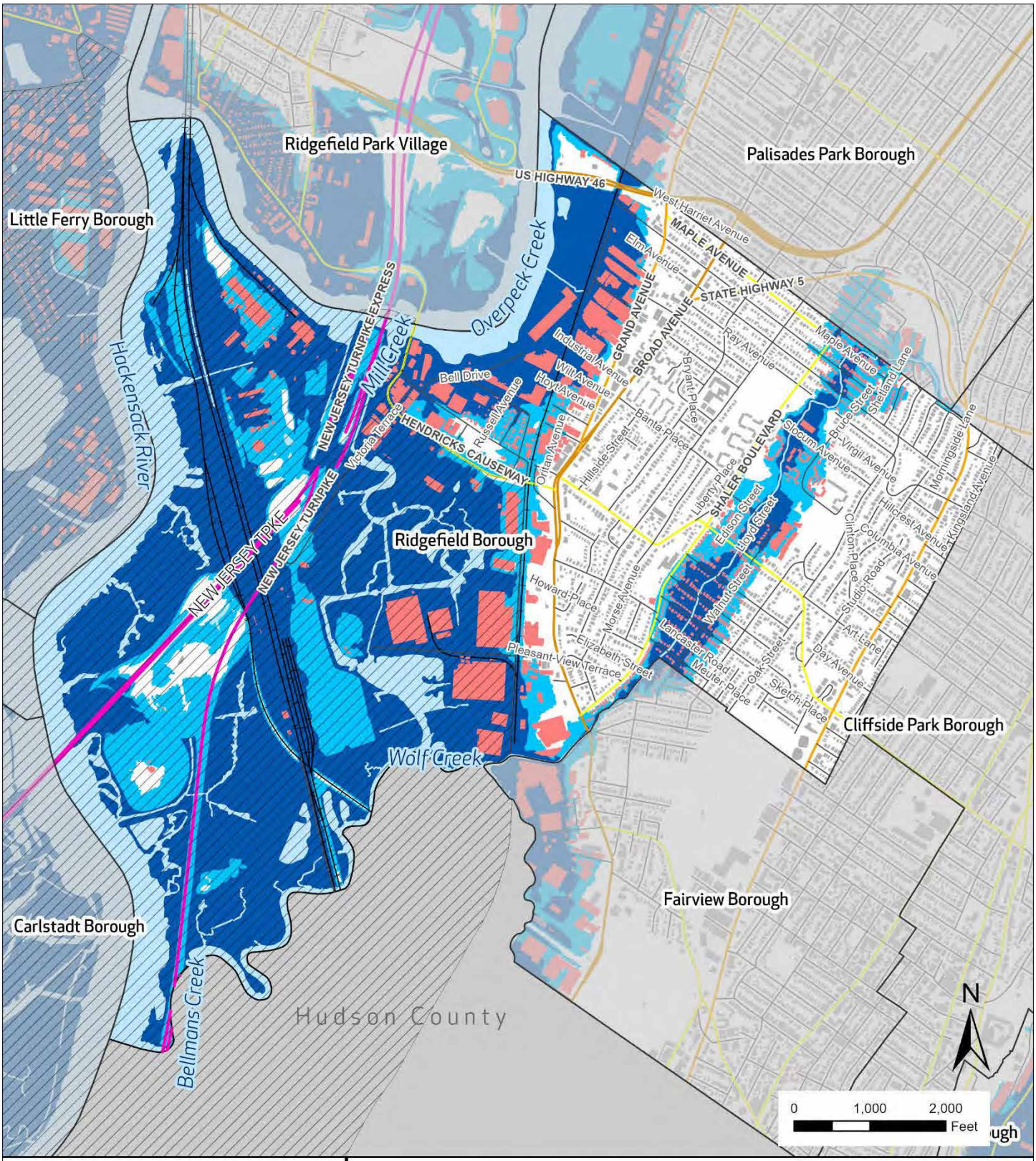
Ridgefield Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- New Jersey Tpke
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

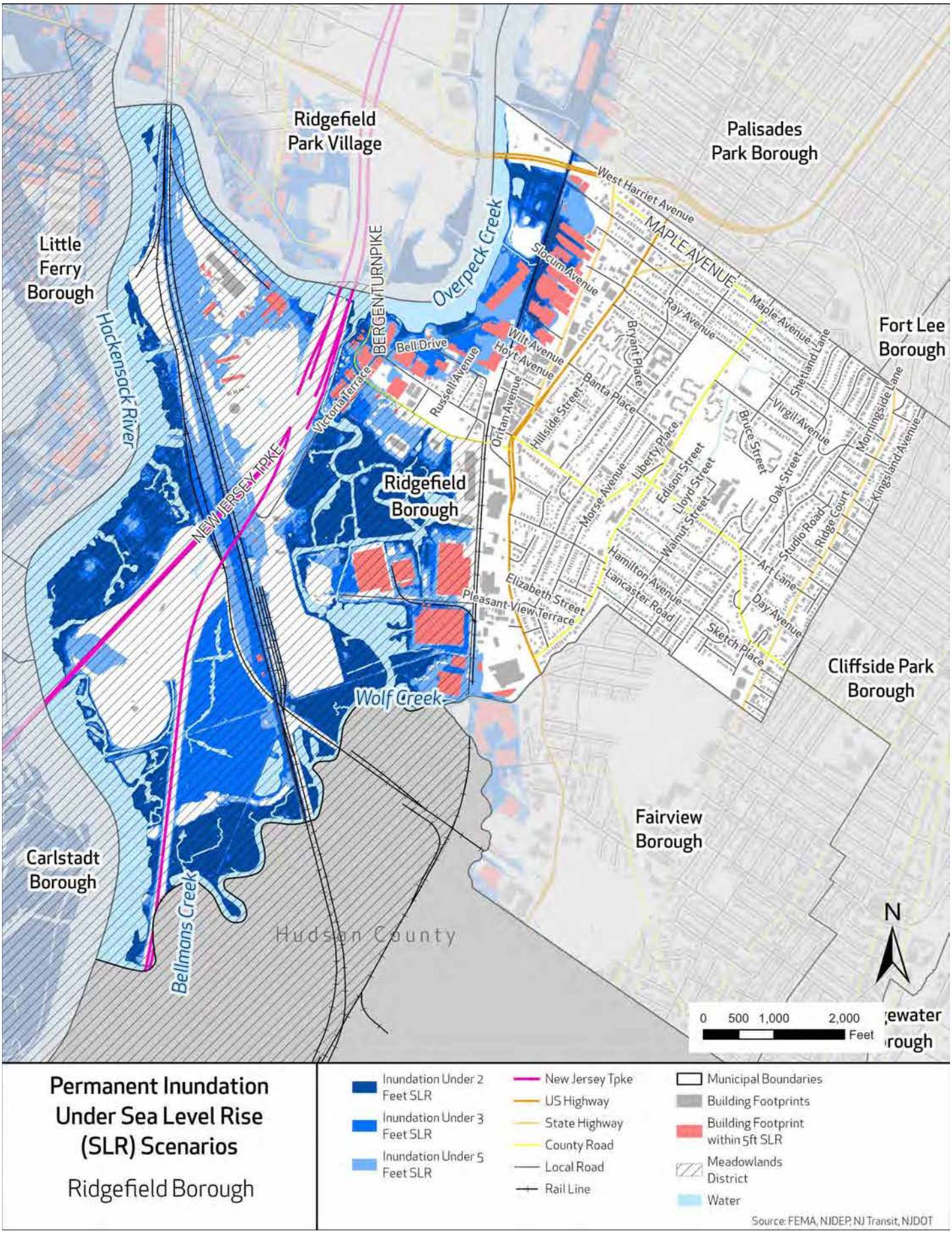


NJ Inland Design Flood Elevation

Ridgefield Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- US Highway
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Ridgefield Park Village
Palisades Park Borough
Little Ferry Borough
Fort Lee Borough
Ridgefield Borough
Cliffside Park Borough
Fairview Borough
Carlstadt Borough
Hudson County
Overpeck Creek
Hackensack River
Wolf Creek
Bellmans Creek
BERGEN TURNPIKE
NEW JERSEY TPKE
MAPLE AVENUE
West Harriet Avenue
Slocum Avenue
Ray Avenue
Maple Avenue
Shetland Lane
Bryant Place
Wilt Avenue
Hoyt Avenue
Bell Drive
Victoria Terrace
Russell Avenue
Orlan Avenue
Hillside Street
Banta Place
Virgil Avenue
Bruce Street
Morningside Lane
Kingsland Avenue
Liberty Place
Edison Street
Lloyd Street
Morse Avenue
Oak Street
Studio Road
Ridge Court
Walnut Street
Hamilton Avenue
Lancaster Road
Art Lane
Day Avenue
Elizabeth Street
Pleasant View Terrace
Sketch Place
N
0 500 1,000 2,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Ridgefield Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Ridgefield Borough 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		02/2024	
Capital Improvement Plan	X		2024	Supported Wolf's Creek Cleanup Project
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X			Borough has not modified the Ordinance. It follows State requirements. Update is planned for 2025.
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	Borough has not modified the Ordinance. It follows State requirements.
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Borough follows State compliance rules; if 50% of the damage is due to flooding, property is identified as substantially damaged
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			Block and lot with property file
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Steep Slope

Administrative and Technical Capabilities

Ridgefield Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Floodplain Administrator is the Building Code Official and works part-time as Floodplain Administrator. Not a Certified Floodplain Administrator.
Grant Writer	X		Contractor
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		Borough Engineer
Organizations that work with socially vulnerable or underserved populations		X	Environmental Commission

Education and Outreach Capabilities

Ridgefield Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Borough website/Health Fair/RAVE
StormReady		X	Police Department sends out a Nixle message
Firewise USA		X	Police Department sends out a Nixle message
Severe Weather Awareness Week	X		
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Ridgefield Borough 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			
Other state municipal assistance or grant programs	X		
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Case-by-case evaluation. Depends upon the severity of the risk.
Other ongoing efforts to build additional financial capabilities	X		Wolf Creek Cleanup Project

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Ridgefield is committed to improving its mitigation action strategy over the next five years. We have already completed multiple actions and have started on multiple others like the wolf creek cleanup and erosion control and the replacement of stormwater and sewer lines. Our priority over the next five years is to continue the dredging of wolfs creek, repairing more stormwater and sewer lines, public education, and training OEM and fire department personnel in swift water rescue training.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
49-01	Purchase and Install Upgrades to Reception Center to Achieve Full Shelter Status	Purchase and Install upgrades to reception center to achieve full shelter status	All Hazards		Local OEM and Municipal Staff		$5,000.00	60 days	Completed	
49-02	Review and revise local ordinance using FEMA guidance	Review and revise local ordinance using FEMA guidance	All Hazards		Local OEM and Municipal Staff		$5,000.00	6 months	Completed	
49-03	Install Bollards, Fencing, and Security Cameras at the New Borough Hall	Install bollards, fencing, and cameras at new Borough Hall located at 700 Shale Blvd.	Terrorism	Medium	Local OEM and Municipal Staff	Homeland Security grants	n/a	2 years	Completed	Equipment has been installed and is up to date. Cost estimates were added into the construction of the new borough hall building in 2022.
49-04	Elevate the Intersection of River Street and Russell Avenue to Mitigate Flooding from Overpeck Creek	Elevate the intersection at River St and Russell Ave to mitigate flooding. The intersection of River Street and Russel Ave is located in Zone A of the SHFA and the location of a Repetitive Loss Property.	Flood	High	Local OEM and Municipal Staff	FEMA HMA, Municipal Budget	$250,000.00	1 year	Withdrawn	Elevation will not mitigate flooding.
49-05	Transition Borough Health Records to Electronic Format and Remove from Flood-prone Area	Back up important records from the Health Department that are currently stored at the community center.	All Hazards	Low	Local OEM and Municipal Staff	Municipal Budget	n/a	1 year	Withdrawn	Health Administration refused to move health records.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
49-06	Purchase Additional Anchorage of Outdoor Emergency Communications and PA System and Upgrade Sirens	Provide for additional anchorage of outdoor emergency communications and public alert system, and upgrade sirens.	All Hazards	Medium	Borough	Capital Improvement/Communications grants, Municipal Budget	$50,000.00	2 years	Ongoing	Siren on tower, on account of being damaged by parrots, was taken out. Borough plans to relocate the parrots before redoing siren.
49-07	Provide Public Outreach on Hazard Mitigation through the Health Day Fair, School Outreach, and Other Information Materials	Provide public outreach to the borough about hazard mitigation through the Health Day Fair, school outreach, and other information materials.	All Hazards	Low	Local OEM and Municipal Staff	Municipal Budget	$5,000.00	5 + years	Ongoing	Borough conducts public outreach each year through pamphlets and its public website.
49-08	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties near Overpeck Creek and Wolf Creek	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties near Overpeck Creek and Wolf Creek	Flood	High	Property owner with Borough support	FEMA HMA	$1,500,000.00	5 + years	Ongoing	Currently, property owners are not interested because they have not experienced severe flooding.
49-09	Dredge Wolf Creek and Provide Sediment and Erosion Control	Dredge Wolf Creek to improve its flow and control erosion, and build retaining walls where necessary.	Flood, Coastal Erosion	Medium	Borough	Municipal Budget	$500,000.00	5 + years	Ongoing	Borough needs assistance in cleaning up debris in addition to dredging Wolf Creek.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
49-10	Inspect Water and Sewer Lines with Cameras	Hire an outside company to do camera work to check the conditions of the water and sewer lines.	Flood	Medium	Local OEM and Municipal Staff	Municipal Budget	$20,000.00	1 year	Ongoing	Borough plans to inspect aging water and sewer lines.
49-11	Replace Deteriorating Water and Sewer Lines	Replace deteriorating water and sewer lines.	Flood	Medium	Local OEM and Municipal Staff	Municipal Budget	$50,000.00	1 year	Ongoing	
49-12	Purchase Mobile Pumps to Assist During Power Outages	Purchase mobile pumps to assist with the power is out.	Flood	Medium	Local OEM and Municipal Staff	Municipal Budget	$2,000.00	1 year	Ongoing	Borough needs more pumps.
49-13	Acquire a 40-ft Storage Container to Store Hazard Mitigation Equipment	Acquire a 40-ft storage container to store hazard mitigation equipment	All Hazards	Medium	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	$5,000.00	1 year	Ongoing	
49-14	Provide Ongoing Stormwater Maintenance and Education on Littering	Install grate plates on storm sewers with educational stickers to prevent trash from washing down.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Local OEM and Municipal Staff	Municipal Budget	$5,000.00	1 year	Ongoing	Borough has prepared pamphlets and flyers.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
49-15	Purchase and Install Generators for Firehouse 1, Firehouse 3, and the Ambulance Corps Building	Acquire generators for Firehouse 1, Firehouse 3, and the ambulance corps building. Natural gas is preferred.	All Hazards	Low	Local OEM and Municipal Staff	FEMA HMA	$170,000.00	1 year	Ongoing	Borough dropped plan of integrating firehouses.
49-16	Purchase a Variable Message Sign to Assist with Evacuations	Purchase a variable message sign to assist with evacuations.	All Hazards	Medium	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	$3,000.00	1 year	Ongoing	Borough wants to put up sign on top of firehouse.
49-17	Construct Drainage Enhancements (i.e. New Drainage Systems, Natural Buffers, Detention System) at River Street to Mitigate Flooding from Overpeck Creek	Design and construct drainage enhancements at River St to mitigate flooding.	Flood	Medium	Local OEM and Municipal Staff	FEMA HMA, Municipal Budget	$250,000.00	1 year	Ongoing	
49-18	Assist Homeowners Acquire Funding to Build Seepage Pits/Drywells	Assist homeowners acquire funding to build a sump pump and so are required to also have seepage pits/drywells.	Flood	Low	Local OEM and Municipal Staff	Municipal Budget	$120,000.00	1 year	Ongoing	Zoning board requires homeowners to install sump pumps and seepage pits/drywells.
49-19	Purchase High-Water Rescue Vehicle, Gear for Staff and Train Staff in Swiftwater Rescue	Purchase High-Water Rescue Vehicle and necessary gear for 15 personnel, and train staff in Swiftwater rescue.	Flood	Medium	Local OEM and Municipal Staff	Municipal Budget	$120,000.00 for gear	2 years	New	OEM members working with fire department personnel to conduct civilian evacuations in flooded areas of the borough.

50 – VILLAGE OF RIDGEFIELD PARK

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Mike Lauer	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**

COMMUNITY PROFILE

Overview

The Village of Ridgefield Park spans approximately 1.91 square miles and is located in the southeastern part of Bergen County, New Jersey. It is surrounded with water on three sides. The Hackensack Riven flowing along its western border while the Overpeck Creek runs from north to south along its eastern border and from east to west along its southern border. Major landmarks in Ridgefield Park include the Overpeck County Park, Ridgefield Park Memorial Park and the Ridgefield Park Arts Center. Highways passing through the village include Interstate 80, Interstate 95 (the New Jersey Turnpike) and U.S. Route 46. The population of the village is about 13,150. Despite being surrounded by water on three sides, Ridgefield Park is not considered a coastal community, as it is inland and bordered by rivers and creeks rather than the ocean.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Ridgefield Park Village is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 48% of the total land use, and covering nearly 333 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, comprising 29% and 13% respectively of the total land use in the same year. From 2016 to 2022, vacant land decreased by a third (about seven acres) to 12 acres total. Commercial and civil/public (tax exempt) increased by 13% and 12% respectively.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 85% of the area in 2020. Forest and water categories followed, accounting for 7% and 5% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	14.7	13.9	-5%
Forest	93.1	74.4	-20%
Urban	972.4	991.9	2%
Water	131.3	131.2	-<1%
Wetlands	18.5	18.5	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Officials report that Ridgefield Park is almost completely built out. The last large scale residential development in the village was Ryan Lombardy Tower, which was built in 1968. Officials report that there is a 14-acre tract of land that is suitable for development. This tract was planned to be developed in the past five years but was then foreclosed. If developed, this tract will impact the regulatory floodplain.

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

None identified.

Demographics & Vulnerable Populations

Ridgefield Park Village has a total population estimated at 13,161. Of this population, an estimated 6.9% are under age 5, and 14.7% are over age 65. The Village has had steady population over survey periods of 2013-2017 and 2018-2022, with an estimated 0.70% change. With an aging population making up nearly fifteen percent of the village's residents, Ridgefield Park may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Ridgefield Park's entire area qualifies as an overburdened community (OBC), with twelve block groups meeting criteria for overburden due to indicators of Minority population vulnerabilities. No parts of Ridgefield Park have been identified as CDRZ or CEJST designated communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	13,161
Population Change since 2017	0.7%
Percent of Population Age < 5	6.9%
Percent of Population > 65	14.7%

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 high, medium, low, or no concern. The following include the village's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal Erosion, Landslide, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

Coastal erosion and wave action have been ranked as N/A (not applicable) by the village planning team as Ridgefield Park is an inland community. Landslide has also been ranked N/A as the village is flat and there are no landslide areas.

Although Ridgefield Park is an inland community, the stretch of the Hackensack River which passes through the village is tidally influenced so storm surge is a concern and has been ranked medium. Flood has also been ranked medium, with the village reporting the worst flooding they have seen occurs during rainfall events coinciding with storm surge. There are

tide gates along the Hackensack River which are closed during events, however, when the gates are closed, the water from upstream backs up and has nowhere to go causing issues.

Lightning is ranked low. Ridgefield Park is in a depression; other areas nearby see more storms. Additionally, the village has a lightning detection system in place. Tornado is also ranked low. Ridgefield Park has never experienced a tornado event according to the village planning team. Winter storm is ranked low with about two events occurring a year that require plowing. Dam failure is ranked low. The nearest dam is 10 miles upstream on the Hackensack River. Although a dam failure could create a problem under extreme circumstances.

Discussing human caused hazards, the village ranked cyber-attack as low. Ridgefield Park reports experiencing a ransomware attack 10 years ago at which point IT upgraded security. Power failure has also been ranked low as most village buildings have generators, and the village reports that the grid is reliable.

Significant Hazard Events Since Last Plan Update

The sole significant hazard event reported by the village since 2021 was the remnants of Hurricane Ida. The village experienced flooding in the southern point of village where Overpeck Creek runs into the Hackensack River. This area contains about 50 homes and flooded until they opened the tidal gates which were closed to prevent storm surge. Basements flooded and streets got about 6 to 8 inches of water. Additionally, throughout the village, trees went down, causing temporary road closures and power outages. It was reported that DPW took care of the issue quickly.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Village of Ridgefield Park. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, exacerbating existing vulnerabilities, particularly in areas prone to flooding. Projected sea level rise could exacerbate flooding issues such as those mentioned by the village that result from storm surge. As the low-lying areas surrounding the Hackensack River and Overpeck Creek become inundated, upstream areas will see worsened flooding as water "backs up" in the stream. Additionally, although Ridgefield Park did not identify any anticipated development, in the future, any development within the city or upstream within the watershed, could increase the amount of runoff entering the water bodies of the village. Actions identified by the village's mitigation strategy focused on flood risk reduction should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Village of Ridgefield Park	
Number of Policies In-Force:	210
Total Losses:	246
Total Payments:	$3,468,830.89
Number of RL Properties:	43
Number of Mitigated RL Properties:	0
RL – Total Losses:	106
RL – Total Paid:	$2,086,101.05
Number of SRL Properties:	4
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	21
SRL – Total Paid:	$444,305.69

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

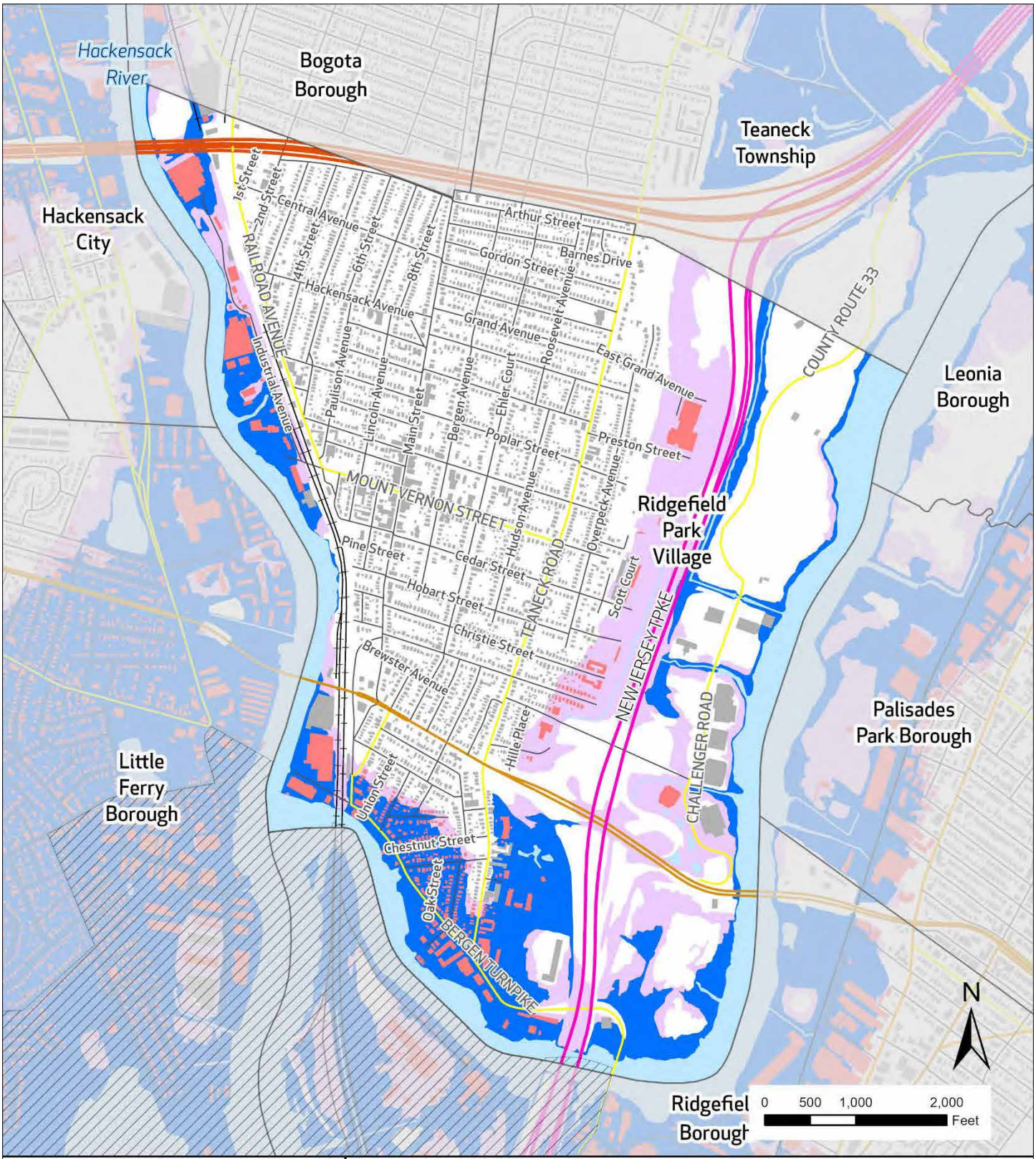
The Special Flood Hazard Area (SFHA) in the Village of Ridgefield Park is primarily located adjacent to the various streams of the village: Overpeck Creek and the Hackensack River, as well as low lying areas near the NJ Turnpike. Approximately 23.8 percent of the total area of Ridgefield Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 14.4 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 54.6 percent of Ridgefield Park is considered developed. Of the developed parcels of the village, 15 percent fall at least partially within the 1% annual chance floodplain and 6.9 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	15.0%	6.9%
Exposed Land Area	23.8%	14.4%

During the planning process, Ridgefield Park Village 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 16 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 0.2% annual chance floodplain. None are within the 1% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	0	2



Flood Hazard

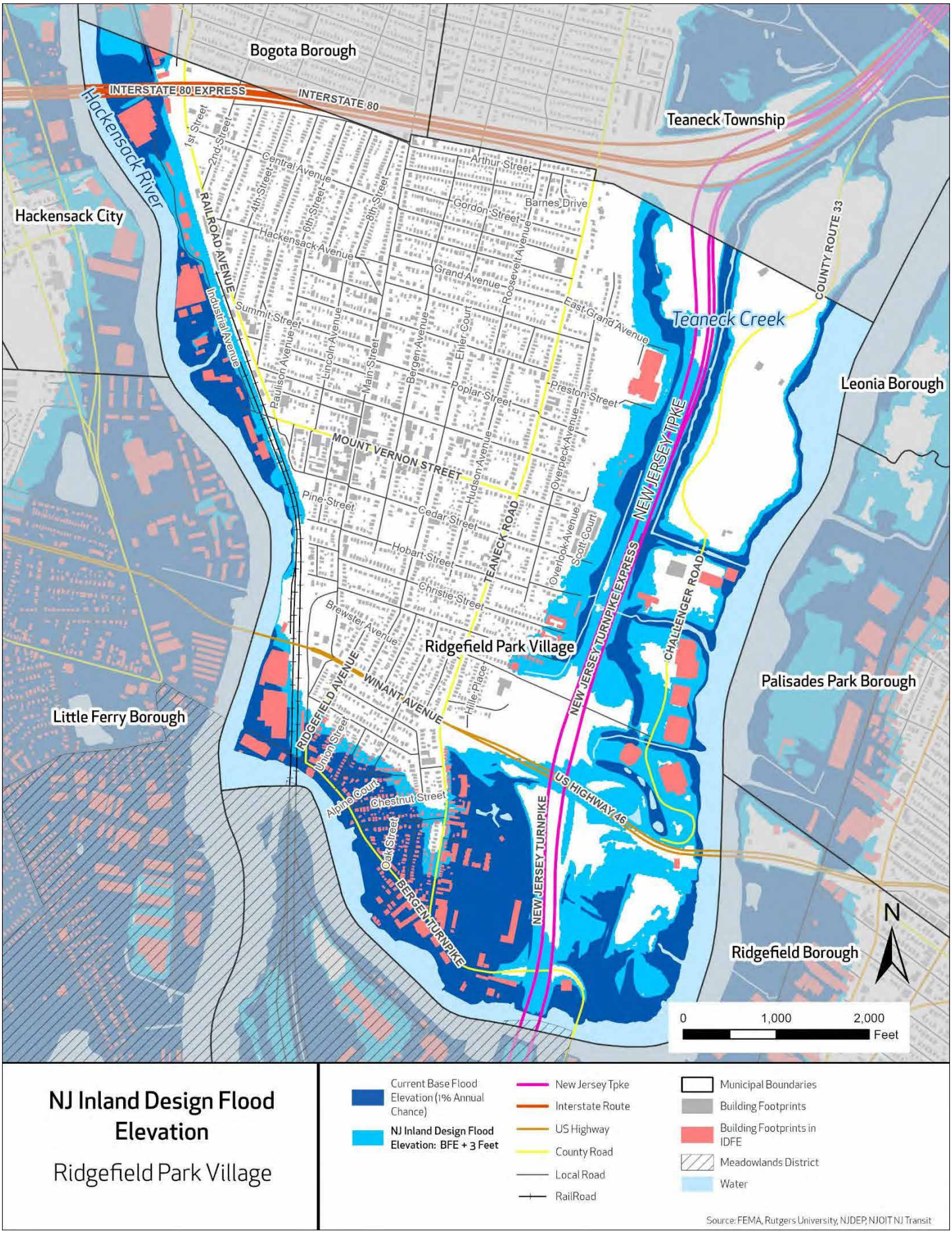
Ridgefield Park Village

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- New Jersey Tpke
- Interstate Route
- US Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

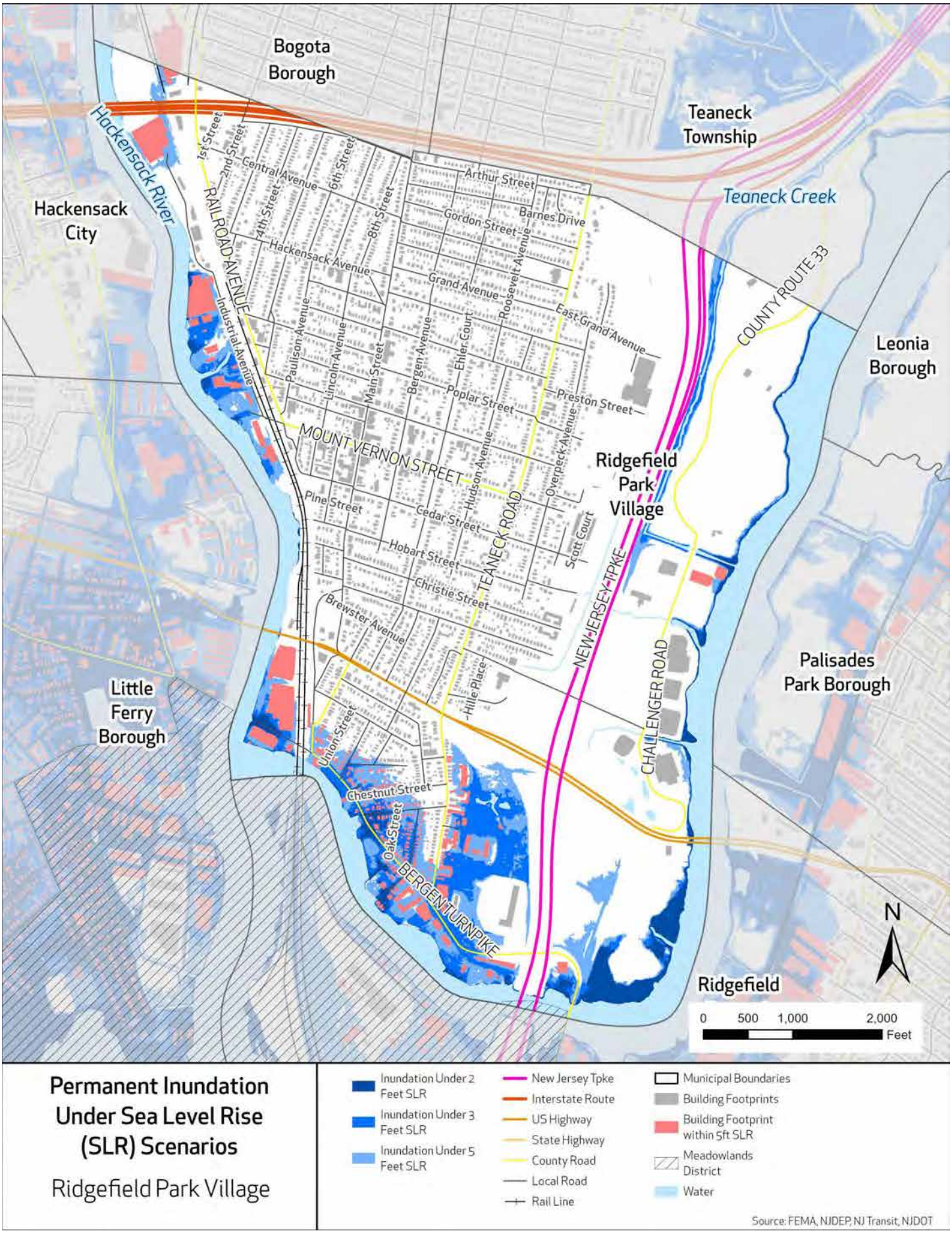


NJ Inland Design Flood Elevation

Ridgefield Park Village

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- Interstate Route
- US Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Bogota Borough
Teaneck Township
Hackensack City
Leonia Borough
Ridgefield Park Village
Little Ferry Borough
Palisades Park Borough
Ridgefield
Hackensack River
Teaneck Creek
RAILROAD AVENUE
Industrial Avenue
1st Street
2nd Street
Central Avenue
4th Street
6th Street
8th Street
Arthur Street
Gordon Street
Barnes Drive
Hackensack Avenue
Grand Avenue
Roosevelt Avenue
East Grand Avenue
COUNTY ROUTE 33
Paulison Avenue
Lincoln Avenue
Main Street
Bergen Avenue
Ehler Court
Poplar Street
Preston Street
MOUNT VERNON STREET
Hudson Avenue
Overpeck Avenue
Pine Street
Cedar Street
Hobart Street
Christie Street
TEANECK ROAD
Scott Court
NEW JERSEY TPKE
Brewster Avenue
Hille Place
CHALLENGER ROAD
Union Street
Chestnut Street
Oak Street
BERGEN TURNPIKE
N
0 500 1,000 2,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Ridgefield Park Village
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
Interstate Route
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Village of Ridgefield Park 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		2015	
Capital Improvement Plan	X		2015	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024/2025	
Floodplain Development Ordinance	X			
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			This is done through the local Building Department.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			The Building Department tracks this.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

Village of Ridgefield Park has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		The FPA is the village Engineer and Building Official.
Grant Writer	X		The village hires a consultant as needed.
Staff trained to support mitigation		X	
Existing mutual aid or technical assistance agreements to support hazard mitigation projects		X	The Emergency Services, Fire, Police, ambulance have various mutual aid agreements in hazard response.
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations	X		Bergen County, Local Hospitals

Education and Outreach Capabilities

Village of Ridgefield Park has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Village of Ridgefield Park 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Currently, Ridgefield Park Village has started to separate the storm and sewer system in the village. This will help to reduce the amount of storm water that floods the village.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
50-01	Purchase a High-water Vehicle and Boat Ramp	Acquire a high-water vehicle for responding when the south end of the village floods. Install a boat ramp at the dead end of the Bergen Turnpike.	Flood	Medium	Local OEM and Municipal Staff	Municipal budget	$260,000	1 year	Complete	
50-02	Install Cameras on Municipal Buildings and High-travelled Intersections	Install cameras on municipal buildings as well as at main intersections like Teaneck Road/Bergen Turnpike and Mt. Vernon/Main St.	All Hazards	Medium	Local OEM and Municipal Staff	Municipal budget, Homeland Security grants	$270,000 .00	1 year	Complete	
50-03	Purchase and Install Generator for Civic Center Senior Center	Acquire a 21 kW natural gas generator for the senior center.	All Hazards	Medium	Ridgefield Park OEM	FEMA HMA	$125,000	1 year	Withdrawn	No feasible place for generator to go

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
50-04	Clean and Dredge Ditch on the West Side of Rt. 95 South	Clean out drainage ditch to mitigate flooding.	Flood	Medium	NJDOT (Ridgefield Park)	Bergen County	TBD	1 year	Ongoing	Ridgefield Park received a 20 million dollar payment from county to upgrade veterans park - part of that payment will used for this action.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
50-05	Conduct a Regional Flood Damage Prevention Study	Conduct an engineering review of Bergen Turnpike/Overpeck Creek to study flood mitigation options.	Flood	Low	NJDOT (Ridgefield Park), neighboring municipalities	Municipal budget	$25,000,000.00	1 year	Ongoing	No progress
50-06	Separate the Combined Sewer System, Elevate the System, and Install Backflow Preventer Valves	Separate the combined sewer system, elevate the system, and install backflow preventer valves.	Flood	Medium	Local OEM and Municipal Staff	Capital improve-ments budget	Confid-ential	1 year	Ongoing	In progress. Five-year project started November 2024. Taking up a considerable amount of the village's capacity and resources, so other mitigation projects are on hold. Tied in with action 50-04 as outfall will be directed to that ditch
50-07	Mitigate Flooding Through Zoning and Public Policy	Review zoning regulations and public policy to mitigate the impacts of flooding while maintaining the character of the community. Require higher minimum floor elevation in South Ridgefield Park.	Flood	Low	Local OEM and Municipal Staff	Municipal budget	Staff time	1 year	Ongoing	No progress
50-08	Conduct a Comprehensive Upgrade of the village's Computer Network for Enhanced Security	Comprehensive upgrade of the village's computer network for enhanced security	Cyber Attack	Low	Local OEM and Municipal Staff	Municipal budget, Homeland Security grants	TBD	1 year	Ongoing	No progress
50-09	Coordinate with the County to Purchase Mobile Generator Hookups for Traffic Signals	Coordinate with the County to purchase mobile generator hookups for traffic signals.	All Hazards	Medium	Local OEM and Municipal Staff	Municipal budget, Homeland Security grants	$200,000	1 year	Ongoing	No progress

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
50-10	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	village OEM and Homeowners	FEMA HMA		5 + years	Ongoing	No progress

51 – VILLAGE OF RIDGEWOOD

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jeremy Kleiman	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Chris Rutishauser	DPW Director, Village Engineer	Municipal Meeting
Jovan Mehandzic	Assistant Village Engineer	Review Appendix

COMMUNITY PROFILE

Overview

The Village of Ridgewood spans approximately 5.8 square miles, and is located in west central Bergen County, New Jersey. It is one of New Jersey's wealthiest communities. Ridgewood Village is served by the NJ Transit Main Line, as well as the Bergen County Line, both of which connect to Hoboken Terminal, providing access to Midtown Manhattan. It is also served by several NJ Transit bus routes. Notably, the village offers plenty of opportunities for outdoor recreation, in parks such as Graydon Park, Veterans Field and Citizens Park. Ridgewood Village has a population of approximately 25,979 residents. Ridgewood Village is not a coastal community, as it is located inland in Bergen County.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Ridgewood is a predominantly residential community with residential (including apartment) use accounting for 77% of its total area, covering nearly 2,305 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, and vacant land made up 17%, 5% and 1% respectively of its total area.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 90% of the village's total land, covering 3,342 acres. Forested land, wetlands and water followed, covering 6%, 2%, and 1%, respectively of Ridgewood Village's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	6.4	12.4	94%
Forest	228.8	226.7	-1%
Urban	3345.9	3342.1	-<1%
Water	43.3	43.3	-
Wetlands	88.5	88.4	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The installation of artificial turf at Stevens Field is designed to reduce flooding in its vicinity. The field was lowered vertically by 1.0 ft to create additional water storage as part of obtaining NJDEP permits for the work. Additionally, four multifamily rental and affordable housing projects have been completed at 155 South Broad, 1 Franklin Avenue, 160 Chestnut Street, and 257 East Ridgewood Avenue. The housing projects will not impact the regulatory floodplain.

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

A potential plan for the Hopper Ridge condominium complex to assist with flood control, but the project is not likely to move forward, as the prior governing body did not support it. Additionally, the Valley Hospital campus closed as a licensed hospital but continues to operate as a medical and allied health facility within the existing footprint. Redevelopment of the hospital campus in the future is possible, which is not expected to impact the regulatory floodplain.

With the Village's fourth-round Affordable Housing obligations being negotiated, several locations will be the focus of new multi-family housing to meet the Village's obligations, including a proposed cul-de-sac sub-division on North Maple Avenue north of Linwood Ave.

Demographics & Vulnerable Populations

Ridgewood Village has a total population estimated at 26,043. Of Ridgewood residents, an estimated 5.7% are under age 5, and 13.2% are over age 65. The village saw an estimated 1.9% population increase over the survey periods between 2013-2017 and 2018-2022. With an aging population making up over thirteen percent of Ridgewood's population, hazard mitigation efforts may most effectively focus on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

Ridgewood has six block groups meeting criteria for overburden (OBC) based on indicators of *Minority* population. There are no parts of the village which have been identified as CDRZ or CEJST communities. The 2020 Census added a significant tract (Tract 4764, Block 3) as a CDBG (Community Development Block Grant) Program Eligible Area.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	26,043
Population Change since 2017	1.9%
Percent of Population Age < 5	5.7%
Percent of Population > 65	13.2%

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 high, medium, low, or no concern. The following include the village'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 Wind	Tornado
Nor'easter	Lightning	Extreme Wind
Flood	Winter Storm	Landslide
	Dam Failure	Drought
	Wildfire	Wildfire
		Extreme Temperatures
		Earthquake
	Human-made Hazards	
Power Failure	Cyber Attack	Civil Unrest
Train Derailment	Pandemic	Economic Disruption
	Terrorism	

Coastal erosion, storm surge and wave action were ranked as N/A.

Hazard Ranking Explanation

Ridgewood ranked extreme winds as a hazard of high concern because it is home to several old trees, and an above-ground electric service distribution system that can cause substantial damage if they come down due to high-speed winds. The village also ranked flooding as a hazard of high concern because it is impacted by flooding from the Ho-Ho-Kus Brook at least 4 to 5 times a year. Saddle River also causes flooding, although it is slower to overflow. Ridgewood is particularly susceptible to flooding from hurricanes/tropical storms and nor'easters. Areas particularly prone to flooding include Hope Street, Vets Field, and Stevens Field. There are also concerns related to potential flooding from upstream activities. However, to address the flooding, the municipality has taken measures such as target hardening of the Village Hall.

Additionally, Ridgewood also conducts annual outreach to flood prone properties as part of CRS outreach. To mitigate risk from irrigation activities, the village's substantial groundwater-fed water supply is managed through stage announcements. Furthermore, there is a strong enforcement approach to managing pressure in fire hydrants.

Ridgewood ranked extreme temperatures as low to medium because a small portion of its population is affected by extreme heat and extreme cold. Recreational activities are also hampered during extreme temperature days. To mitigate the effects of both extreme heat and cold, the village has cooling and warming stations in place. Earthquake was ranked as medium, because Ridgewood is an old community and has a substantial building stock built in 1894. Wildfire was ranked as medium. Although the village is susceptible to wildfires, it has high mitigation capabilities; Ridgewood currently holds an ISO Class 2 rating. Winter storm was ranked as medium because the village has low mitigation capabilities for this hazard. Additionally, the village ranked dam failure as a hazard of low concern because the dams in its vicinity are low-risk dams. Lightning is also a hazard of medium concern for Ridgewood, and it has a lightning detection system in place for recreational fields.

Additionally, Ridgewood ranked cyber-attacks as a medium concern hazard due to its susceptibility to phishing attacks. However, it has high capabilities in mitigating these, and its Police Department has a strong rapport with religious leaders. Pandemic is also a hazard of medium concern, although the village has mitigation capabilities. Finally, terrorism is a medium-concern hazard, with the village possessing high capabilities to address this; large events undergo thorough security planning, and dry sweeps are conducted before the events are held. Since the village has inadequate cell coverage, it has collaborated with Verizon to expand bandwidth for events.

Significant Hazard Events Since Last Plan Update

Although no one significant hazard event has caused substantial damage to Ridgewood with the last decade, it experiences flooding from the Ho-Ho-Kus Brook 4 to 5 times a year. Hurricanes Irene and Superstorm Sandy were the last significant hazard events to have impacted Ridgewood Village, causing flooding and damage from high-speed winds. To mitigate damage from extreme winds, PSE&G has target hardened its facilities.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Ridgewood Village. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from the Saddle River, Ho-Ho-Kus Brook, Goffle Brook, and Diamond Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the village's over 13% population over 65. Extreme heat could also lead to an increase in frequency of wildfires. Furthermore, aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Village of Ridgewood	
Number of Policies In-Force:	164
Total Losses:	435
Total Payments:	$6,499,299.09
Number of RL Properties:	33
Number of Mitigated RL Properties:	0

Village of Ridgewood	
RL – Total Losses:	66
RL – Total Paid:	$1,062,777.86
Number of SRL Properties:	6
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	28
SRL – Total Paid:	$940,686.95

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

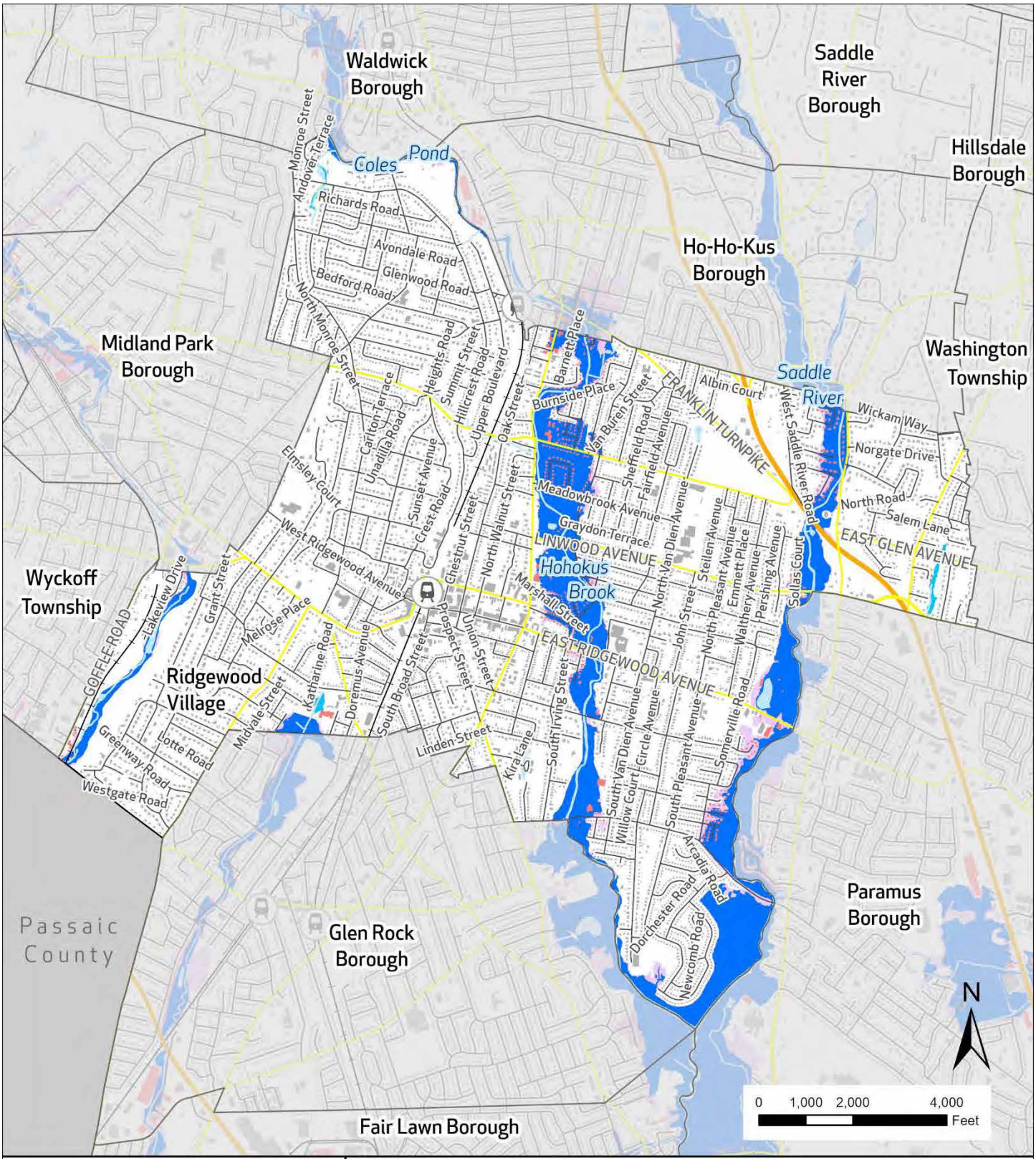
The Special Flood Hazard Area (SFHA) in the Village of Ridgewood is primarily located adjacent to the various streams of the village: the Saddle River, Ho-Ho-Kus Brook, Goffle Brook, and Diamond Brook. Approximately 10.8 percent of the total area of Ridgewood Village lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 76.3 percent of Ridgefield Village is considered developed. Of the developed parcels of the village, 7.6 percent fall at least partially within the 1% annual chance floodplain and 6.1 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	7.6	6.1
Exposed Land Area	10.8	1.7

During the planning process, Ridgewood Village 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 142 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, 21 are within the 1% annual chance floodplain. None are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Communications	1	-
Food, Hydration and Shelter	1	-
Health and Medical	1	-
Safety and Security	8	-
Water Systems	10	-



Flood Hazard

Ridgewood Village

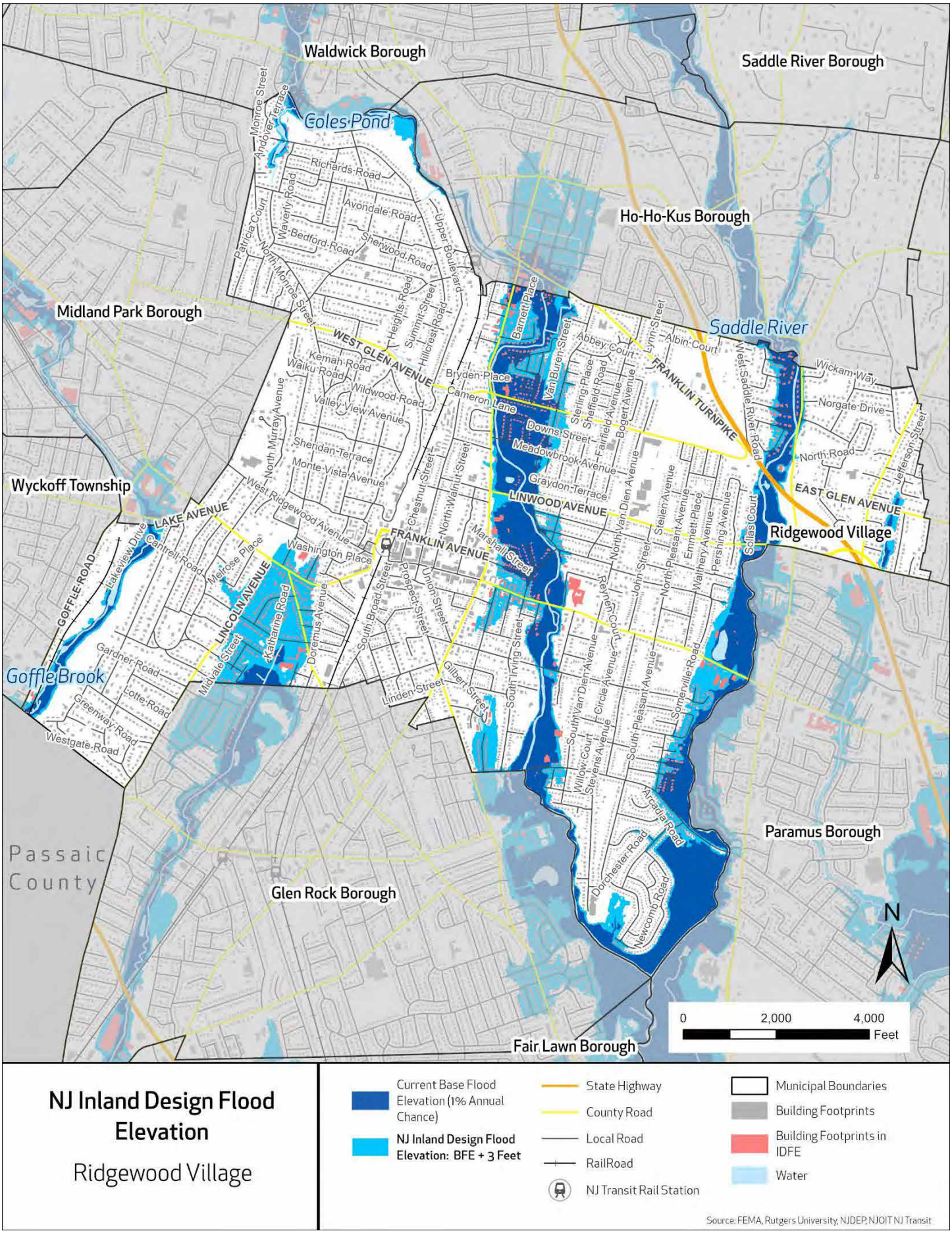
FEMA Flood Zone

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

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Waldwick Borough
Saddle River Borough
Ho-Ho-Kus Borough
Midland Park Borough
Wyckoff Township
Ridgewood Village
Paramus Borough
Glen Rock Borough
Fair Lawn Borough
Passaic County
Eoles Pond
Saddle River
Goffle Brook
WEST GLEN AVENUE
FRANKLIN TURNPIKE
LINWOOD AVENUE
EAST GLEN AVENUE
FRANKLIN AVENUE
LAKE AVENUE
GOFFLE ROAD
LINCOLN AVENUE
Monroe Street
Andover Terrace
Richards Road
Avondale Road
Patricia Court
Waverly Road
Bedford Road
Sherwood Road
Upper Boulevard
North Monroe Street
Heights Road
Summit Street
Hillcrest Road
Barnett Place
Van Buren Street
Abbey Court
Lynn Street
Albin Court
Wickam Way
Norgate Drive
Jefferson Street
West Saddle River Road
Bryden Place
Cameron Lane
Kemah Road
Waiku Road
Wildwood Road
Valley View Avenue
North Murray Avenue
Sheridan Terrace
Monte Vista Avenue
Sterling Place
Sheffield Road
Farnell Avenue
Bogert Avenue
Downs Street
Meadowbrook Avenue
Graydon Terrace
North Van Dien Avenue
Stellen Avenue
North Pleasant Avenue
Emmett Place
Walthery Avenue
Pershing Avenue
Silas Court
North Road
West Ridgewood Avenue
Washington Place
Chestnut Street
North Walnut Street
Marshall Street
Union Street
Prospect Street
South Broad Street
Doremus Avenue
Midvale Street
Katharine Road
Melrose Place
Cantrell Road
Lakeview Drive
Gardner Road
Lotte Road
Greenway Road
Westgate Road
Linden Street
Gilbert Street
South Irving Street
Circle Avenue
Willow Court
Stevens Avenue
South Pleasant Avenue
Somerville Road
Arcadia Road
Dorchester Road
Newcomb Road
N
0
2,000
4,000
Feet
NJ Inland Design Flood Elevation
Ridgewood Village
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
State Highway
County Road
Local Road
RailRoad
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Village of Ridgewood 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		2022	
Capital Improvement Plan		X		Long range capital planning is part of the annual budget process
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2021	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	Ordinance No. 4006 and 4025
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Municipal Engineering Dept. and Building Dept. are responsible.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Engineering Dept. is responsible.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Ordinance 3225 on Riparian Buffers and Steep Slopes; Ordinance 4042 on Feeding Wildlife; Army Corps of Engineers is assisting in a study of flood mitigation. Revised tree ordinance No. 4043

Administrative and Technical Capabilities

Village of Ridgewood has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Chris Rutishauser, P.E., Village Engineer (full-time municipal employee)
Grant Writer	X		A contract grant writer
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		School Board
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Village of Ridgewood 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, Email, Website; local website has information on reducing vulnerability to natural hazards.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week	X		
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Village of Ridgewood 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		Primarily based on cost.
Other ongoing efforts to build additional financial capabilities		X	

Additional Capability Assessment Information:

The following studies have been commissioned to address flooding concerns:

- USACE Study on Ho-Ho-Kus Brook - Ongoing
- Rutgers University study on stormwater management - Ongoing

MITIGATION STRATEGY

Overview and Progress Since Last Update

The village mitigation plan is designed to increase resilience to natural hazards by hardening critical facilities and mitigating flood hazard risks. Particular priorities have included redundant power supplies for critical facilities and installation of village-wide security systems for public spaces and buildings. Going forward the village plans to prioritize mitigation of flood hazards including de-snagging waterways and elevating the Parks Dept. building.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
51-01	Coordinate with the County to Install Automatic Transfer Switches at all Intersections to Accommodate Generator for Traffic Lights	Purchase and install automatic transfer switches at all intersections to accommodate backup generators to power traffic lights in the even that power goes out. Three of the seven lights are County lights. Need to coordinate with County as cost to install	All Hazards	Low	Bergen County	Municipal and County budget	$20,000.00	1 year	Completed	
51-02	Purchase and Install CBD Security Cameras	Purchase and install CBD security cameras at water facility and big population centers where events are held.	Terrorism	Medium	Ridgewood	Municipal budget, Homeland Security grants	$20,000.00	1 year	Completed	
51-03	Upgrade Underground Fuel Storage	Replace fuel storage tanks	All Hazards	High	Village DPW	Municipal Budget	$200,000.00	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
51-04	Purchase and Install Generators to Support the Congregate Care Shelters	Purchase and install emergency generators in the village schools.	All Hazards	Low	Board of Education	FEMA HMA	$3,000,000.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
51-05	Floodproof Village Library	Floodproof Village Library	All Hazards	Medium	OEM	FEMA HMA, municipal budget	$25,000.00	1 year	Ongoing	
51-06	Increase Mitigation Outreach Activities	Increase outreach activities including distributing flood hazard handbooks and educational materials to residents to help residents help themselves. These activities will be conducted yearly on CRS ratings and flood awareness.	All Hazards	Low	Municipal Engineering	Municipal budget	$5,000.00	5 + years	Ongoing	
51-07	Purchase and Install New Submarine Doors for the Administration Building	Purchase and install new submarine doors for the garages and the administration building. The village will need 7 or 8 doors.	Flood	High	Ridgewood OEM	FEMA HMA	$10,000.00	2 years	Ongoing	
51-08	Relocate Electrical System to the Attic in the Water Building	The electrical system needs to be rewired to the attic or relocated to multiple wells to avoid being affected by flood waters.	All Hazards	Medium	Ridgewood OEM	FEMA HMA	$50,000.00	2 years	Ongoing	
51-09	Elevate Village Parks Building	Elevate the Parks building. The Parks building houses the Recycling Administration, Shade Tree Administration, emergency equipment, and chemical storage.	All Hazards	High	Ridgewood	FEMA HMA	$2,000,000.00	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
51-10	Relocate Emergency Operations Command Center Out of SFHA	The current location is a conference room in the Village Hall. Need to relocate to a place that is not within the flood zone.	Flood	Medium	Ridgewood	Municipal budget	$1,300,000.00	2 years	Ongoing	
51-11	Purchase a Jet-Vac Truck	Purchase a Jet-Vac truck to clean out pipes that are or get clogged with debris. There are 100 miles of sanitary pipes in the village and an additional 80 miles of Stormwater pipes.	All Hazards	Low	Ridgewood	Municipal budget	$20,000.00	1 year	Ongoing	
51-12	Acquire Funding for Additional Staff for Tree Maintenance	Additional funding is needed for staff to cut down and replant trees. The village has the necessary equipment, but not the staff to carry out the task. There are about 200 trees that were lost in storm events. The additional staff would also be responsible	All Hazards	Low	Ridgewood DPW	Municipal budget	$150,000	1 year	Ongoing	
51-13	De-snag and De-silt Saddle River and Ho-Ho-Kus Brook	Clean out trees and other debris that has fallen into Saddle River and Ho-Ho-Kus Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Medium	Ridgewood	Municipal budget	$100,000.00	1 year	Ongoing	
51-14	Relocate all Village Documents to an Offsite Storage Facility and Digitize all Records	The village needs to find an offsite storage facility to store all of the paper documents. The documents are currently kept in the basement of Village Hall, which floods. Storage needs to be out of the flood zone. The village	All Hazards	Low	Ridgewood	Municipal budget, Homeland Security grants	$20,000.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		is also working on digitizing all records.								
51-15	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties located within the Saddle River and Ho-Ho-Kus Brook Regulatory Floodways	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Village OEM and Homeowners	FEMA HMA	$2,500,000.00	5 + years	Ongoing	
51-16	Connect Library to Water HQ Generator and Use Library as Shelter	Render library facility resilient to serve as a heating/cooling center and congregate care shelter facility.	Power Failure, Extreme Temperatures	Medium	Library, Village Engineering	FEMA, Library Budget	$125,000.00	1 year	New	
51-17	Upgrade Generator at Police Department	Render critical public safety facility resilient	Power Failure	High	Village Engineering	Municipal budget	$125,000.00	1 year	New	

52 – RIVER EDGE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
William Sanders	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Lissette Aportella	Borough Administrator	Internal Meetings

COMMUNITY PROFILE

Overview

The Borough of River Edge spans approximately 1.88 square miles and is located in central Bergen County, New Jersey. The Van Saun Mill Brook and Hackensack River flow from north to south along its western and eastern border, respectively. River Edge has two train stations providing service on NJ Transit's Pascack Valley Line along with bus service on the 165 Route connecting to the Port Authority Bus Terminal in Midtown Manhattan. Route 4 is the primary highway serving River Edge, running along the borough's southern edge. County Route 503 (Kinderkamack Road) passes north-south through the borough, alongside the Hackensack River. River Edge has a population of approximately 12,046 residents. Although River Edge is bordered by rivers, it is not considered a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. River Edge is a predominantly residential community with residential (including apartment) use accounting for 68% of its area, covering nearly 635 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, and railroad property made up 24%, 6%, and 1% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 89% of the borough's total land, covering 772 acres. Forest land, water, and wetlands made up 5%, 3%, and 3% respectively of the borough.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	4.9	4.4	-10%
Forest	64.4	62.3	-3%
Urban	1068.9	1071.4	<1%
Water	30.2	30.2	-
Wetlands	35.8	35.8	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified by the borough.

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

There is no scope for further development.

Demographics & Vulnerable Populations

River Edge Borough has an estimated total population of 12,022, a 3.2% population increase since the 2013-2017 ACS survey estimate. Of Borough residents, an estimated 5.1% are under age 5, and 16.2% are over age 65. With an aging population making up over sixteen percent of the borough residents, River Edge may focus hazard mitigation efforts most effectively on those with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023). Additionally, a growth rate of over three percent may highlight potential

vulnerabilities of the built environment including changing landscape conditions, densification, and potentially, increased strain on local resources.

River Edge has five block groups meeting criteria for overburden (OBC) by *Minority* population indicators, according to the State of New Jersey. No parts of the Borough meet defining criteria for CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	12,022
Population Change since 2017	3.2%
Percent of Population Age < 5	5.1%
Percent of Population > 65	16.2%

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

Landslide and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked flood as high because it experiences recurring flooding, particularly during heavy rainfall. Areas prone to flooding include 55 Ackerson Street, Valley Road, and along Coles Brook.

The borough ranked lightning as a hazard of medium concern owing to property and tree damage sustained due to lightning strikes. Terrorism was also ranked medium because of the presence of two train stations and the Rosenbaum Yeshiva of North Jersey school within its jurisdiction.

The borough ranked hurricane/tropical storm as a hazard of high concern because of the significant damage from recent storms and the vulnerability of critical facilities. The Kenneth B George Park and River Edge Police Department pistol range were significantly damaged during Hurricane Ida. The River Edge Fire Company 2 was significantly damaged during a storm in 2022.

Significant Hazard Events Since Last Plan Update

The last significant hazard event experienced by the Borough was Hurricane Ida in 2021. During the storm, New Bridge Road in particular experienced considerable damage due to flooding.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including River Edge. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplain running through the borough's western, southern, and eastern boundary. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 16% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

River Edge Borough	
Number of Policies In-Force:	26
Total Losses:	103
Total Payments:	$4,113,895.40
Number of RL Properties:	13
Number of Mitigated RL Properties:	0
RL – Total Losses:	34
RL – Total Paid:	$1,929,077.47
Number of SRL Properties:	3
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	15
SRL – Total Paid:	$1,558,110.26

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Borough of River Edge is primarily located adjacent to the main waterbodies of the borough: the Hackensack River and Van Saun Mill Brook. Approximately 10.7 percent of the total area of River Edge lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

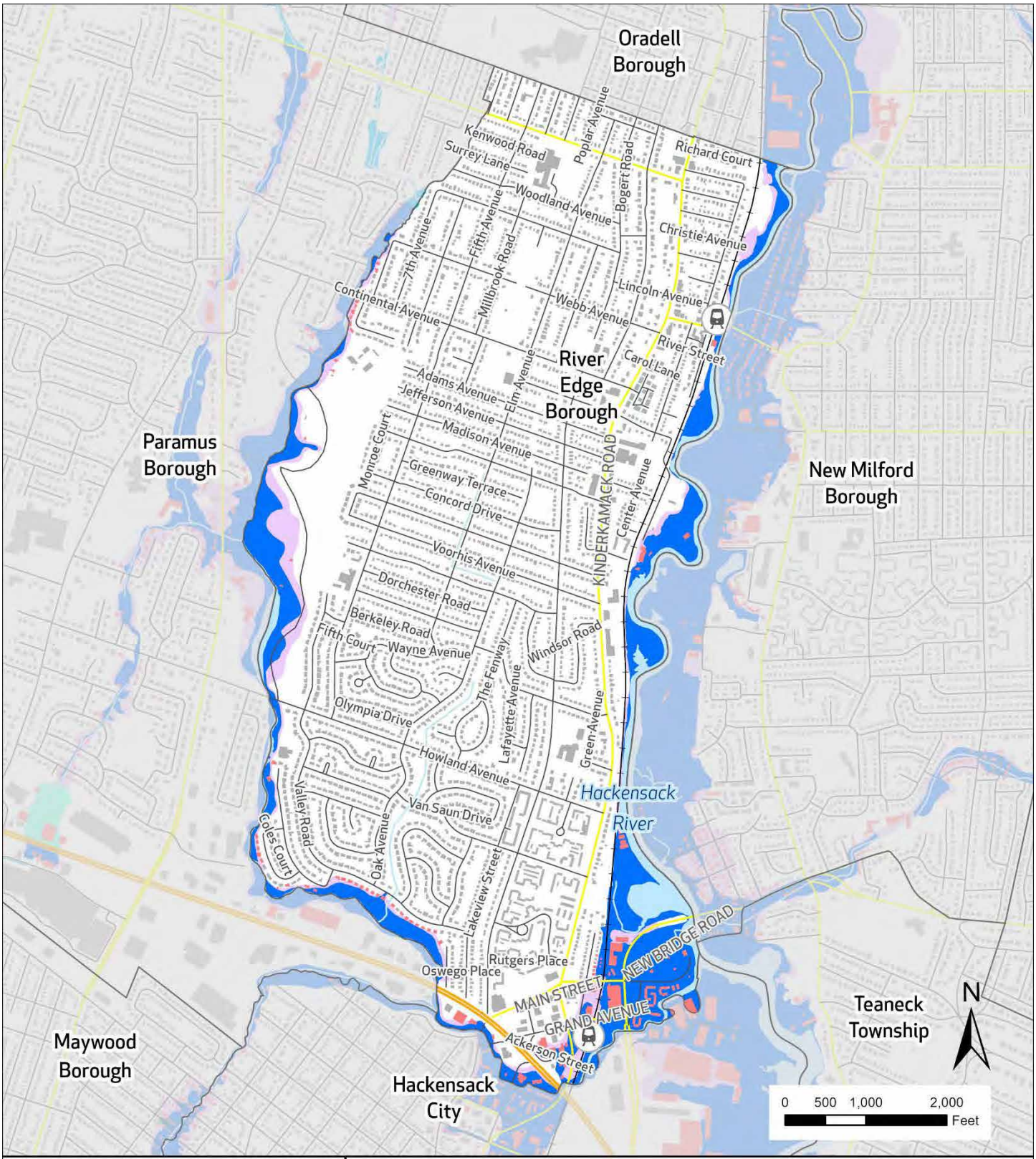
About 64.8 percent of River Edge is considered developed. Of the developed parcels of the borough, 3.4 percent fall at least partially within the 1% annual chance floodplain and 3.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	3.4	3.2
Exposed Land Area	10.7	2.8

During the planning process, River Edge Borough 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 nine total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 1% annual chance floodplain. None are within the 0.2% annual chance area or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	2	-



Flood Hazard

River Edge Borough

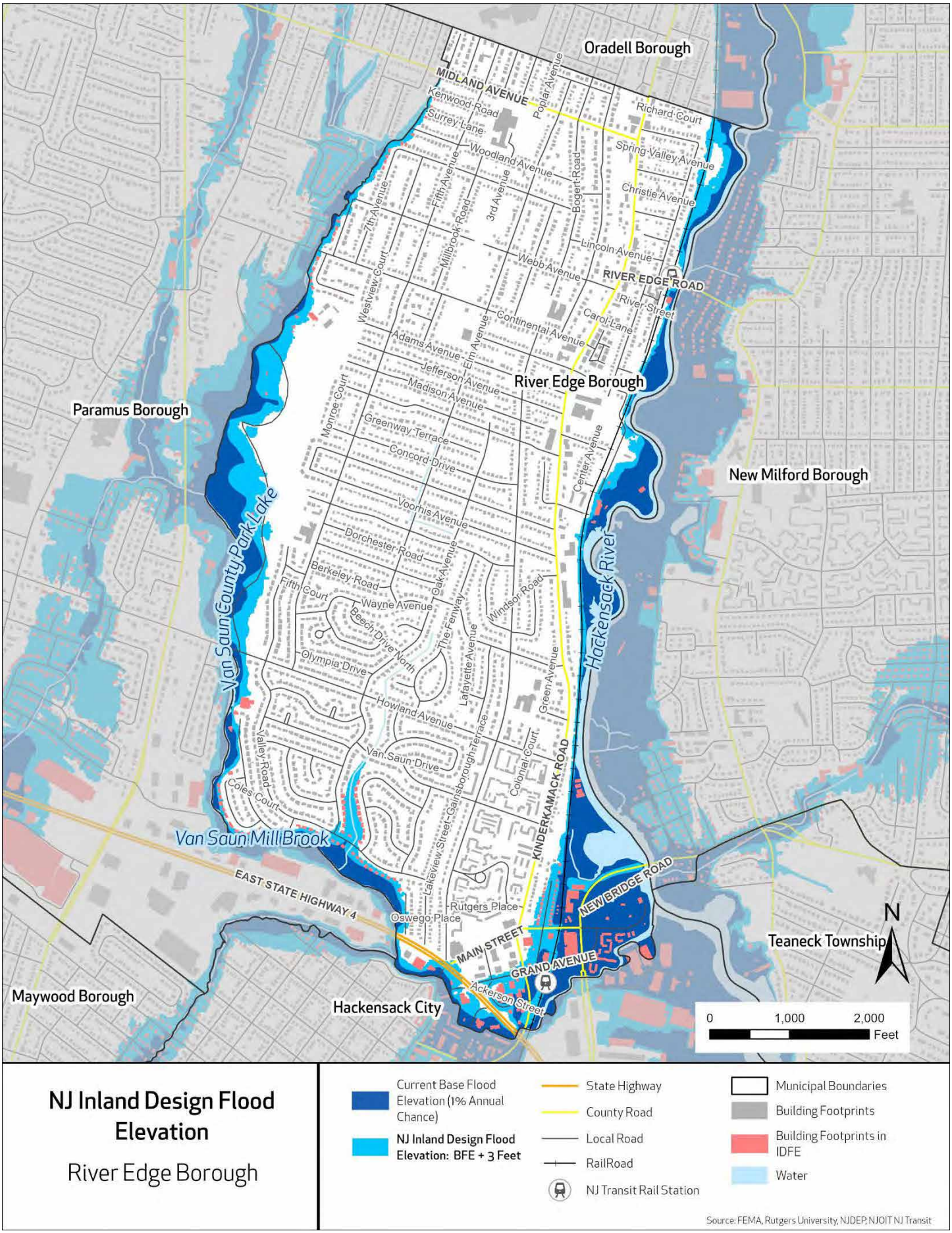
FEMA Flood Zone

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

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

River Edge Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

River Edge Borough 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		2021	
Capital Improvement Plan	X		2021	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		07/08/2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Record and maintain the flood and non-flood damage of substantial damage structures and provide a letter of Substantial Damage Determination to homeowner and NJDEP, Bureau of Flood Control. Ensure substantial improvements meet the requirements of residential construction, non-residential construction, and manufactured homes.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Through Board of Adjustment, Planning Board, and construction official.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Code Coordinated Ordinance (Improved Flood Damage Prevention Ordinance as approved by FEMA)

Administrative and Technical Capabilities

River Edge Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
Grant Writer	X		Contractor, Millennium Strategies LLC
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

River Edge Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Nixle email and text service, reverse 911, social media
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, River Edge Borough 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		New Jersey Grants
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Based on prior issues in the area
Other ongoing efforts to build additional financial capabilities	X		Mitigation grants

MITIGATION STRATEGY

Overview and Progress Since Last Update

River Edge Borough's overall mitigation action strategy focuses on enhancing community resilience to natural hazards by identifying and addressing vulnerabilities in critical infrastructure. A key priority is to ensure roadway routes remain open. This ensures that essential transportation corridors remain accessible during extreme weather events.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-01	Increase Drainage on Main Roads that Flood Frequently	Increase Drainage on main roads.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather		Municipal Staff	Municipal Budget, community grants	$2,500,000		Completed	
52-02	Purchase and Install Cameras at Critical Facilities	Purchase and Install Cameras at Critical Facilities	Terrorism	High	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	25,000	1 year	Completed	Yeshiva School, Hindu Temple and Firehouse recently installed cameras using their own funding resources.
52-03	Construct a New Pump Station at Wayne Avenue to Assist with Stormwater Management	Construct a New Pump Station at Wayne Avenue to Assist with Stormwater Management	Flood	Medium	Local OEM and Municipal Staff	FEMA HMA, Municipal Finances	$10,000,000.00	1 year	Completed	There are ongoing PSE&G projects throughout the Borough. Additionally, USACE might install new drainage pipes north of the Wayne Avenue train station, which may give rise to flooding issues for two streets in the vicinity.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-04	Relocate DPW out of SFHA to Continue Operations During a Storm	Relocate DPW out of SFHA	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	River Edge OEM	Municipal Budget	TBD	1 year	Ongoing	No progress reported by the Borough.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-05	Develop a Multidisciplinary All-Hazard Working Group	Develop a multidisciplinary all hazard working group to better coordinate on hazard mitigation efforts.	All Hazards	Low	OEM	Municipal Budget	$50,000	1 year	Ongoing	
52-06	Protect Critical Communication Infrastructure through Security Cameras and Fencing	Harden emergency outdoor communications and public alert system to protect critical communication infrastructure during emergencies.	All Hazards	Medium	Borough of River Edge	Municipal Budget, Homeland Security grants	$110,000	1 year	Ongoing	
52-07	Purchase Quick Connect Emergency Generator to Allow Traffic Signals to Operate without Manpower Assistance	Quick connect emergency generator to allow traffic signal to operate without manpower assistance.	All Hazards	Medium	Borough and Bergen County Engineer	Municipal budget	$40,000	2 years	Ongoing	More than half the work has been completed.
52-08	Acquire and Demolish Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties Near the Hackensack River, and Elevate Structures in Flood-prone Areas, with a Focus on RL and SRL Properties	Elevate RL/SRL properties that are not interested in being acquired and elevate remaining RL/SRL properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough and residents, Local OEM and Municipal Staff	FEMA HMA	No plan to acquire any property	5 + years	Ongoing	There is no interest by property owners because of which the action has not progressed.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-09	Use FEMA's Model Ordinance to Write and Adopt Flood Ordinance	Use FEMA's Model Ordinance to Write and Adopt Flood Ordinance	All Hazards	Low	Borough Council to Ordinance Committee	Municipal Budget	$5,0000	2 years	Ongoing	
52-10	Harden or Replace Utility Infrastructure that May Become Compromised During Weather Event	Harden or replace utility infrastructure that may become compromised during weather event to continue critical community services during storm events.	All Hazards	Low	Borough and utility companies	Utility providers, Municipal Budget	TBD	5 + years	Ongoing	Minor updates to the utility infrastructure were made. There have been no recent outages.
52-11	Educate Borough Residents on Flooding Issues as well as Potential Flood Insurance Premium Reductions through the NFIP	Educate residents on flooding issues and potential NFIP flood insurance premium reductions.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Council and Ordinance Committee	Borough funds	$2,500	2 years	Ongoing	Outreach through borough events, social media and public meetings.
52-12	Install Check Valves in Control Water Back Up by Stormwater Pipe from Hackensack	Check valves need to be installed in floor drains.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of River Edge	Municipal Budget	$5	1 year	Ongoing	
52-13	Purchase and Install Backup Server for Municipal Use	Purchase and Install Backup Server for Municipal Use	Cyber Attack	Medium	Local OEM and Municipal Staff	Municipal Budget, Homeland Security grants	$37,000	1 year	New	Municipal complex is currently being redone. The borough has a backup server provided by Quikteks.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
52-14	Purchase Light Towers, Variable Message Signs, and Movable Barriers to Assist with Emergency Operations	Purchase Light Towers, Variable Message Signs, and Movable Barriers to Assist with Emergency Operations	All Hazards	Medium	Local OEM and Municipal Staff	Municipal Budget	$45,000	2 years	New	
52-15	Purchase and Install PA/Warning Siren	Purchase and Install PA/Warning Siren	All Hazards	Medium	Local OEM and Municipal Staff	Municipal Budget	$150,000.00 - $200,000.00	1 year	New	Borough has 3 sirens now and wants to update them.

53 – RIVER VALE TOWNSHIP

Name	Title	Participation
John Guglielmotti	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
William MacRae	Deputy OEM Coordinator	Secondary Contact; Municipal Meeting
Rich Campanelli	DPW Superintendent	Municipal Meeting
Gennaro Rotella	Township Administrator	Municipal Meeting

COMMUNITY PROFILE

Overview

River Vale spans approximately 4.3 square miles and is the easternmost municipality in the Pascack Valley region of northern Bergen County, New Jersey. It is bordered by the Hackensack River watershed (Hackensack River to the east, dammed to form Lake Tappan) and the Pascack Brook. Hillsdale Brook also flows through River Vale's southern portion; just south of River Vale, Pascack Brook empties to the Oradell Reservoir. The township features gently sloping terrain with numerous streams, wooded area, and wetlands that support biodiversity and provide natural flood control. River Vale shares a northeastern border with Lake Tappan, a major reservoir that plays a critical role in regional water supply and conservation, as well as the reservoir's dam of the Hackensack River. The township's land use is primarily residential, with an emphasis on open space and recreation, and a small but well-integrated commercial district, primarily located along Westwood Avenue and Rivervale Road in the southern portion of the township. River Vale is known for its suburban identity and well-maintained public spaces. It has a population of approximately 9,909 residents. The Township of River Vale is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. River Vale is a primarily residential community, with residential land uses making up 70% of the township (1,373 acres) as of 2022. Commercial land made up just 8% of River Vale (148 acres) during this time period. Civic/public (tax exempt) uses made up an additional 16% (312 acres) of the township, and vacant land covered an additional 6% (nearly 115 acres). This land classification shifted somewhat between 2016 and 2022 MOD-IV releases – commercial acreage dropped 21%, from over 187 acres, and civic/public (tax exempt) uses gained 35% of their acreage from a 2016 estimate of 230 acres. Vacancy also grew during this period, growing 30% (from a previous acreage estimated at 89 acres in 2016).

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, land classified as urban (developed) made up the largest portion of the township, with 75% of River Vale (2,082 acres) defined as such. Forest land cover made up an additional 11% of River Vale (nearly 292 acres) in 2022. Water made up 6% of area within River Vale boundaries (168 acres) and wetlands covered 8% (213 acres) during the LULC release in 2020. These classifications did not change over the LULC releases between 2015 and 2020, with the exception of a small decrease in 'barren land', which accounts for <1% of River Vale, but dropped -18% (to a total of less than 4 acres) during these two releases.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	2.9	2.9	<1%
Barren Land	4.5	3.7	-18%
Forest	296	291.8	-1%
Urban	2076.6	2082	<1%
Water	167.8	167.8	-
Wetlands	213.4	213.1	-<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The Fairways at Edgewood, a luxury townhouse project, was developed outside the regulatory floodplain, at 5 Woodmont Circle. Additional conversions from single-family homes to townhouses took place.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
A new Police Department building and housing is planned outside the regulatory floodplain.

Demographics & Vulnerable Populations

River Vale Township has a total population estimated at 9,885, -1.7% population decrease since the 2013-2017 ACS survey estimate. Of township residents, 4.8% are estimated to be under age 5, and 19.1% are over age 65. With an aging population making up nearly one in five River Vale residents, the township may focus hazard mitigation efforts most effectively on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

River Vale has a single block group meeting criteria for overburden (OBC) based on criteria of *Minority* population vulnerabilities, and no tracts meeting criteria for CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9885
Population Change since 2017	-1.7%
Percent of Population Age < 5	4.8%
Percent of Population > 65	19.1%

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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal erosion, storm surge and wave action were ranked as N/A.

Hazard Ranking Explanation

Flooding during prolonged heavy rain events and other extreme weather events is an important issue for the township. It is also sometimes impacted by high-speed winds and winter storms. As a result, River Vale ranked extreme wind, nor'easter, winter storm and flood as hazards of medium concern.

Significant Hazard Events Since Last Plan Update

Apart from some flooding during Hurricane Ida in 2021, the township did not experience a substantial impact from any one hazardous event.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including River Vale. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from the Hackensack River and Pascack Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's over 19% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

River Vale Township	
Number of Policies In-Force:	37
Total Losses:	136
Total Payments:	$3,623,393.08
Number of RL Properties:	16
Number of Mitigated RL Properties:	0
RL – Total Losses:	39
RL – Total Paid:	$1,000,410.25
Number of SRL Properties:	5
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	40
SRL – Total Paid:	$2,534,897.13

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

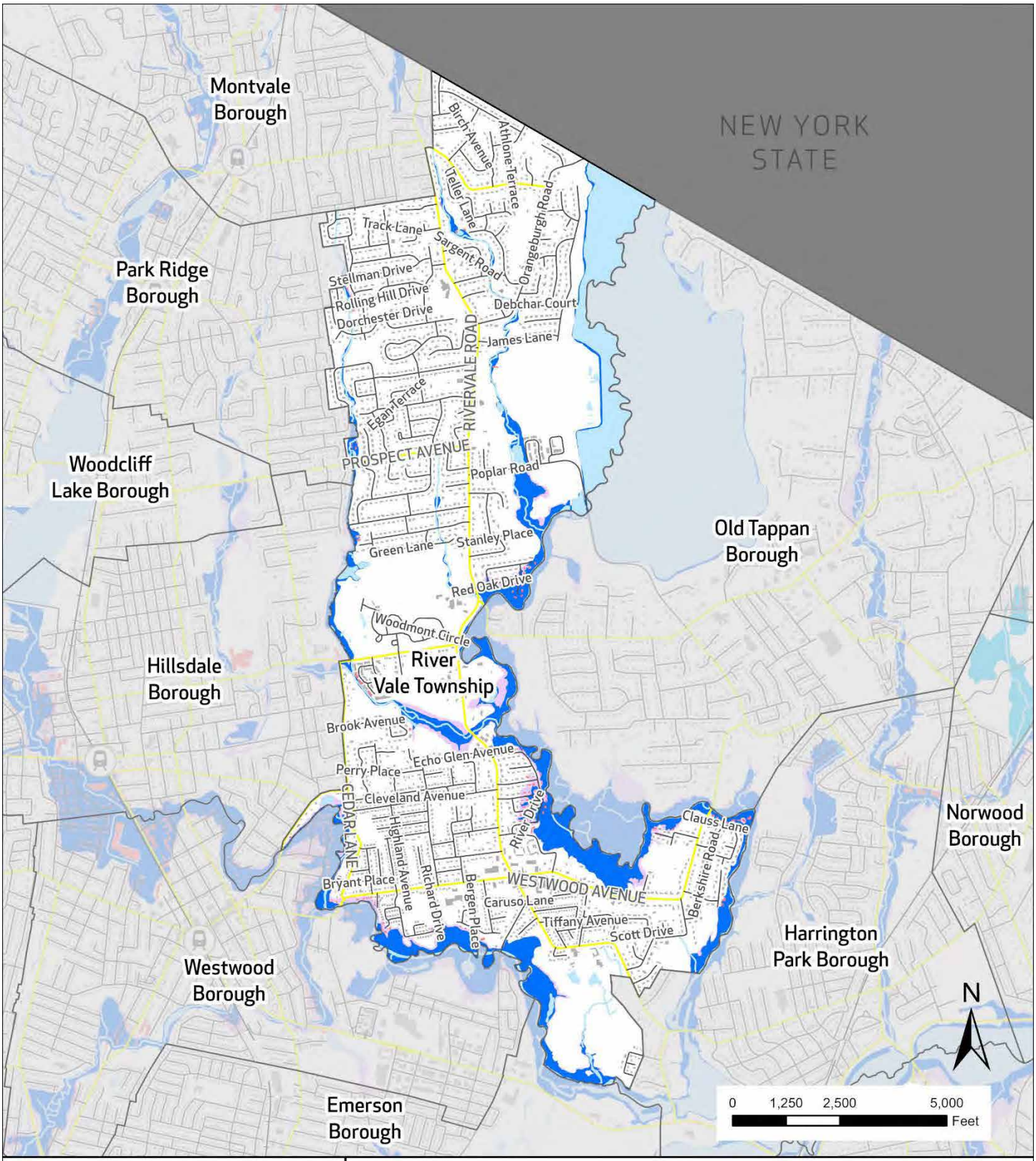
The Special Flood Hazard Area (SFHA) in the Township of River Vale is primarily located adjacent to the various streams and waterbodies of the township: Lake Tappan, and the Hackensack River and Pascack Brook. Approximately 14.5 percent of the total area of Rivervale lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 75.9 percent of Rivervale is considered developed. Of the developed parcels of the town, 8.9 percent fall at least partially within the 1% annual chance floodplain and 6.3 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	8.9	6.3
Exposed Land Area	14.5	2.1

During the planning process, River Vale Borough 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	-	-



Flood Hazard

River Vale Township

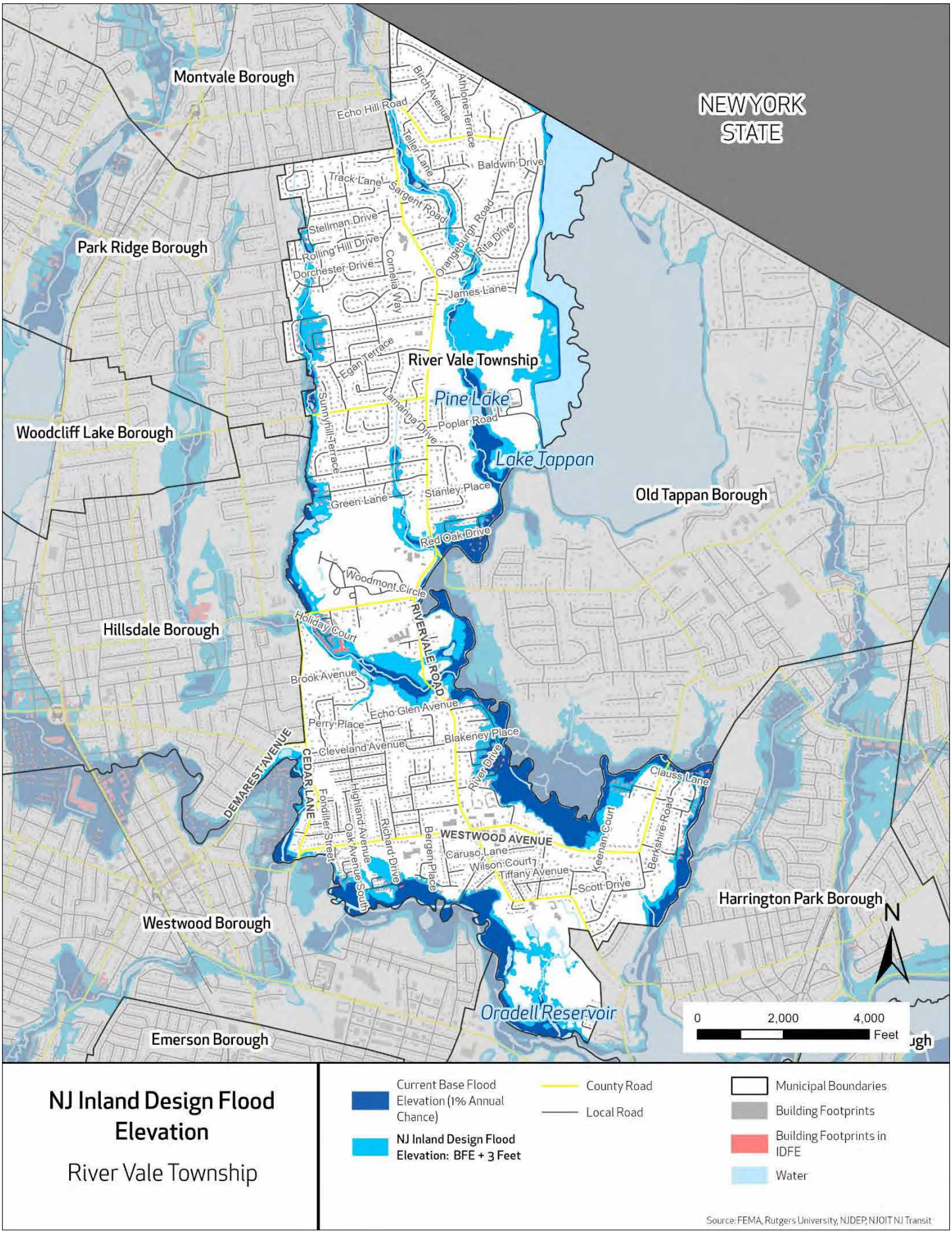
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Montvale Borough
NEW YORK STATE
Park Ridge Borough
River Vale Township
Pine Lake
Lake Tappan
Woodcliff Lake Borough
Old Tappan Borough
Hillsdale Borough
RIVERVALE ROAD
WESTWOOD AVENUE
DEMAREST AVENUE
CEDAR LANE
Harrington Park Borough
Westwood Borough
Oradell Reservoir
Emerson Borough
Echo Hill Road
Birch Avenue
Athlone Terrace
Teller Lane
Baldwin Drive
Track Lane
Sargent Road
Stellman Drive
Rolling Hill Drive
Dorchester Drive
Cornelia Way
Orangeburgh Road
Rita Drive
James Lane
Egan Terrace
Sunny Hill Terrace
Lamanya Drive
Poplar Road
Green Lane
Stanley Place
Red Oak Drive
Woodmont Circle
Holiday Court
Brook Avenue
Echo Glen Avenue
Perry Place
Cleveland Avenue
Blakeney Place
River Drive
Clauss Lane
Keenan Court
Berkshire Road
Fondiller Street
Highland Avenue
Oak Avenue South
Richard Drive
Bergen Place
Caruso Lane
Wilson Court
Tiffany Avenue
Scott Drive
N
0
2,000
4,000
Feet
NJ Inland Design Flood Elevation
River Vale Township
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
County Road
Local Road
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

River Vale 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		2008	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2009	
Floodplain Management Plan		X		
Stormwater Management Ordinance		X		
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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		

Administrative and Technical Capabilities

River Vale Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Gennaro Rotella Township Admin/CFO
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

River Vale Township has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, River Vale 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Township of River Vale has regraded and paved various roads throughout the Township along evacuation routes so that residents can travel safely before and during storms. The Township has also cleared debris, brush, limbs and trees form roadways and waterways in an effort to prevent any damages during a storm. River Vale will continue to monitor the roadways and trees/limbs for anything that may need to be addressed in the future to continue on improving the outcome of future storms.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
53-01	Remove FI Structure from SFHA (DPW)	Remove FI Structure from FHA (DPW)	All Hazards	Low	Local OEM and Municipal Staff	Municipal budget	$0	2 years	Completed	
53-02	Remove FI Structure from SFHA (Police Department)	Remove FI Structure from FHA (Police Department)	Flood	Low	Local OEM and Municipal Staff	Municipal budget	$0	2 years	Completed	
53-03	Remove FI Structure from SFHA (Fire Department)	Remove FI Structure from FHA (Fire Department)	Flood	Low	township council to ordinance committee	Municipal budget	$0	2 years	Completed	
53-04	Increase Sewer Capacity at Inter Glen Ave. and Rivervale Rd.	Increase sewer capacity and change the grading of Inter Glen Ave. and Rivervale Rd.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm		River Vale DPW	FEMA HMA, Municipal Finances	$70,000	2 years	Completed	
53-05	Elevate or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties located near the Hackensack River Regulatory Floodway	Elevate structures that are repetitively damaged by flooding.	Flood	Mediu m	Local OEM and Municipal Staff				Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
53-06	Continue to Trim Overhanging Trees along Roadways	Eliminate overhanging trees and limbs above and along roadways throughout the township.	Hurricane and Tropical Storm, Winter Storm, Severe Weather	Low	River Vale DPW	Municipal budget	$50,000	5 + years	Ongoing	
53-07	Acquire Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties located near the Hackensack River Regulatory Floodway	Remove structures that are repetitively damaged by flooding.	Flood, Nor'easter, Hurricane and Tropical Storm	High	township and private residents	FEMA HMA	$1.5 - $3.0 M	3 years	Ongoing	
53-08	Conduct Ongoing Maintenance to Clean Debris Pascal Brook	Ongoing maintenance plan to inspect the brook for fallen trees.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	River Vale DPW	Municipal budget	$500,000 - $750,000	2 years	Ongoing	

54 – ROCHELLE PARK TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Peter Donatello Jr.	**OEM Coordinator**	**Primary Contact; Municipal Meeting, Kickoff Mtg, Local OEM Mtg**
Teresa Judge Cravello	Mayor	Municipal Meeting, Kickoff Mtg, Local OEM Mtg
Dean Pinto	Police Chief / Administrator	Municipal Meeting, Kickoff Mtg., Local OEM Mtg
Dave Brown	DPW Superintendent	Municipal Meeting, Local OEM Mtg
Monica Mianecki	Flood Plain Manager	Municipal Meeting, Local OEM Mtg
James DiMaria	Construction Official	Municipal Meeting

COMMUNITY PROFILE

Overview

The Township of Rochelle Park covers approximately 1.02 square miles and is located in southwestern central Bergen County, New Jersey. The Sprout Brook flows from north to south through the western part of the township, emptying into the Saddle River, which flows along the western border of Rochelle Park. The Rochelle Park Area of Saddle River County Park offers a variety of sports and recreational opportunities. Route 17 and the Garden State Parkway traverse Rochelle Park. The township has a population of around 5,814 residents. Rochelle Park is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Rochelle Park is a predominantly residential community with residential (including apartment) use accounting for 50% of its area, covering nearly 220 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, and vacant land made up 22%, 21% and 3% respectively of its total area. Between 2016 and 2022, there was negligible change in the land use composition of the township.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 87% of the township's total land, covering 571 acres. Wetlands, forest land and water followed, covering 5%, 4%, and 2%, respectively of Rochelle Park's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.0	9.7	-
Forest	26.3	25.9	-2%
Urban	580.4	571.1	-2%
Water	13.9	13.9	<1%
Wetlands	35.6	35.6	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Park Terrace apartments consisting of 57 units and located at 106 Terrace Ave is vulnerable to flooding. The Delford, a residential complex of 60 apartments at 120 West Passaic Street is also vulnerable to flooding. The Delford falls within a regulatory floodplain and is elevated. Oak Street Park apartments comprising 30 units, is another recent development, although it is not located in a floodplain.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Commercial areas on West Passaic Street, Rochelle Avenue and Central Avenue will be undergoing redevelopment. The West Passaic Street development will fall within a floodplain. Additional housing is planned at Fairfield Drive which is located on a floodplain.

Demographics & Vulnerable Populations

Rochelle Park Township has a total population of an estimated 5,790, a 2.0% population increase since the 2013-2017 ACS survey estimate. Of township residents, an estimated 4.1% are under age 5, and 25.3% are over age 65. With over a quarter of township residents over age 65, Rochelle Park may most effectively plan for hazard events by focusing efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The entirety of Rochelle Park, five block groups, qualify for overburden (OBC) designation according to *Minority* populations indicators. No parts of the township qualify for identification under CDRZ or CEJST criteria.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	5,790
Population Change since 2017	2.0%
Percent of Population Age < 5	4.1%
Percent of Population > 65	25.3%

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 high, medium, low, or no concern. The following include the township'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 Wind	Extreme Temperatures
Nor'easter	Winter Storm	Lightning
Flood		Tornado
		Dam Failure
		Drought
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
Terrorism	Power Failure	Economic Disruption
	Pandemic	

Coastal Erosion, storm surge and wave action were ranked as N/A.

Hazard Ranking Explanation

Rochelle Park ranked hurricane/tropical storm, nor'easter, and flood as hazards of high concern, because it experiences frequent flooding from the Saddle River and Sprout Brook during these extreme weather events. Additionally, runoff from New York State and Paramus, and overflowing stormwater contribute to flooding in the township. Locations prone to flooding due to ponding include Route 17, the Marcellus Park area, and areas along the border of Garfield, South Hackensack and Lodi. Notably, the areas bordering Garfield, South Hackensack and Lodi did not previously face flooding.

The township once ranked pandemic as high owing to the high mortality rate during the Covid-19 pandemic. Terrorism was ranked high because of the presence of soft targets such as a Verizon Telecommunication Center, railroad, and transcontinental pipeline running through the eastern border of the township along the Route 17 Corridor.

Wildfire was ranked as a hazard of medium concern because residents of Howard Avenue have faced brush fires. The township previously sent resources to these residents to mitigate the effects of the brush fire.

Significant Hazard Events Since Last Plan Update

The significant hazard events experienced by the township were Hurricane Ida in 2021, December 2023, flooding of homes and rescues with significant debris removal issues, and January 2024 flooding from a winter storm. The township received FEMA assistance in the aftermath of the 2021 event.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Rochelle Park. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from the Saddle River and Sprout Brook, and the floodplain running through the township's western portion. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's over 25% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Rochelle Park Township	
Number of Policies In-Force:	245
Total Losses:	899
Total Payments:	$31,272,725.07
Number of RL Properties:	106
Number of Mitigated RL Properties:	1
RL – Total Losses:	304
RL – Total Paid:	$12,860,538.28
Number of SRL Properties:	40
Number of Mitigated SRL Properties:	1
SRL – Total Losses:	161
SRL – Total Paid:	$6,370,113.60

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

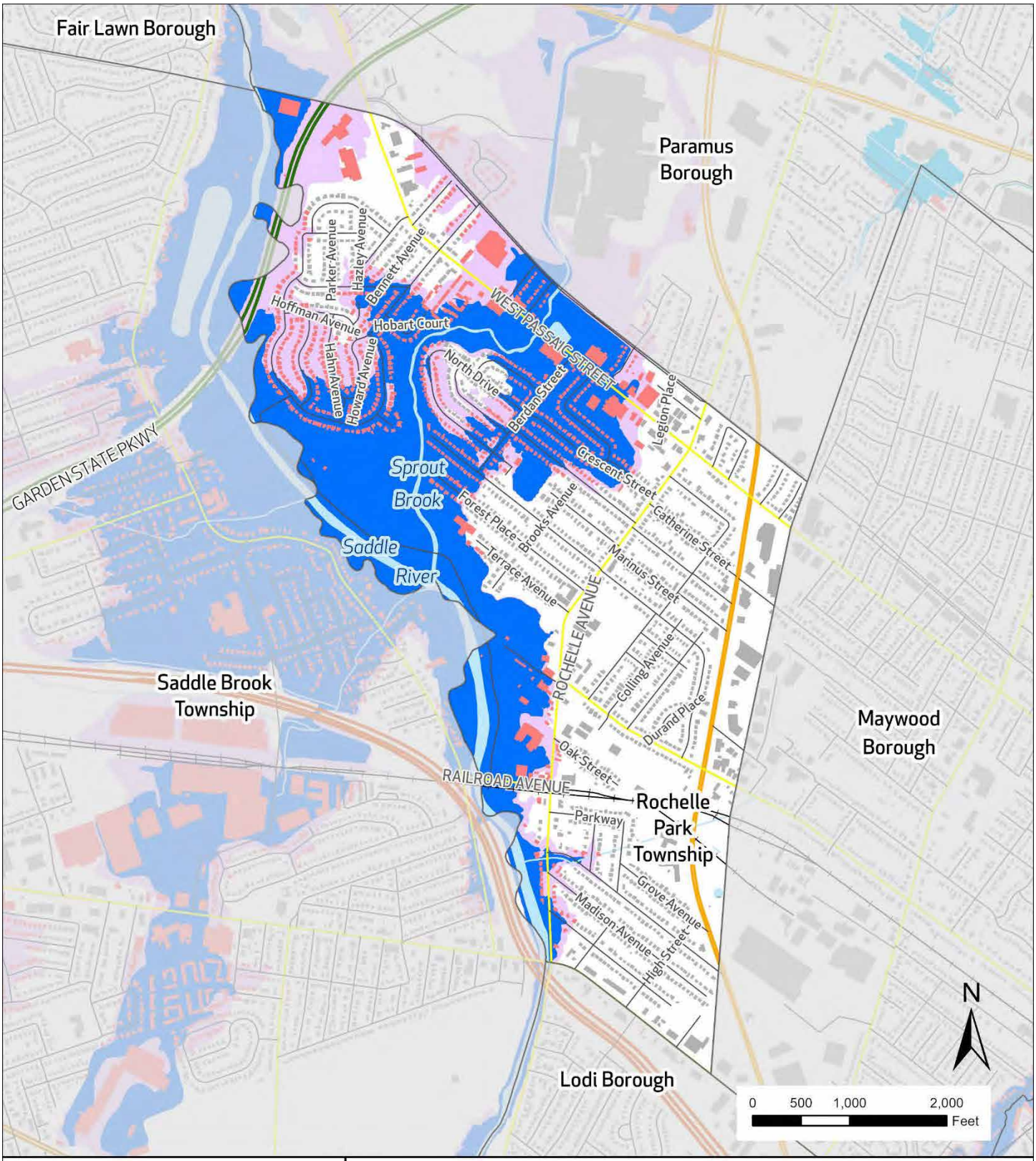
The Special Flood Hazard Area (SFHA) in the Township of Rochelle Park is primarily located adjacent to the main waterbodies of the township, The Saddle River and Sprout Brook, especially the area where the two streams meet. 32 percent of the total area of Rochelle Park lies within the 1% annual chance floodplain as defined by FEMA. An additional 13.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 68.6 percent of Rochelle Park is considered developed. Of the developed parcels of the town, 22.3 percent fall at least partially within the 1% annual chance floodplain and 22.6 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	22.3	22.6
Exposed Land Area	32.0	13.7

During the planning process, Rochelle Park 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 four total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two area within the 1% annual chance floodplain and 1 is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Communications	0	1
Health and Medical	1	-
Safety and Security	1	-



Flood Hazard

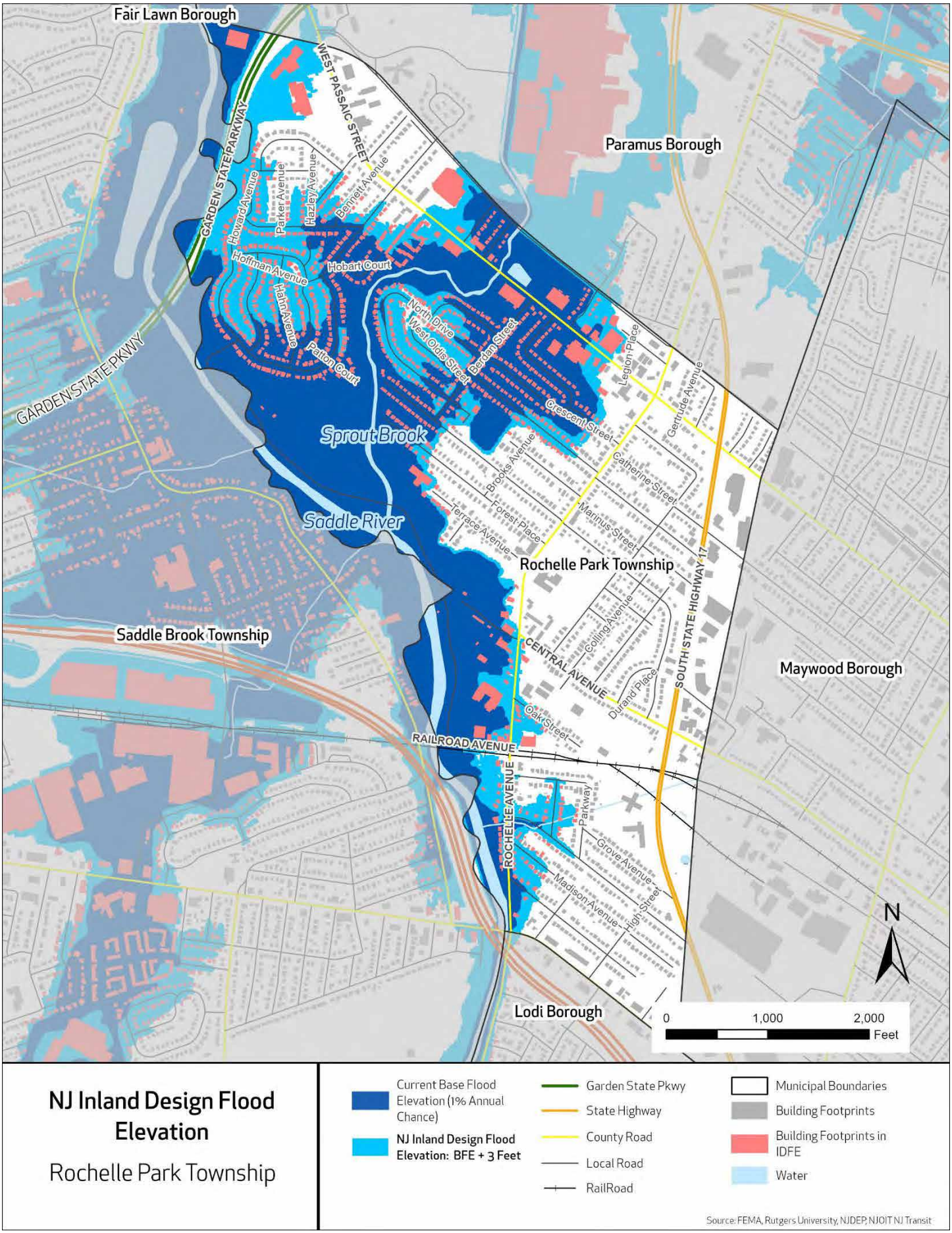
Rochelle Park Township

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Garden State Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Rochelle Park Township

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Rochelle Park 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		2016	
Capital Improvement Plan	X		2016	Will be updated in 2026
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		07/2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Permit and zoning applications are reviewed for compliance with SI/SD requirements. Properties that are identified, receive a letter stating they need to be compliant
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			Through the Building Department that maintains original records of elevation certificates
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
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			Stormwater Ordinance and Tree Ordinance to help with mitigating runoff

Administrative and Technical Capabilities

Rochelle Park Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Part-time municipal employee
Grant Writer	X		Contractor, Millenium Strategies
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		Rutgers University engineering and survey class
Organizations that work with socially vulnerable or underserved populations	X		Shelter Our Sisters, New Concepts for Living, Heart to Heart

Education and Outreach Capabilities

Rochelle Park Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Local media (newspapers, publications), social media, reverse 911, community outreach programs
Storm Ready		X	
Firewise USA		X	
Severe Weather Awareness Week	X		
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Rochelle Park 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		Project is currently being funded through capital improvement bonds
Evaluation process on the prioritization of risk reduction projects against other local activities	X		
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last plan update, the Township of Rochelle Park has made significant progress in enhancing flood resilience, strengthening emergency response capabilities, and upgrading critical infrastructure to reduce natural hazard risks. Completed actions include the elevation of homes to meet updated FEMA standards, improvements to drainage systems, the acquisition of flood protection devices to prevent water intrusion at the Fire Headquarters and OEM/EMS buildings, and approved funding to elevate the sanitary sewer pump station above the Special Flood Hazard Area (SFHA). Looking ahead, Rochelle Park will prioritize initiatives that address the growing impacts of climate change, particularly flooding associated with the Saddle River and Sprout Brook. Planned strategies over the next five years include updating flood maps, adopting advanced emergency alert systems, upgrading community shelters, installing a system to monitor Saddle River water levels in real-time, and continuing efforts to support home elevation projects in partnership with residents. These actions reflect Rochelle Park's ongoing commitment to protecting its residents and promoting sustainable, resilient development in the face of evolving environmental challenges.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
54-01	Build Waterproof Wall around Sewer Pump Station	Build a waterproof wall around sewer pump stations to mitigate flood related hazards.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather						Withdrawn	Pump station will be elevated and relocated above SFHA
54-02	Perform a Feasibility Assessment to Purchase and Install Back Flow Protection	Perform a feasibility assessment for possible backflow prevention to an existing storm water system.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Rochelle Park Township	Municipal budget	$17,500.00	1 year	Withdrawn	
54-03	Purchase and Install an Outdoor Warning System	Outdoor Warning System or a system such as Reverse 911 to alert residents of an emergency, especially for areas emergency responders cannot physically reach.	All Hazards	Medium	Rochelle Park Township	Homeland Security grants, Municipal budget	$50,000.00	2 years	Complete	Withdrawn is the outdoor warning system. Currently utilizing the Rave-Swift Reach reverse 9-1-1- enhanced system to alert residents.
54-04	Purchase and Install Cyber Security Infrastructure	Install back-up servers/off-site data storage	Cyber Attack	Medium	Rochelle Park Township	Homeland Security grants	$70,000.00	1 year	Complete	Completed per JIF mandate
54-05	Purchase Temporary Barriers to Protect Fire House from	Purchase temporary barriers (24" x 50') to keep water from flooding the fire house so the fire trucks can continue to	Flood, Nor'easter, Hurricane and Tropical Storm,	Medium	Rochelle Park Township	Municipal budget, FEMA HMA	$83,000.00	1 year	Complete	Projected completed April 17, 2025, with the purchase of US Flood Control, Tiger Dam flood protection system.

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Flooding and Continue Continuity of Emergency Services During a Storm	respond to emergency services during major flooding events. Permanent walls not feasible.	Severe Weather							

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
54-06	Elevate Sanitary Sewer Pump Station above SFHA	Elevate the pump station to maintain access to critical community resources during flooding related hazard.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Rochelle Park Township	FEMA HMA	$6,500,000.00	1 year	Ongoing	Project will be Capital Improvement Bond funded
54-07	Replace Existing Generators with Natural Gas, specifically at the Municipal Building	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Rochelle Park Township	FEMA HMA	$200,000.00	2 years	Ongoing	
54-08	Purchase and Install Generator at both Midland School and Knight of Columbus	Purchase and maintain generators to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Rochelle Park Township	FEMA HMA	$200,000.00	1 year	Ongoing	
54-09	Target Harden the Municipal Complex and DPW by Installing Surveillance Cameras, Fencing, and Bollards	Purchase and install cameras, fences and bollards at municipal complex and DPW facility.	Terrorism	Medium	Rochelle Park Township	Homeland Security grants	$250,000.00	2 years	Ongoing	Security cameras complete, bollards and fencing ongoing.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
54-10	Purchase Additional Movable Signs to Designate Evacuation Routes and Road Closures	Obtain additional movable signs to designate evacuation routes and road closures.	All Hazards	Medium	Rochelle Park Township	Homeland Security grants	$230,000.00	1 year	Ongoing	
54-11	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Mitigate repetitive loss and severe repetitive loss properties by working with residents to elevate their structure or convert to open space.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Rochelle Park Township	FEMA HMA	$160,000.00	5 + years	Ongoing	Twp in process of managing project. Contract awarded to elevate RL & SRL properties.
54-12	Coordinate with County to Restore the Saddle River and Elevate/Repair the Marcellus Bridge	Coordinate with the County to restore the Saddle River and conduct needed repairs to the Marcellus Bridge.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County and Rochelle Park Township	FEMA HMA, municipal and County budget, DOT	$100,000.00	5 + years	Ongoing	Funding this project is pending agreement with Bergen County
54-13	Remove Debris and De-snag Sprout Brook and Repair and Reconstruct Stormwater Outfalls	Clean-up/de-snagging of Sprout Brook and repair/reconstruct stormwater outfalls discharging to Sprout Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Rochelle Park Township	Municipal budget	$60,000.00	5 + years	Ongoing	Partial complete, ongoing as needed
54-14	Update to Floodplain Management Ordinance	Adopt ordinance to enforce higher freeboard and other necessary standards to ensure structures are brought into compliance.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Rochelle Park Township	Municipal Budget	$100.00	1 year	Ongoing	Currently in process of adopting the New Model Ordinance.

55 – ROCKLEIGH BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
William McGuire	**Borough Administrator**	**Primary Contact, attended municipal meeting**

COMMUNITY PROFILE

Overview

The Borough of Rockleigh spans approximately one square mile and is located in northeastern Bergen County, New Jersey. The area is rural in character with large open field and meadow areas, natural glens and dense wooded tablelands that extend from the eastern side of the borough up to the top of the Palisades ridge. Occasional small waterfalls spill over the steeper inclines and drain into the Sparkill Brook which interwinds throughout the entire borough. About a third of Rockleigh is lies within a 246.45-acrect. The borough borders the municipalities of Alpine, Northvale and Norwood in New Jersey and Tappan in the Town of Orangetown in Rockland County, New York. County Route 501 passes through Rockleigh and is the main transportation corridor. The borough has a population of around 567 residents. Rockleigh is not a coastal community, as it lies inland.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Rockleigh is predominantly rural in character with the MOD-IV dataset showing that civic/public (tax exempt) land accounted for nearly 52% of the total land area in 2022, including park land, schools, and other publicly owned property. Residential and commercial land followed, constituting 29% and 15% of the total land area. From 2016 through 2022, there was a notable decrease in commercial land, and industrial land disappeared completely.

According to NJDEP's Land Use/Land Cover datasets, from 2015 through 2020, Urban/developed land accounted for the largest share of land use at 70%. In 2020, forest land and wetlands made up around 13% and 12%, respectively, of the total area of the borough. Somewhat uniquely in Bergen County, there is a small amount of agriculture use in the borough with has remained constant at 14.4 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	14.4	14.4	0%
Barren Land	0	3.9	
Forest	149.6	148.2	-1%
Urban	428.2	426.1	0%
Water	6.2	6.2	0%
Wetlands	48.4	48	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Due to the National Historic District which makes up about a third of the borough and includes most of the area zoned for residential development, the borough experiences very little development. Due to the district homes are not allowed to be demolished. At most there is one new home a year.

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

None identified. Due to the borough's affordable housing responsibility, Rockleigh has plans to Build 10 affordable homes by 2035.

Demographics & Vulnerable Populations

Rockleigh Borough has an estimated total population of 567, which is -5.3% fewer than in the 2013-2017 ACS survey period estimate. Of Rockleigh residents, 0.5% are estimated to be under 5 and over half (51.9%) are over age 65. With an aging population making up over half of residents, Rockleigh may most effectively focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023). Additionally, a notable population loss of over five percent indicates potential vulnerabilities of changing landscape conditions including development and redevelopment, loss of density, and potentially, mismatched reliance on local resources.

Rockleigh has one block group which qualifies as overburdened (OBC) according to Minority population indicators, and no parts of the Borough meet criteria for CDRZ or CEJST designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	567
Population Change since 2017	-5.3%
Percent of Population Age < 5	0.5%
Percent of Population > 65	51.9%

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 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		
		Drought
		Extreme Temperatures
		Extreme Wind
		Flood
		Hurricane/Tropical Storm
		Landslide
		Lightning
		Nor'easter
		Tornado
		Wildfire
		Winter Storm
Human-made Hazards		
	Pandemic	Civil Unrest
		Cyber Attack
		Economic Disruption
		Power Failure
		Terrorism

Coastal Erosion, Dam Failure, Storm Surge and Wave Action were ranked as N/A.

Hazard Ranking Explanation

As Rockleigh is an inland community, coastal erosion, storm surge and wave action are not applicable hazards. Dam failure has also been ranked as non-applicable as there are no significant dams on the creeks upstream of Rockleigh or in neighboring towns.

Most hazards have been ranked low concern due to low occurrence or low perception of risk. Rockleigh is sparsely populated with large single-family homes on large plots. Flood has not damaged homes mostly impacts streets. The borough reports that flooding only occurs during extreme weather events. Homes in Rockleigh are on two acre lots so often a yard will flood and not impact the home on the property. Cyber-attack is ranked as low. The borough just had computers replaced to be more secure.

Power failure is ranked low. Rockleigh used to experience more frequent outages but since a cable was replaced and no longer an issue. Additionally, many homes in the borough have a generator.

Significant Hazard Events Since Last Plan Update

None reported.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Rockleigh. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. Although Rockleigh officials reported minimal flood impacts, especially in comparison to some other municipalities in Bergen County, this pattern has the potential to alter and expand the existing floodplain, putting assets at risk which are not presently vulnerable to hazard. Although development in Rockleigh is unlikely to occur at an impactful scale due to the historic district in the borough, potential future development upstream within the watershed, could increase the amount of runoff in borough streams such as the Sparkill Brook. Actions identified by the borough's mitigation strategy involving flood risk reduction should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Rockleigh Borough	
Number of Policies In-Force:	7
Total Losses:	4
Total Payments:	$191,642.34
Number of RL Properties:	0
Number of Mitigated RL Properties:	0
RL – Total Losses:	0
RL – Total Paid:	0
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

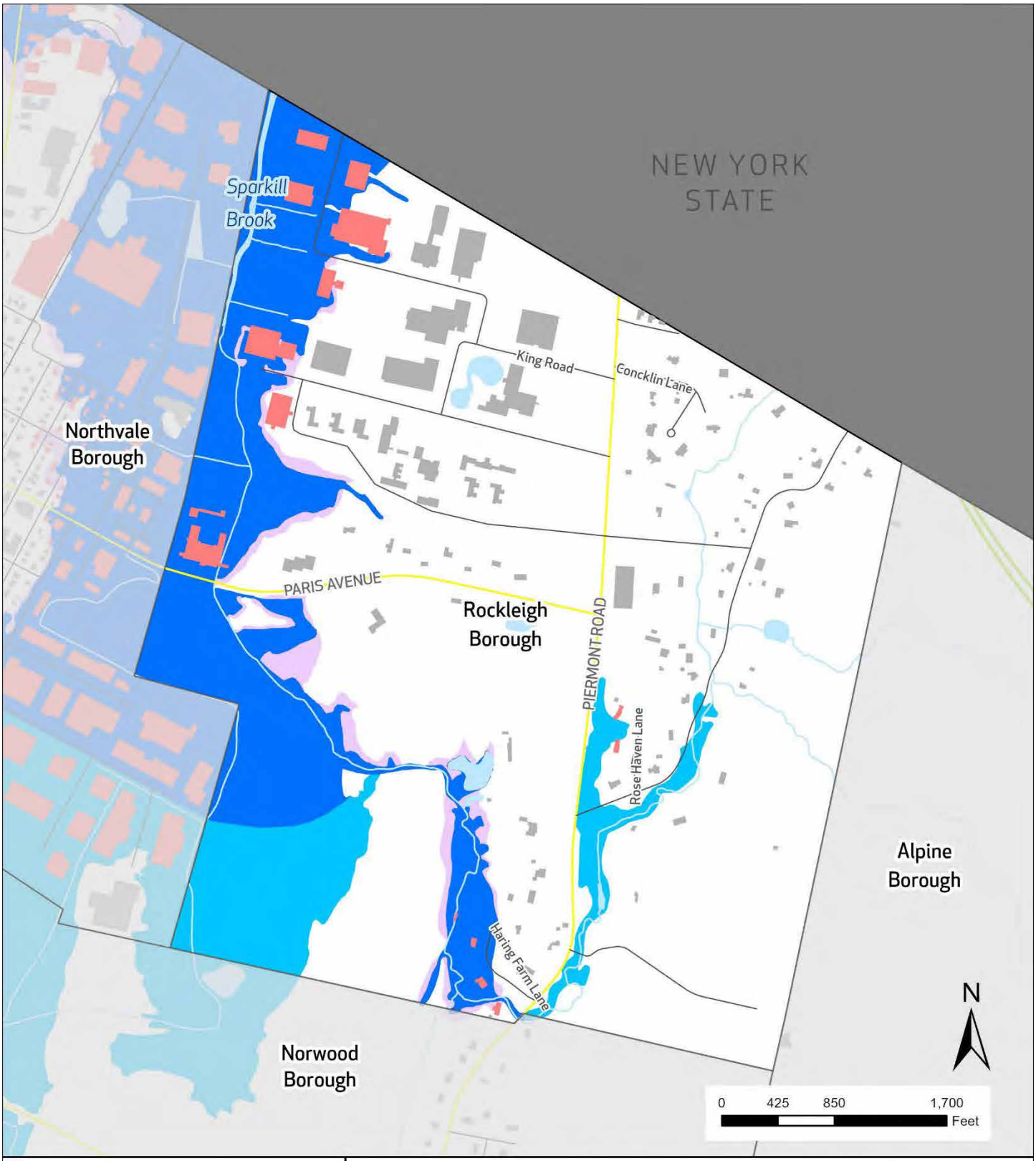
The Special Flood Hazard Area (SFHA) in the Borough of Rockleigh is primarily located adjacent to Sparkill Brook and its tributaries. Approximately 23.8 percent of the total area of Rockleigh lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 57 percent of Rockleigh is considered developed. Of the developed parcels of the town, 32.1 percent fall at least partially within the 1% annual chance floodplain and 13.8 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	32.1%	13.8%
Exposed Land Area	23.8%	2.1%

During the planning process, Rockleigh Borough 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 one facility in total. This facility was geolocated and intersected with delineated flood hazard data using GIS. This facility is not located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



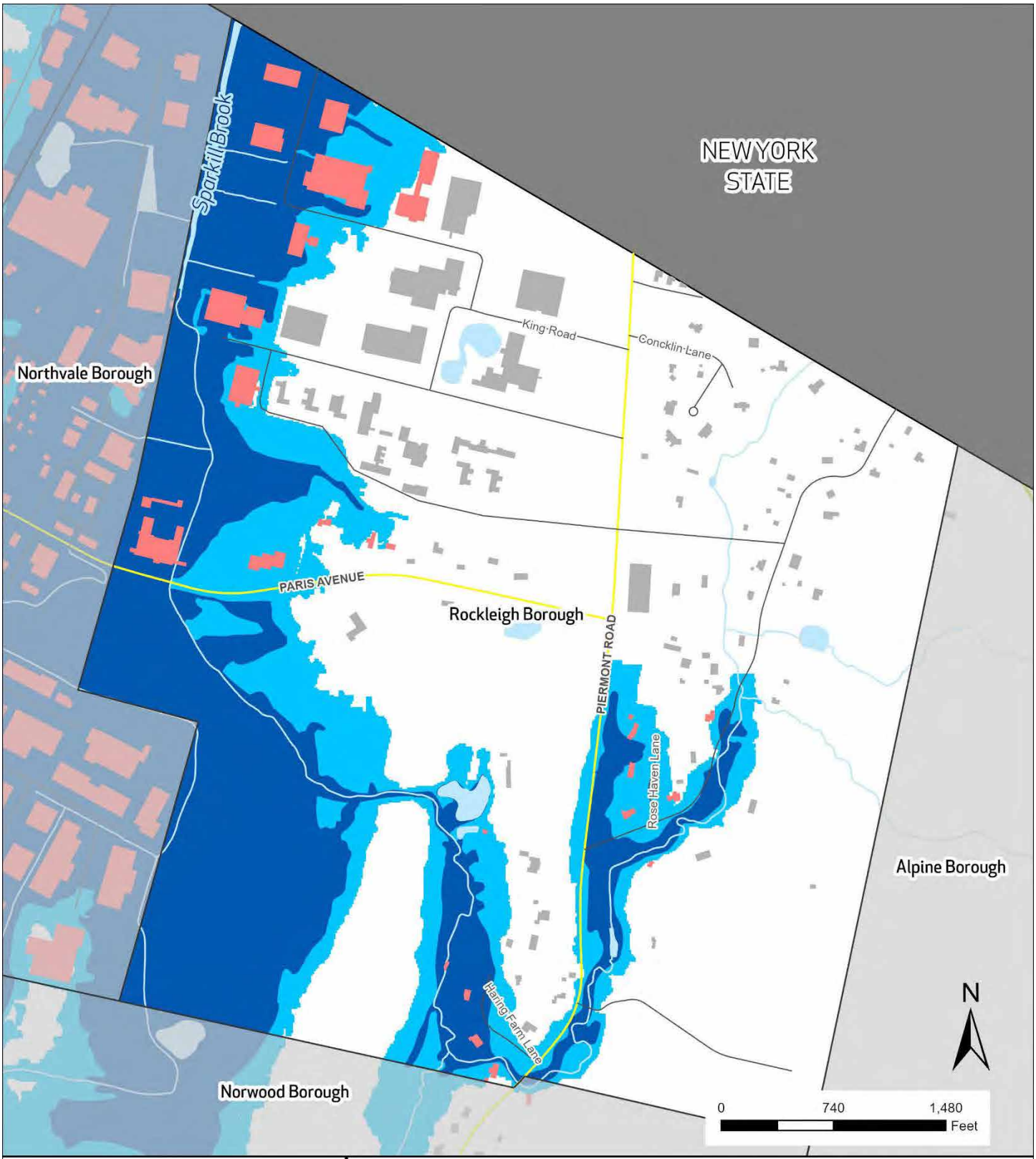
Flood Hazard

Rockleigh Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- County Road
- Local Road
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

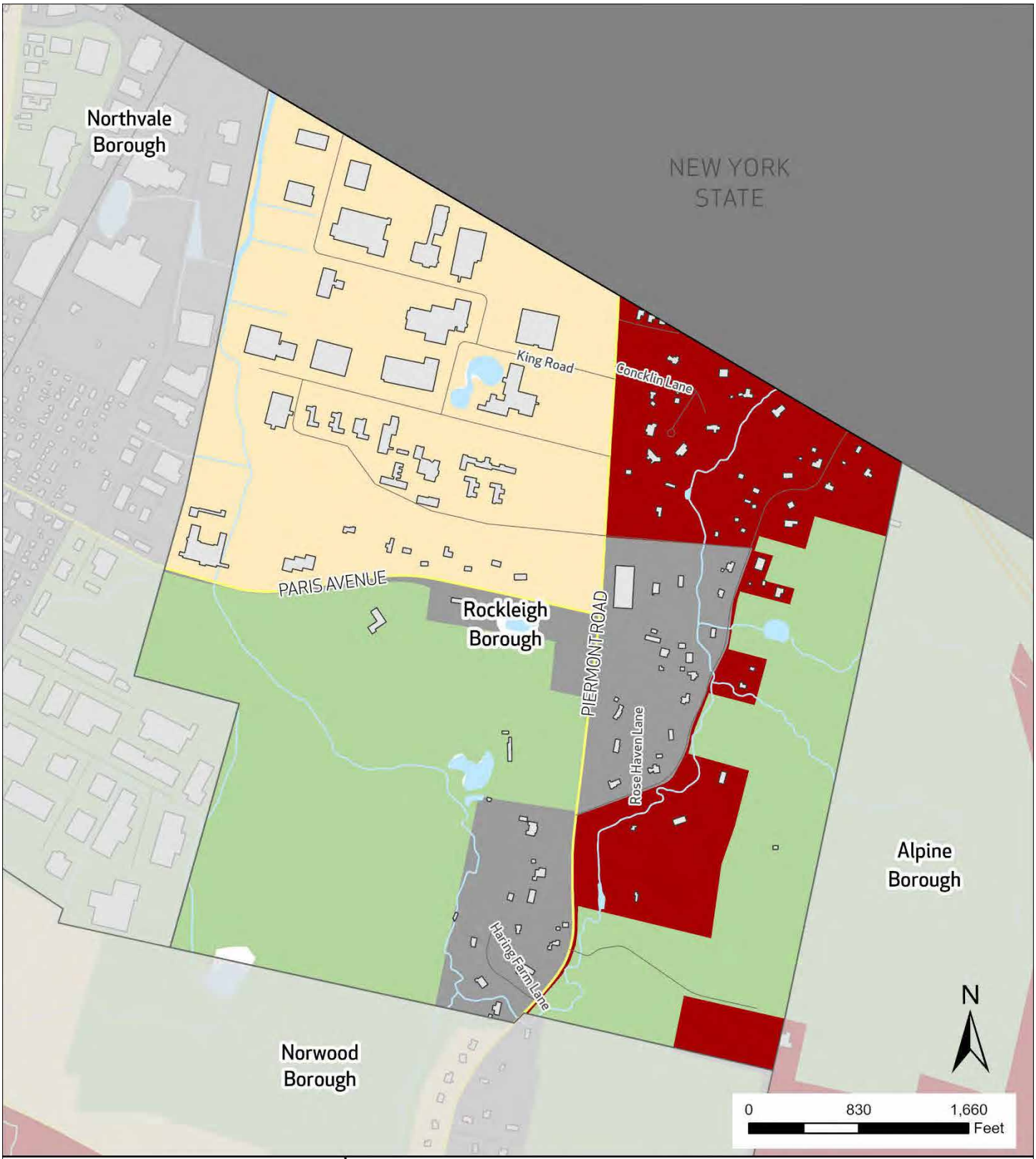


NJ Inland Design Flood Elevation

Rockleigh Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Wildland Urban Interface (WUI) Classification

Rockleigh Borough

WUI Classification

- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- County Roads
- Local Roads

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Rockleigh Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	Northern Valley mutual aid agreement
Floodplain Development Ordinance		X		
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan	X			
Sheltering Plan	X			Northvale or Norwood schools
Evacuation Plan	X			East and west on Rockleigh Road and north or south on Piermont Road and Highway 9W
Substantial Damage/Improved Structures Response	X			DPW
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			Through mayor and council
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan	X			Northen Valley mutual aid agreement
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Rockleigh Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		W. McGuire
Grant Writer		X	
Staff trained to support mitigation	X		Northern Valley mutual aid agreement
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Northern Valley mutual aid agreement
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		NYNJ Trail Conference manages the Rockleigh Woods Sanctuary
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Rockleigh Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Website and reverse 911 system
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Rockleigh Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

There have been no changes to the Rockleigh mitigation plan since 2021 and there have been no issues with storms or other natural events that caused any damage to the borough. The power company did improve the electric primary line on Rockleigh Road which improved the power failures due to wind and tree branches knocking down the wire.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
55-01	Mitigate At-risk Properties	Mitigate properties in FEMA's Special Flood Hazard Area (SFHA) by acquiring the properties, demolishing the property, elevating the property, or if the homeowner does not wish to vacate the property or elevate educate them on the risk and the options open	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Mayor & Council	Taxes, NJDEP, Blue Acres program, FEMA HMA	$10 million	5 + years	Withdrawn	Combined with action 55-06

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
55-02	Purchase and Install Generator at Firehouse	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Rockleigh Borough	FEMA HMA	$50,000	1 year	Ongoing	Expected to be completed within the year
55-03	Coordinate with County to Remove Debris from Sparkill Brook	Clear debris and provide continual maintenance of the Sparkill Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Mayor & Council, Bergen County	Municipal budget	$1 million	2 years	Ongoing	The County Mosquito Commission looked into the matter and reported that permits would be more expensive than the debris removal. Brook runs through private property – ownership difficulties

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
55-04	Widen and Stabilize the Sparkill Brook	Widen and stabilize Brook to improve stormwater infiltration.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Rockleigh Borough, Bergen County	FEMA HMA, Municipal budget	TBD	1 year	Ongoing	
55-05	Clear Dead Trees and Conduct Controlled Burnings	Clear Dead Trees and Conduct Controlled Burnings.	Wildfire	Medium	Rockleigh Borough, NYNJ Trail Conference	Municipal budget	TBD	5 + years	Ongoing	NYNJ Trail Conference manages the Rockleigh Woods Sanctuary.
55-06	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Currently, there are no RL/SRL properties in the borough. However if that changes within the next five years, coordinate with residents to elevate RL/SRL properties or buy out RL/SRL properties and convert to open space.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	

56 – RUTHERFORD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Tarantino	**OEM Coordinator**	**Primary Contact**
Matt Ziemkiewicz	Deputy OEM Coordinator	Municipal Meeting
Robert Kakoleski	Borough Administrator	Secondary Contact

COMMUNITY PROFILE

Overview

The Borough of Rutherford spans approximately 2.89 square miles and is located in southern Bergen County, New Jersey. It is bordered by the Passaic River on the west. Berrys Creek and Fish Creek are the other important water bodies in the borough NJ Transit offers service to and from New York City's Port Authority Bus Terminal in Midtown Manhattan. Additionally, the borough falls on NJ Transit's Bergen County Line. Rutherford has a population of 18,754 residents. Rutherford is a coastal community that will experience sea level rise from its river and creeks.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Rutherford is a predominantly residential community with residential (including apartment) use accounting for 74% of its area, covering 678 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, industrial land, and vacant land made up 18%, 6%, 1%, and 1% respectively of its area. Between 2016 and 2022, the area under residential use increased by over 100 acres, and commercial and civic/public (tax exempt) land uses increased by about 10 acres each.

The significant share of residential use, followed by civic/public (tax exempt), commercial and industrial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 75% of the borough's total land, covering 1,379 acres. Wetlands, water, barren, and forest land made up the remaining 25% of the borough's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	90.1	90.2	<1%
Forest	97.4	97.1	-<1%
Urban	1378.7	1379	<1%
Water	109.1	109.1	0%
Wetlands	174.7	174.6	-<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

None identified at this time by the borough.

Demographics & Vulnerable Populations

Rutherford Borough has an estimated population of 18,754. Of Rutherford residents, an estimated 3.6% are under age 5 and 15.5% are over age 65. Though the population age of this community is relatively distributed, an aging population may identify hazard vulnerability in local populations with mobility needs, uneven access to resources, and limited social

networks which make pre-disaster engagement more challenging (FEMA, 2023). The borough has had consistent population over the 2013-2017 and 2018-2022 ACS survey periods, with an estimated 0.71% change.

There are eleven block groups within Rutherford which meet criteria for overburden (OBC) according to indicators of *Minority* populations. There are no parts of Rutherford which meet criteria under CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	18,754
Population Change since 2017	0.7%
Percent of Population Age < 5	3.6%
Percent of Population > 65	15.5%

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 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 Temperatures	Tornado
Nor'easter	Extreme Wind	Dam Failure
Flood	Lightning	Landslide
	Winter Storm	Drought
		Storm Surge
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
		Economic Disruption
		Pandemic
		Power Failure
		Terrorism

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

Winter storms were ranked as medium since the borough has not experienced a significant storm in two years.

Significant Hazard Events Since Last Plan Update

During Hurricane Ida in September 2021, trees fell and caused power outages and there was significant flooding. The borough experienced runoff in areas which did not preciously experience flooding.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Rutherford. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Passaic River, Berrys Creek, and Fisk Creek. The current drainage system, which already may be

undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 15% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Rutherford Borough	
Number of Policies In-Force:	89
Total Losses:	268
Total Payments:	$5,605,719.24
Number of RL Properties:	37
Number of Mitigated RL Properties:	0
RL – Total Losses:	95
RL – Total Paid:	$1,748,370.97
Number of SRL Properties:	17
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	85
SRL – Total Paid:	$2,469,013.09

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

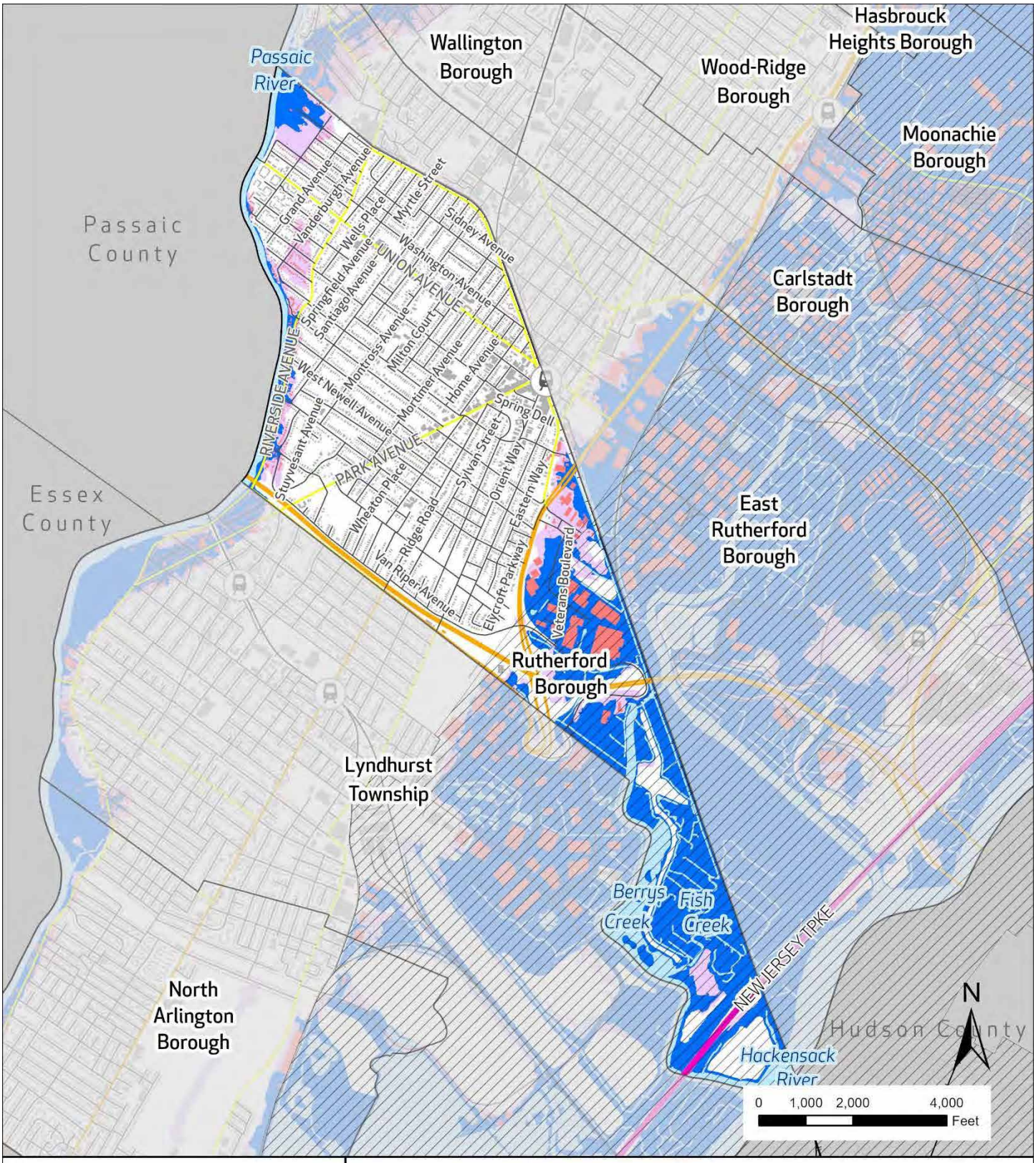
The Special Flood Hazard Area (SFHA) in the Borough of Rutherford is primarily located adjacent to the Passaic River which forms the western border of town as well as within the eastern portion of town that is considered part of the Meadowlands District. Approximately 27.2 percent of the total area of Rutherford lies within the 1% annual chance floodplain as defined by FEMA. An additional 6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

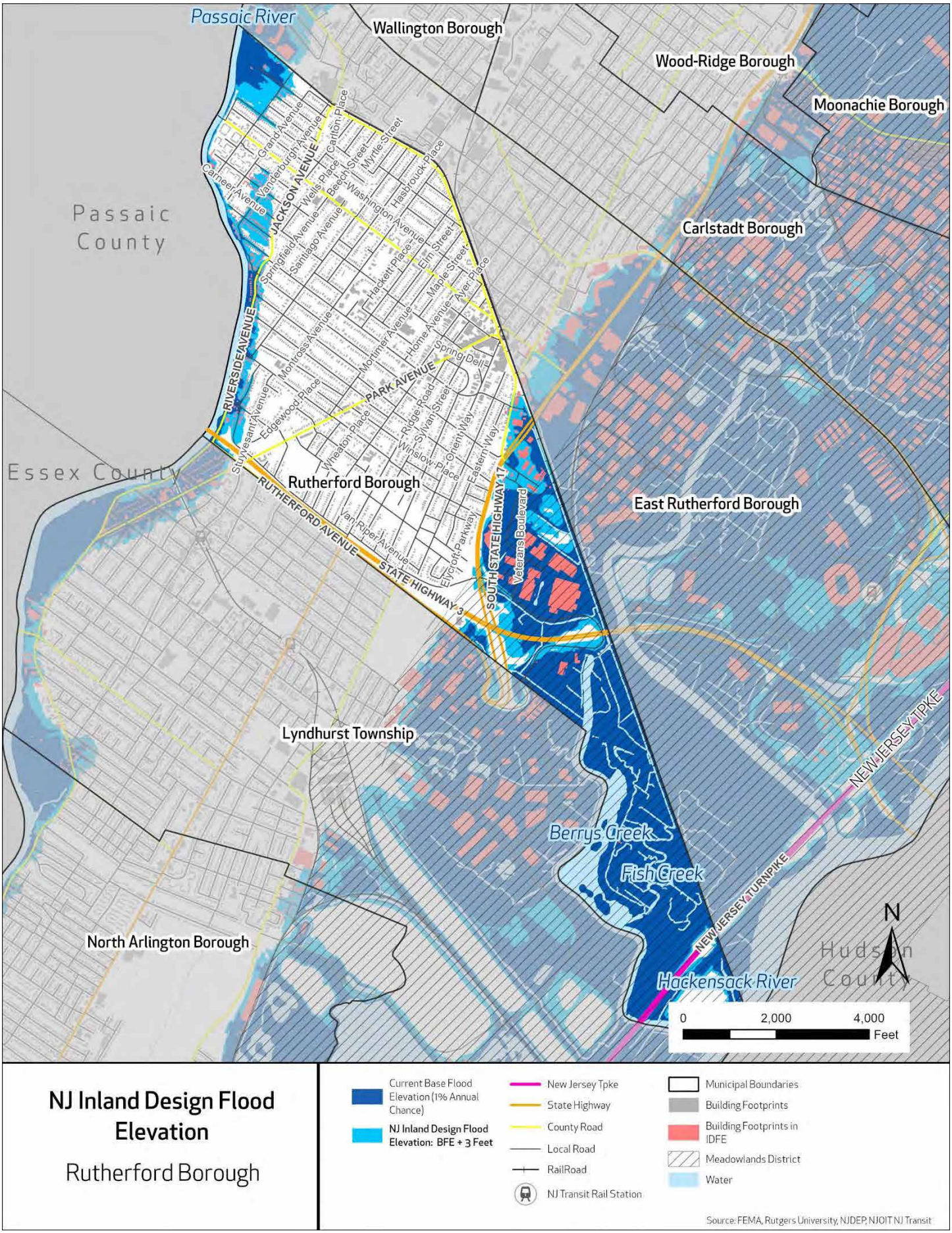
About 68.3 percent of Rutherford is considered developed. Of the developed parcels of the town, 3.4 percent fall at least partially within the 1% annual chance floodplain and 6.4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	3.4	6.4
Exposed Land Area	27.2	6.0

During the planning process, Rutherford Borough 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 10 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 0.2% annual chance. None are within the 1% annual chance area, or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	0	1


Passaic River
Wallington Borough
Hasbrouck Heights Borough
Wood-Ridge Borough
Moonachie Borough
Passaic County
Carlstadt Borough
Essex County
East Rutherford Borough
Rutherford Borough
Lyndhurst Township
North Arlington Borough
Berrys Creek
Fish Creek
NEW JERSEY TPKE
Hudson County
Hackensack River
Grand Avenue
Vanderburgh Avenue
Wells Place
Myrtle Street
Sidney Avenue
Springfield Avenue
Santiago Avenue
UNION AVENUE
Washington Avenue
RIVERSIDE AVENUE
Montross Avenue
Milton Court
Mortimer Avenue
Home Avenue
West Newell Avenue
Stuyvesant Avenue
PARK AVENUE
Spring Dell
Sylvan Street
Orient Way
Eastern Way
Wheaton Place
Ridge Road
Van Riper Avenue
Elycroft Parkway
Veterans Boulevard
N
0 1,000 2,000 4,000
Feet
Flood Hazard
Rutherford Borough
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
New Jersey Tpke
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Building Footprints
Building Footprints in Floodplain
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

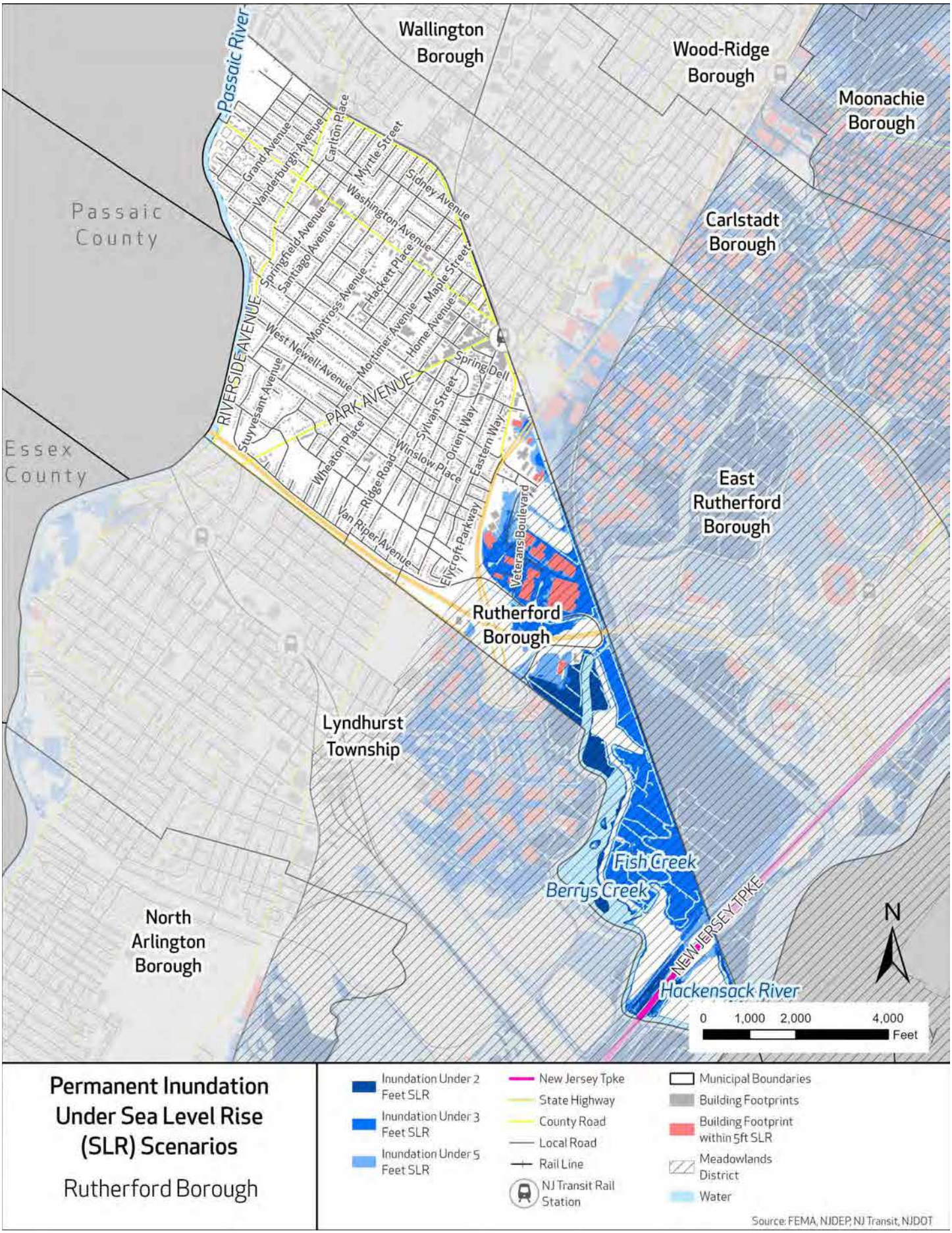


NJ Inland Design Flood Elevation

Rutherford Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- New Jersey Tpke
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Rutherford Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- New Jersey Tpke
- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Rutherford Borough 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		2007 & 2018	The Master Plan does not include any discussion of hazard mitigation strategies.
Capital Improvement Plan	X		2025	Infrastructure repairs and upgrades
Local Emergency Operations Plan/Continuity of Operations Plan	X		6/20/204	Guidance to Emergency Responders and Department heads
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		5/27/2025	The stormwater management plan ordinance regulation that mandates specific practices and requirements for managing stormwater runoff. Our ordinances aim to prevent flooding, erosion, and water pollution by outlining strategies for handling rainwater and snowmelt.
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X		6/20/2024	Guidance to Emergency Responders and Department Heads
Evacuation Plan	X		6/20/2024	Guidance to Emergency Responders and Department Heads
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		6/20/2024	Guidance to Emergency Responders and Department Heads
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		The following topic does not include any discussion of hazard mitigation strategies.
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		

Administrative and Technical Capabilities

Rutherford Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
Grant Writer	X		Bruno Associates
Staff trained to support mitigation	X		Emergency Responders and Department Heads
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		Rutherford Food Pantry

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations			

Education and Outreach Capabilities

Rutherford Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Public Information Officer; RAVE alert system; social media
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Rutherford Borough 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		Storm related
NJ Infrastructure Bank		X	
Other state municipal assistance or grant programs	X		Grant received; funds not expended at this time
Evaluation process on the prioritization of risk reduction projects against other local activities		X	
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

This provides and update on the Borough of Rutherford's progress in addressing natural/manmade hazard risks since the last planning cycle. Noteworthy achievements include the completion of projects that focus on enhancing flood resilience through drainage system improvements (new catch basin along West Passaic and Francisco to capture storm water before running down the low areas and protecting the homes west of Jackson Ave along the Passaic River; televising the storm water system in the area looking for any damaged lines needing repairs to add in stormwater; worked with NJDOT along Vet's Blvd near Rt 3 by adding new stormwater infrastructure to assist with storm water and overflow form the tide gates), bolstering emergency response capabilities with the dedication of a new police station and Emergency Operation Center, and the installation of surveillance cameras. Over the next five years, the borough will prioritize initiatives that proactively address emerging natural/manmade challenges, underscoring its ongoing dedication to safeguarding residents and fostering sustainable growth in the context of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
56-01	Target Harden Critical Facilities by Installing Yodock Barriers, Space for Bicycle Locking, and Fencing	Target harden municipal facilities through purchasing and installing Yodock barriers, bicycle locking, and fencing.	Terrorism	Medium	Borough Administration, OEM	Homeland Security, Borough funds	TBD	1 year	Completed	Already purchased pedestrian barriers.
56-02	Purchase Additional Variable Message Signs	Purchase additional variable message signage for evacuation routes.	All Hazards	Medium	Borough Administration, OEM	Municipal budget	TBD	1 year	Completed	Potential funding sources include police department funds.
56-03	Coordinate with Teterboro Airport for Emergency Planning	The approach for the Teterboro airport (crash site) is over the evacuation route. The Borough of Rutherford desires to coordinate with Teterboro Airport to ensure the landing zone for their airplanes would not interfere with their evacuation route.	All Hazards	Low	Borough OEM	Municipal budget, Homeland Security grants		1 year	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
56-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties located on Riverside Ave (along the Passaic River)	Acquire or elevate SRL and RL properties, on mostly located on Riverside Ave.	Flood, Nor'easter, Hurricane / Tropical Storm, Severe Weather	High	Borough of Rutherford	FEMA HMA, NJDEP Blue Acres	TBD	5 + years	Ongoing	8-10 elevations along the Passaic River have been completed.
56-05	Stabilize the Soil and Banks between the Passaic River and Riverside Avenue	Stabilize the Soil and Banks between the Passaic River and Riverside Avenue.	Flood, Nor'easter, Hurricane / Tropical Storm	Medium	Borough of Rutherford/ Bergen County	FEMA HMA	TBD	3 years	Ongoing	
56-06	Retrofit Catch Basin or Construct New Catch Basins to Improve Stormwater Infiltration Rate in the Borough	Retrofit catch basin or construct new catch basins that would allow the borough to get the water out of the road.	Flood, Nor'easter, Hurricane / Tropical Storm	Medium	Borough Administrator	FEMA HMA, Borough funds	TBD	1 year	Ongoing	
56-07	Coordinate with the New Jersey Department of Transportation, U.S. Army Corps of Engineers, and New Jersey Department of Environmental Protection to dredge and de-snag channels,	The borough would like to clear and maintain their drainage ditches, coordinate with surrounding municipalities on clearing and maintaining channels, ditches, and streams, and coordinate with state and federal agencies on state and federal waterways.	Flood, Nor'easter, Hurricane / Tropical Storm	Medium	Borough Administrator	Borough funds, Army Corp of Engineers	TBD	1 year	Ongoing	A flood gate in a repetitive flooding area in the borough was repaired but needs better drainage. The region is also considering wooden berms, but they require coordination with a variety of municipalities and levels of government.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	ditches, and streams									
56-08	Develop a Regional Resilience Plan for Hackensack Riverbank Communities	Create a Resiliency Plan for the communities along the Hackensack Riverbank. Complete a study on the feasibility and placement of additional pump stations, including a fiscal impact analysis.	Flood, Nor'easter, Hurricane / Tropical Storm	Low	Borough Administration, Borough OEM	Municipal budget, County budget	TBD	1 year	Ongoing	
56-09	Elevate Generators at DPW	Elevate the generator at the DPW facility.	All Hazards	Medium	Borough Administration, Borough OEM, Borough DPW	FEMA HMA	$400,000.00	1 year	Ongoing	
56-10	Purchase and Install Three Generators at 55 Kip Center, Tamblyn Field House, and the Library	55 Kip Center and Tamblyn Field House are used as reception centers and need emergency generators. The library is used as a warming center and thus should also have a generator.	All Hazards	Medium	Borough Administration, OEM	FEMA HMA, Borough funds	$600,000.00	1 year	Ongoing	
56-11	Install Lightning Detection System at Municipal Parks	Install lightning detectors in parks throughout the borough.	Severe Weather	Medium	Borough Administration, OEM	Municipal budget	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
56-12	Install Surveillance System for Memorial Park	A surveillance system at Memorial Park would allow for real-time monitoring to assess suspicious activity.	Terrorism	Medium	Borough OEM	Homeland Security grants	$200,000.00	1 year	Ongoing	Equipment needed for this project was purchased, installation phase is on-going
56-13	Purchase Moveable Barriers to Block Automobiles from Entering Public Spaces	Purchase moveable barriers to block objects from entering public spaces that host events.	Terrorism	Medium	Borough Administration, OEM	Homeland Security grants, Municipal budget	TBD	1 year	Ongoing	
56-14	Purchase Jet Vac Truck	To improve drainage throughout the municipality, the borough seeks to provide proper maintenance of infrastructure to ensure a state of readiness during a storm event.	Flood, Nor'easter, Hurricane / Tropical Storm	Low	Borough Administration, OEM	Municipal budget	TBD	1 year	Ongoing	
56-15	Develop Redundant Emergency Operations Command Center	Create a redundancy in the equipment and communication systems found at the emergency operations command center.	All Hazards	Low	Borough Administration, OEM	Municipal budget, Homeland Security grants	TBD	1 year	Ongoing	This project was completed with the completion of the New Police Station
56-16	Purchase a Siren Alert System	Increase public warning capabilities through the implementation of warning siren coverage for public warning.	All Hazards	Medium	Borough Administrator, OEM	Municipal budget, Homeland Security grants	TBD	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
56-17	Increase Cyber Security Measures by Creating Redundancies in Data Backups and Creating off-site Secondary Servers	Create redundancies in data backups and create offsite secondary servers for increased cyber-security.	Cyber Attack	Medium	Borough Administrator, Borough OEM	Municipal budget, Homeland Security grants	TBD	1 year	Ongoing	This is consistently updated. The Borough Cyber Network Administrator has updated software, staff has completed Cyber Training, Cyber policies are in place, JIF Insurance required policies have been implemented
56-18	Target Harden Critical Facilities by Installing Surveillance Cameras, Bollards, and/or Security Personnel	Target harden critical facilities by adding cameras, building security, and bollards.	Terrorism	High	Borough Administration, OEM	Homeland Security, Borough funds	TBD	1 year	Ongoing	
56-19	Purchase and Install Pump Station at the Rutherford Tide Gate	Installation of a pump station at the Rutherford tide gate.	Flood, Nor'easter, Hurricane / Tropical Storm	High	Borough Administration, OEM, NJSCA	FEMA HMA, Borough funds	$10,000,000.00	1 year	Ongoing	This project does not fall within the Jurisdiction of the Borough of Rutherford, The Pump Station falls under the NJSEA Jurisdiction.

57 – SADDLE BROOK TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Tom Dickman	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
Bob White	Mayor	Input, Coordination and Review
Jimmy Homsi	Business Administrator	Input, Coordination and Review
Robert Klein	Township Engineer	Input, Coordination and Review
Robert Hicswa	Superintendent, DPW	Input, Coordination and Review
Anthony Ambrogio	Construction/ Building Subcode Official	Input, Coordination and Review
Todd Accomando	Deputy Coordinator	Input, Coordination and Review
John Tuohy	Deputy Coordinator	Input, Coordination and Review
Chris Sloma	Deputy Coordinator	Input, Coordination and Review
Doug Habermann	Deputy Coordinator	Input, Coordination and Review

COMMUNITY PROFILE

Overview

The Township of Saddle Brook covers approximately 2.76 square miles and is located in southwestern central Bergen County, New Jersey. The Pehle Brook and Coalberg Brook flow into the township from the Saddle River, which runs along the township's eastern border. Major landmarks include the Kessler Institute of Rehabilitation, the Riverside Cemetery, and Saddle Brook Diner. Saddle Brook hosts the intersection of the Garden State Parkway (Exit 159) and Interstate 80 (Exit 62), along with portions of U.S. Route 46. New Jersey Route 4 and Route 17 are within a quarter mile of its borders. The township has a population of approximately 14,294 residents. Saddle Brook is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Saddle Brook is a predominantly residential community with residential (including apartment) use accounting for 48% of its area, covering nearly 638 acres in 2022. In the same year, civic/public (tax exempt) land, industrial land, and commercial land made up 25%, 15%, and 10% respectively of its area. Between 2016 and 2022, part from a 24 -acres increase in industrial land from 170 acres to 194 acres, there was negligible change in the land use composition of the township.

The significant share of residential use, followed by civic/public (tax exempt), industrial and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 93% of the township's total land, covering 1640 acres. Forest land, water, and wetlands followed, covering 4%, 1%, and 1% respectively of Saddle Brook's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.0	1.6	-
Forest	78.5	76.6	-2%
Urban	1639.9	1640.2	<1%
Water	22.4	22.4	-
Wetlands	17.5	17.5	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Redevelopment projects leading to mixed use development were undertaken outside the regulatory floodplain.

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

Development on Market Street and Harrison is in the initial planning stage. Furthermore, Zuckerberg Industrial complex will potentially be undergoing redevelopment. None of these projects fall within a regulatory floodplain.

Demographics & Vulnerable Populations

Saddle Brook Township has an estimated population of 14,320, an estimated 8.1% are under age 5 and 18.4% are over age 65. The township has seen a 1.7% population increase over the survey periods between 2013-2017 and 2018-2022. Saddle Brook's over eighteen percent of residents over age 65 highlight potential vulnerabilities for hazard mitigation, which can be addressed through mitigation efforts focused on populations with mobility needs, uneven access to resources, and limited social networks which may make pre-disaster engagement more challenging (FEMA, 2023).

There are two block groups within Saddle Brook which meet criteria for overburden (OBC) based on indicators of *Low Income and Minority* populations. These block groups are in the far southwest portion of the township. No parts of Saddle Brook meet criteria for CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	14,320
Population Change since 2017	1.7%
Percent of Population Age < 5	8.1%
Percent of Population > 65	18.4%

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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

The township ranked Coastal Erosion, Storm Surge, and Wave Action as N/A.

Hazard Ranking Explanation

The township ranked Nor'easter and Flood as hazards of High concern, because of its previous experiences with Nor'easters. It is particularly prone to flooding from the Saddle River. Additionally, owing to its experience with damage from lightning strikes, it ranked lightning as a hazard of medium concern. The township has a lightning warning system.

Significant Hazard Events Since Last Plan Update

Saddle Brook experienced flooding during Hurricane Ida in 2021 and faced challenges from the Covid-19 pandemic.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Saddle Brook. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and coastal erosion, and the floodplain running through the from the northeastern part of the township towards its southwestern part. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's over 18% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Saddle Brook Township	
Number of Policies In-Force:	238
Total Losses:	448
Total Payments:	$13,138,414.85
Number of RL Properties:	41
Number of Mitigated RL Properties:	0
RL – Total Losses:	114
RL – Total Paid:	$3,459,708.93
Number of SRL Properties:	9
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	39
SRL – Total Paid:	$4,763,585.98

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the township of Saddle Brook is primarily located adjacent to the Saddle River and its tributaries which flow through the town. Approximately 19.7 percent of the total area of Saddle Brook lies within the 1% annual chance floodplain as defined by FEMA. An additional 9.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

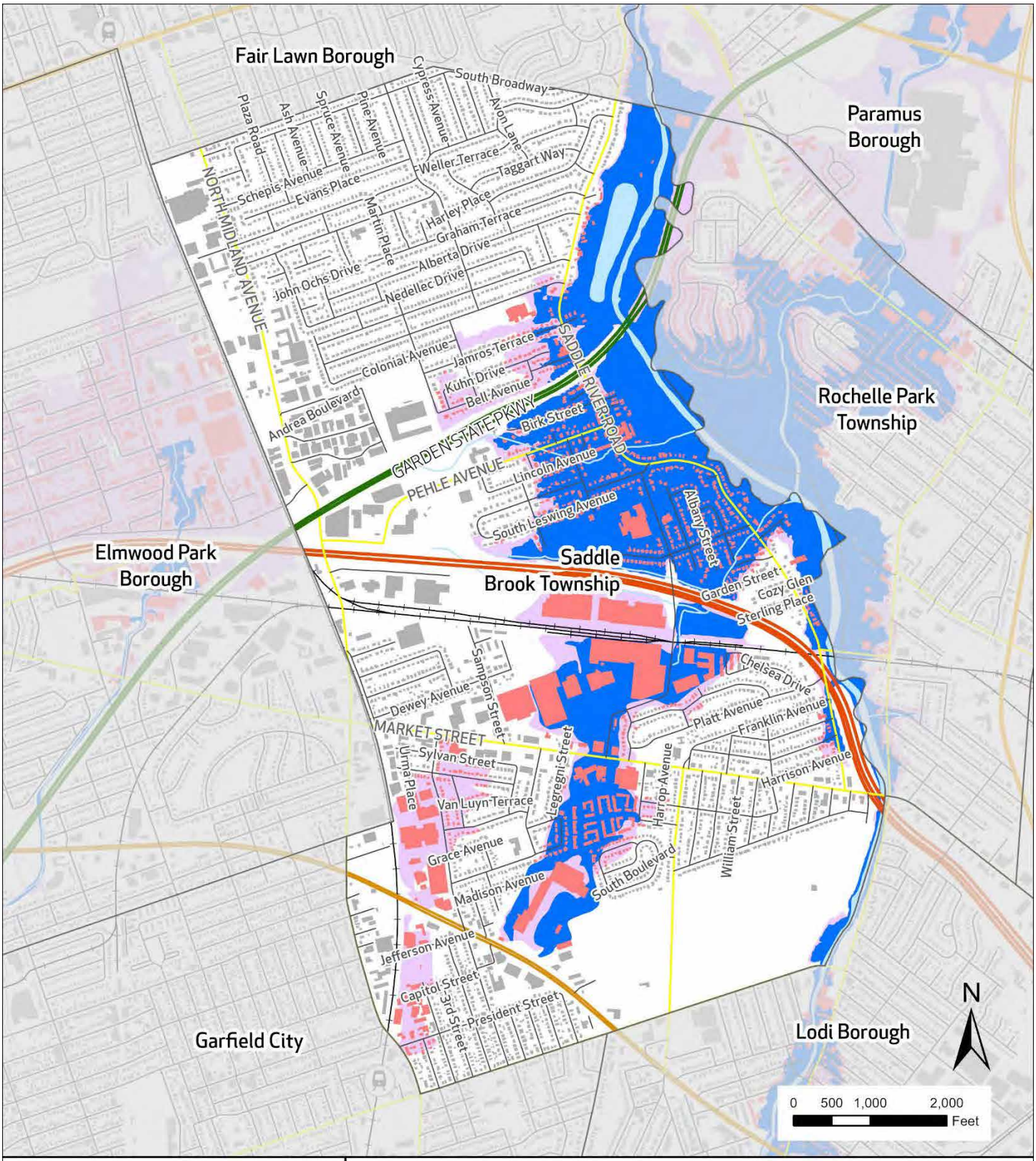
About 95% percent of Saddle Brook is considered developed. Of the developed parcels of the town, 14.9 percent fall at least partially within the 1% annual chance floodplain and 13.4 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	14.9	13.4
Exposed Land Area	19.7	9.1

During the planning process, Saddle Brook 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 eight total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

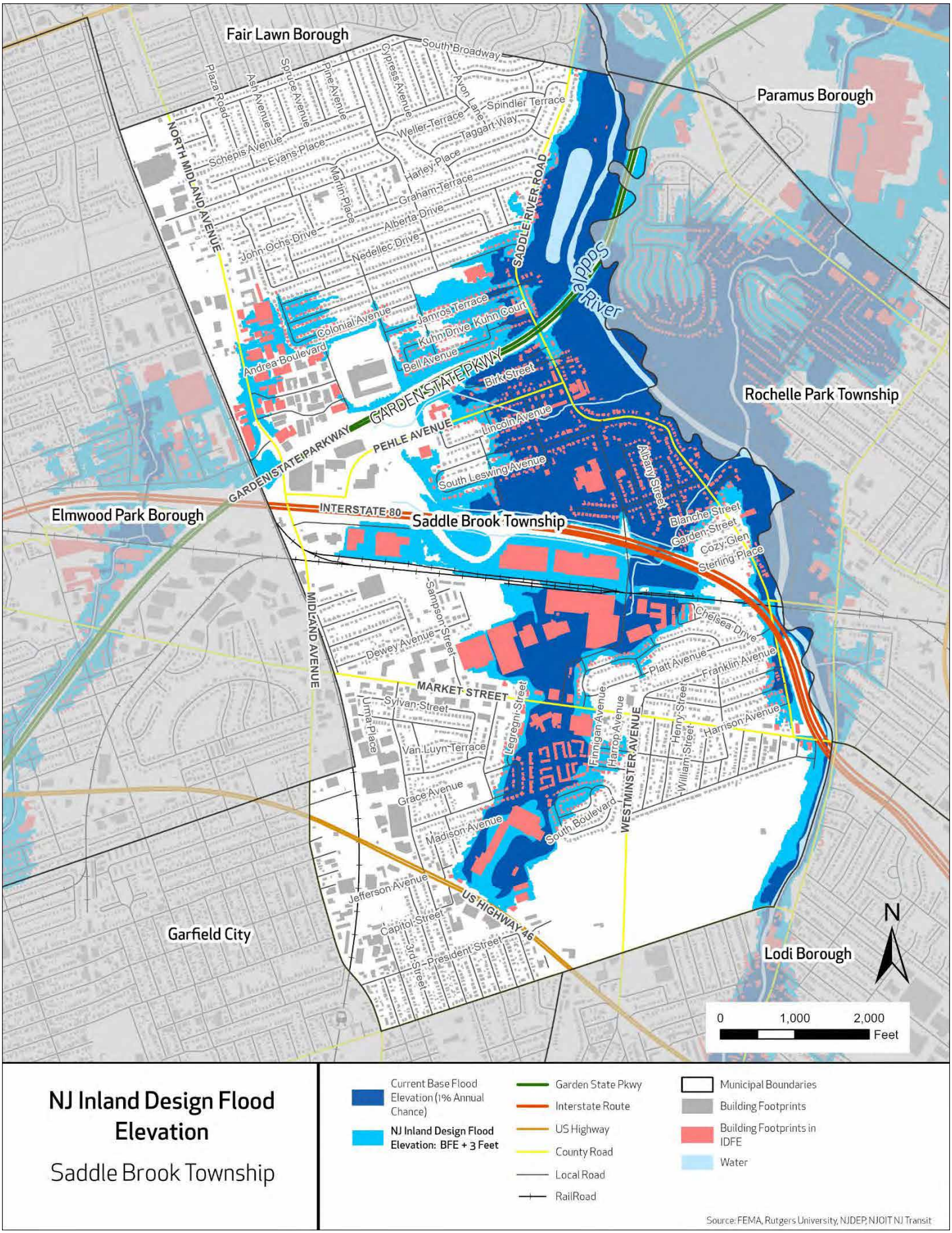
Saddle Brook Township

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Garden State Pkwy
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Fair Lawn Borough
Paramus Borough
Rochelle Park Township
Elmwood Park Borough
Saddle Brook Township
Garfield City
Lodi Borough
South Broadway
Plaza Road
Ash Avenue
Spruce Avenue
Pine Avenue
Cypress Avenue
Avon Lane
Spindler Terrace
Weller Terrace
Taggart Way
Schepis Avenue
Evans Place
Martin Place
Harley Place
Graham Terrace
Alberta Drive
John Ochs Drive
Nedellec Drive
NORTH MIDLAND AVENUE
SADDLE RIVER ROAD
Saddle River
Jamros Terrace
Colonial Avenue
Kuhn Drive
Kuhn Court
Bell Avenue
Andrea Boulevard
GARDEN STATE PKWY
Birk Street
PEHLE AVENUE
Lincoln Avenue
South Leswing Avenue
Albany Street
INTERSTATE 80
Blanche Street
Garden Street
Cozy Glen
Sterling Place
Chelsea Drive
Platt Avenue
Franklin Avenue
Sampson Street
Dewey Avenue
MIDLAND AVENUE
MARKET STREET
Sylvan Street
Urma Place
Van Luyn Terrace
Legregni Street
Finnigan Avenue
Harrop Avenue
WESTMINSTER AVENUE
Henry Street
William Street
Harrison Avenue
Grace Avenue
Madison Avenue
South Boulevard
Jefferson Avenue
US HIGHWAY 46
Capitol Street
3rd Street
President Street
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Saddle Brook Township
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
Garden State Pkwy
Interstate Route
US Highway
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Saddle Brook 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		2022	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2022	
Floodplain Development Ordinance		X		
Floodplain Management Plan	X			
Stormwater Management Ordinance		X		
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X			
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		

Administrative and Technical Capabilities

Saddle Brook Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Full-time municipal employee
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

Saddle Brook Township has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Saddle Brook 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:

The township has been proactive in maintaining its stormwater infrastructure, as well as working with relevant agencies to address snags in the river.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Township of Saddle Brook Flood Advisory Committee was formed in early 2015 to be more proactive in addressing our flooding problem, which has had a tremendous impact on, and continues to affect, many township residents. As such, flood prevention and mitigation are two of the township's highest priorities, knowing and recognizing the problems that floods have caused to the community.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
57-01	Purchase and Install Generators for Emergency Shelters for the New Municipal Complex	Acquire emergency generators for the new municipal complex that houses the fire department, police department, ambulance corp, and emergency center.	All Hazards	Low	Local OEM and Municipal Staff	FEMA HMA	$4,000,000.00	1 year	Completed	
57-02	Purchase and Install Generators for Emergency Shelters in the Southern Section of the township	Acquire natural gas generators for the three firehouses, senior center, auditorium, and gymnasium used as evacuation shelters.	All Hazards	Medium	Local OEM and Municipal Staff	FEMA HMA	$2,400,000.00	1 year	Completed	Township has received funding for this action.
57-03	Saddle River dredging in Saddle Brook	Dredge the Saddle River to reduce flooding in the township. Fund a local project for drainage infrastructure and to clean the system.	Flood		Township of Saddle Brook	Municipal budget	N/A	N/A	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
57-04	Dredge Saddle River	The Township of Saddle Brook has been seeking assistance in dredging the Saddle River to reduce the flooding that afflicts homes and businesses in the Saddle River floodplain. This is a	Flood	Medium	Local OEM and Municipal Staff	Municipal budget	$200,000,000.00	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		regional project that will involve several towns, and is a high prior								
57-05	Elevate and Widen Railroad Ave Bridge to Reduce Traffic Accidents and Flooding from Saddle River	Elevate and widen the Railroad Ave Bridge so that debris flows through unobstructed. The existing bridge needs some remedial work and there are plans to replace it in the future.	Flood	Medium	Township of Saddle Brook	Municipal budget, DOT	$25,000,000.00	1 year	Ongoing	County road connects Saddle Brook to Rochelle Park.
57-06	Remove Debris from Catch Basins	Clean out the catch basins that drain to the Saddle River.	Flood	High	Local OEM and Municipal Staff	Municipal budget	$25,000,000.00	1 year	Ongoing	Inland flood map has displays a few acres of flooding outside 1 percent floodplain. North Midland drainage, Manor Drive to Adrian Boulevard and David Road become inaccessible during flooding.
57-07	Purchase and Install Backup Servers and Off-site Data Storage	Purchase and Install backup servers and off-site data storage to mitigate cyber attack.	Terrorism, Cyber Attack	Medium	Local OEM and Municipal Staff	Municipal budget, Homeland Security grants	TBD	1 year	Ongoing	
57-08	Install Gauge for Saddle River	Install a surveillance system to monitor the levels of the Saddle River.	Flood	High	Local OEM and Municipal Staff	Municipal budget	TBD	1 year	New	Township wishes to install a gauge because Lodi gauge malfunctions. Currently using physical mark to gauge.
57-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss	Offer elevations and/or buyouts to interested owners of Repetitive Loss and Severe Repetitive Loss properties.	Flood	High	Local OEM and Municipal Staff	FEMA HMA	TBD	1 year	New	Township wishes to set up homeowner workshop.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	(RL) and Severe Repetitive Loss (SRL) Properties in the Neighborhood Between the GSP and I-80									
57-10	Purchase High-water Vehicles	Acquire high-water vehicles for responding to catastrophic flooding events.	Flood	Low	Local OEM and Municipal Staff	Municipal budget	TBD	1 year	New	
57-11	Study Flood Reduction Along Midland Avenue	Study flood reduction along Midland Avenue, north of GSP.	Flood	Medium	Municipality	FEMA, Municipal Budget	$50,000.00	TBD	New	Township hired a new Floodplain Manager in 2023. Currently working on CRS.
57-12	Study Flood Along Victor Street/Grace	Aim to reduce flooding through a study along Victor Street/Grace. Victor Street to Grace Avenue is a drainage issue, as connecting road becomes inaccessible, and is an area of potential stormwater surge.	Flood	Medium	Municipality	TBD	$4,500,000.00	TBD	New	

58 – SADDLE RIVER BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Jason Cosgriff	**Emergency Management Coordinator/Chief of Police**	**Primary Contact; Attended Municipal Meetings & Local OEM meetings**
Patty Nazzaro	Deputy Emergency Management Coordinator	Attended Local OEM Meetings, Public Meeting 2, and Municipal Meetings
Martin Spence	Borough Engineer	Attended Municipal Meetings

COMMUNITY PROFILE

Overview

The Borough of Saddle River covers approximately 4.97 square miles and is located in northern Bergen County, New Jersey. It is a suburb of New York City. The Saddle River and its tributaries branch through the borough. The borough is home to several locations listed on the National Register of Historic Places. Route 17 passes through Saddle River. Other main roads include West Saddle River Road, East Saddle River Road, Allendale Road and Chestnut Ridge Road. Saddle River has a population of approximately 3,363 residents. Saddle River is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based MOD-IV, New Jersey's property tax data. Saddle River is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted that largest category in 2022, accounting for 85% of the total land use, and covering 2,418.6 acres of land. Although civic/public (tax exempt) uses only account for 5% of the total land use, it had a 25% increase from 123.4 acres in 2016 to 154.2 acres in 2022. Conversely, vacant land decreased by 23% from 195.6 acres to 150.4 acres during the same period.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 66% of the area in 2020. The forest category followed, accounting for 25% of the total land area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	59.5	58	-3%
Barren Land	12.6	7.7	-39%
Forest	817	803.7	-2%
Urban	2074.8	2094.8	1%
Water	58.4	58.4	0%
Wetlands	153.5	153.3	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The 112 units at the Choctau apartments (east of 17) put more demand on infrastructure. These are not within the regulatory floodplain

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

There are 275 units planned west of 17 across from a previous development. The sanitary sewers will be directed into Allendale. These are not within the regulatory floodplain.

Demographics & Vulnerable Populations

Saddle River Borough's total population is estimated to be 3,363, of which 3.1% are under 5 years of age and 24.6% are over age 65. The borough has experienced a 3.5% population growth estimated over the 2013-2017 and 2018-2022 survey periods. With an aging population making up nearly one-quarter of the residents of Saddle River, the borough may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which may make pre-disaster engagement more challenging (FEMA, 2023). Additionally, a growth rate of 3.5 percent may indicate potential hazard vulnerability to changing landscape conditions including development and redevelopment, densification, and increased strain on local resources.

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	3,363
Population Change since 2017	3.5%
Percent of Population Age < 5	3.1%
Percent of Population > 65	24.6%

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 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	
Extreme Wind	Lightning	Extreme Temperatures
Hurricane/Tropical Storm	Winter Storm	Tornado
Nor'easter	Wildfire	Dam Failure
Flood		Landslide
		Drought
		Earthquake
	Human-made Hazards	
Power Failure	Cyber Attack	Civil Unrest
	Terrorism	Economic Disruption
		Pandemic

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough is concerned with extreme temperatures affecting the PSEG grid and leading to power failure, which would then impact functionality of wells and septic systems. Lighting is also a concern but the borough has a lightning detection system. There is a dam at Heritage Pond, but it is considered low risk for failure. In the past, winter storms have led to traffic issues.

Ongoing mitigation for Extreme Wind is through communication and notification of local utility companies to maintain trees/branches that would compromise utility lines. The burying of utility lines has been discussed, but costs are extremely high.

Power Failure is a very high concern due to almost every residence having well and septic systems. Without power, they would all have to relocate. Utility companies are aware and are alerted of any possible pole/wire issues and are constantly monitored throughout storms.

Significant Hazard Events Since Last Plan Update

The borough experienced severe unnamed storms since 2021. When the upstream gauge slowed at 3-4 inches of rainfall, it jumped to flood stage. Additionally, channel clearing for the Saddle River and permitting from NJDEP desnagging led to erosion of the riverbanks, creating back flooding.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Saddle River Borough	
Number of Policies In-Force:	26
Total Losses:	101
Total Payments:	$1,355,527.07
Number of RL Properties:	5
Number of Mitigated RL Properties:	0
RL – Total Losses:	17
RL – Total Paid:	$449,373.10
Number of SRL Properties:	4
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	15
SRL – Total Paid:	$313,572.88

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

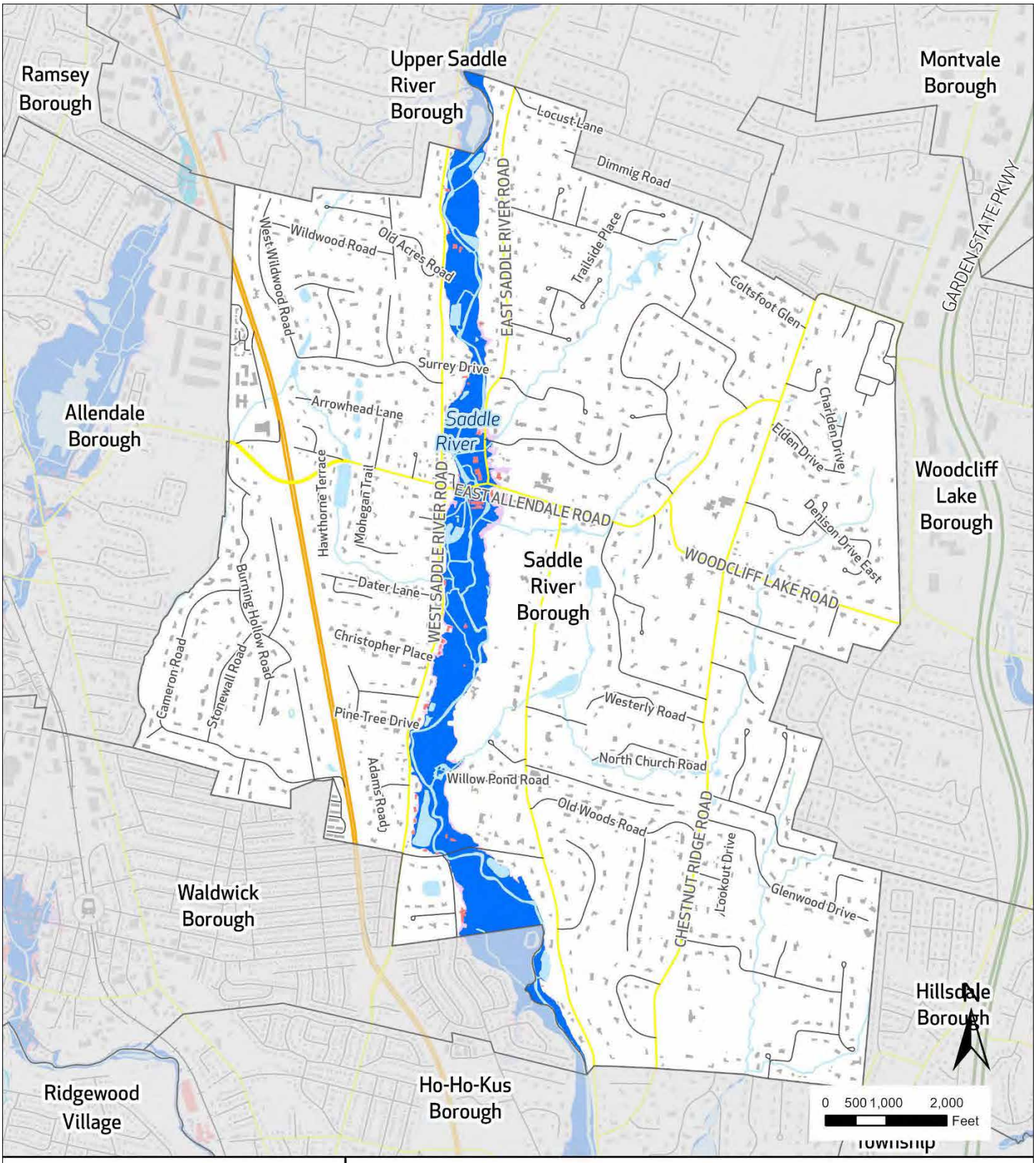
The Special Flood Hazard Area (SFHA) in the Borough of Saddle River is primarily located adjacent to the Saddle River which flows through center of the borough. Approximately 6.1 percent of the total area of Saddle River lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

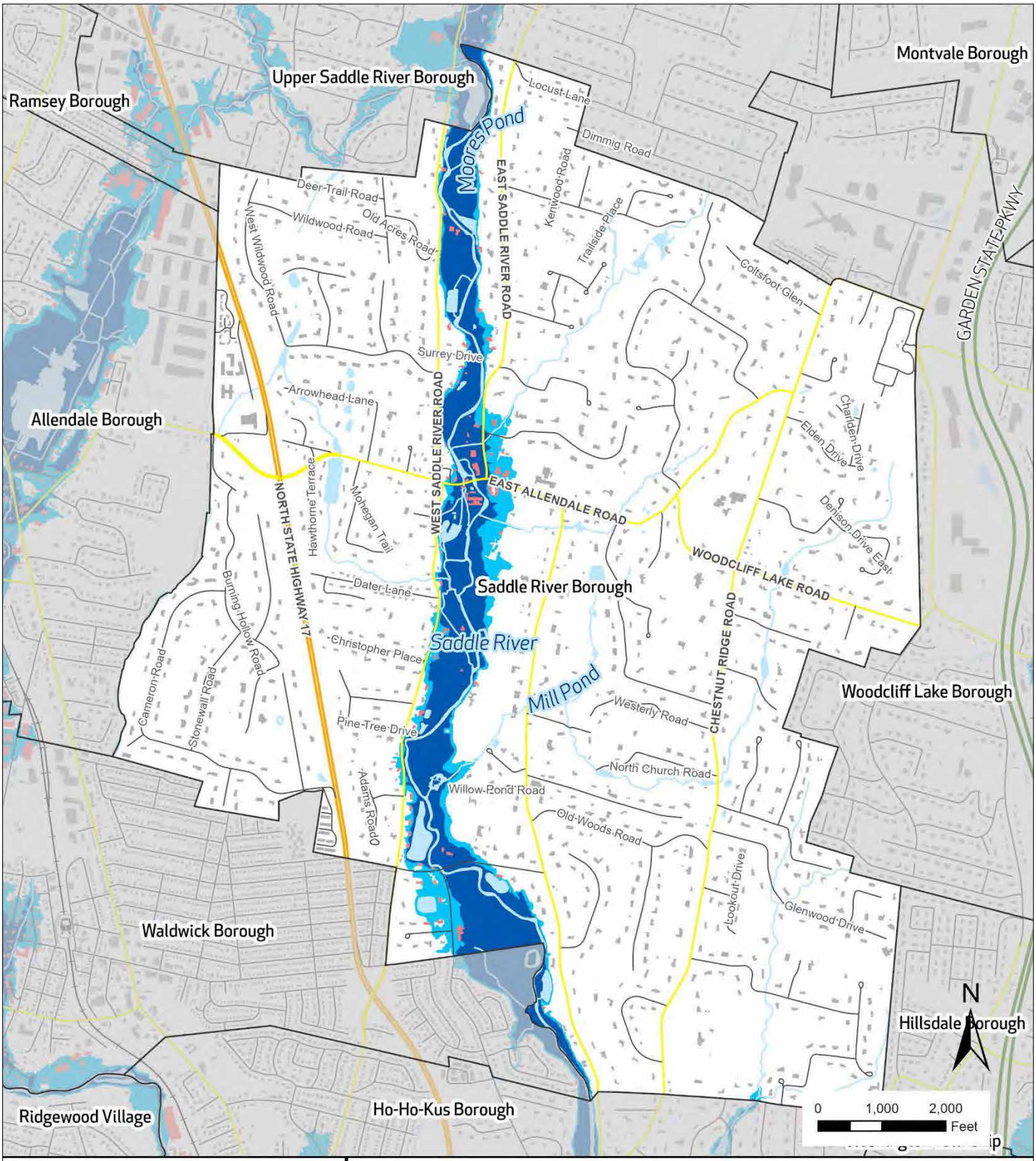
About 90.3 percent of Saddle River is considered developed. Of the developed parcels of the borough, 7.6 percent fall at least partially within the 1% annual chance floodplain and 6.1 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	7.6	6.1
Exposed Land Area	6.1	0.5

During the planning process, Saddle River Borough 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 four total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


Ramsey Borough
Upper Saddle River Borough
Montvale Borough
Allendale Borough
Saddle River
Saddle River Borough
Woodcliff Lake Borough
Waldwick Borough
Hillsdale Borough
Ridgewood Village
Ho-Ho-Kus Borough
Township
Locust Lane
Dimmig Road
EAST SADDLE RIVER ROAD
GARDEN STATE PKWY
West Wildwood Road
Wildwood Road
Old Acres Road
Trailside Place
Coltsfoot Glen
Surrey Drive
Arrowhead Lane
Charlden Drive
Elden Drive
Hawthorne Terrace
Mohegan Trail
WEST SADDLE RIVER ROAD
EAST ALLENDALE ROAD
Denison Drive East
WOODCLIFF LAKE ROAD
Dater Lane
Burning Hollow Road
Christopher Place
Cameron Road
Stonewall Road
Pine Tree Drive
Westerly Road
North Church Road
Willow Pond Road
Adams Road
Old Woods Road
CHESTNUT RIDGE ROAD
Lookout Drive
Glenwood Drive
0 500 1,000 2,000
Feet
Flood Hazard
Saddle River Borough
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
State Highway
County Road
Local Road
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

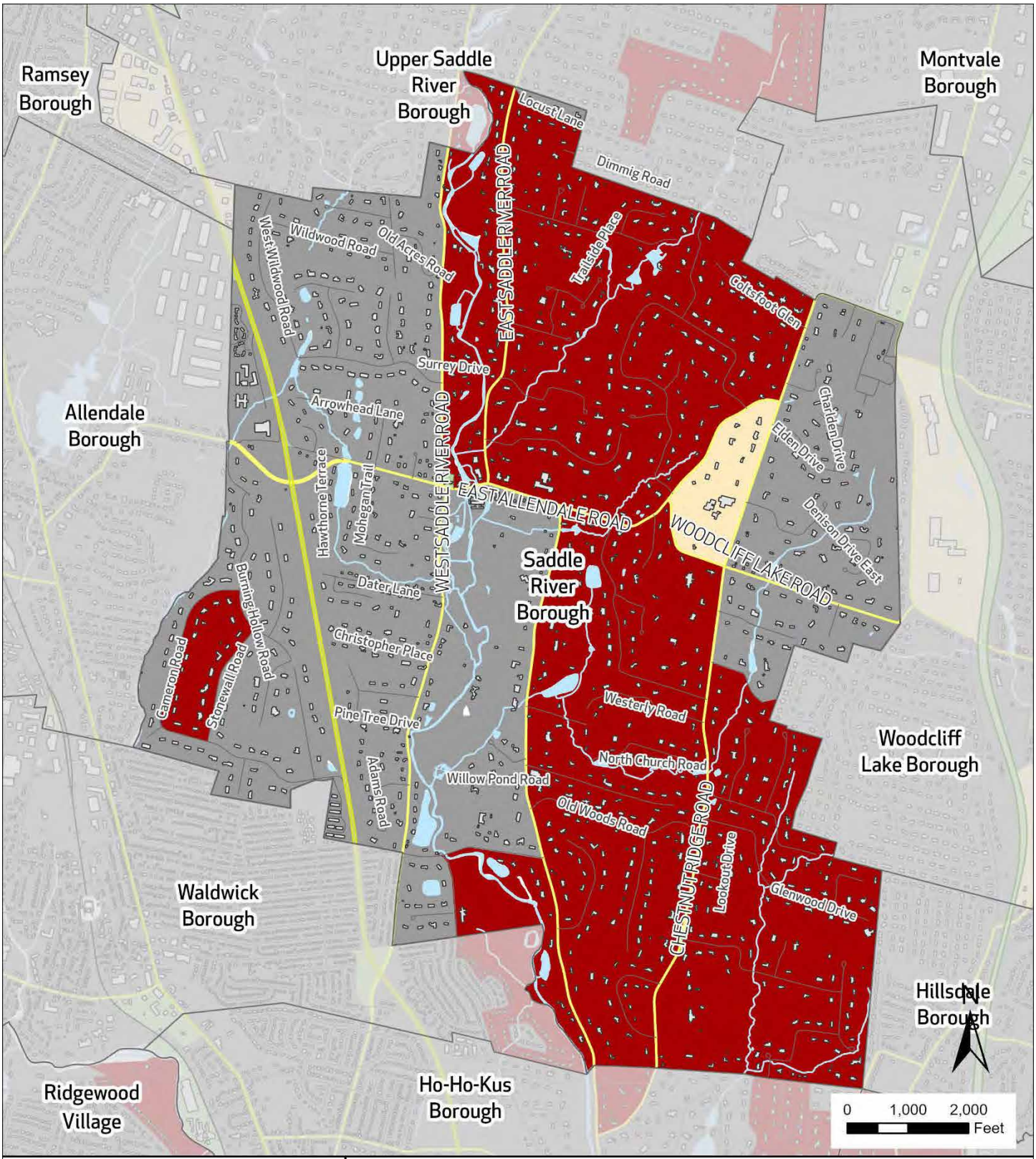


NJ Inland Design Flood Elevation

Saddle River Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Ramsey Borough
Upper Saddle River Borough
Montvale Borough
Allendale Borough
Saddle River Borough
Woodcliff Lake Borough
Waldwick Borough
Hillsdale Borough
Ridgewood Village
Ho-Ho-Kus Borough
Locust Lane
Dimmig Road
EAST SADDLE RIVER ROAD
Trailside Place
Coltsfoot Glen
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Wildwood Road
Old Acres Road
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Arrowhead Lane
WEST SADDLE RIVER ROAD
Hawthorne Terrace
Mohegan Trail
EAST ALLENDALE ROAD
Elden Drive
Charlden Drive
Denison Drive East
WOODCLIFF LAKE ROAD
Dater Lane
Burning Hollow Road
Christopher Place
Cameron Road
Stonewall Road
Pine Tree Drive
Adams Road
Willow Pond Road
Westerly Road
North Church Road
Old Woods Road
CHESTNUT RIDGE ROAD
Lookout Drive
Glenwood Drive
0 1,000 2,000 Feet
Wildland Urban Interface (WUI) Classification
Saddle River Borough
WUI Classification
WUI - Intermix
Non-WUI - Medium and High Density Housing
Non_WUI - Low and Very Low Density Housing
Non-WUI - No Housing
State Routes
County Roads
Local Roads
RailRoad
NJ Transit Rail Stations
Municipal Boundary
Building Footprint
Water Body
Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Saddle River Borough 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		2010	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan		X		
Floodplain Development Ordinance	X		2024	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	Higher standards adopted.
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Following any natural disasters, borough officials perform field inspections of potential areas. If there is a structure that is identified, the local Construction Code Official will inspect and issue a notice of violation accordingly. Responsible party is required to pull permits.
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change	X			The office of the Borough Engineer keeps records of the elevation certificates or LOMC
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			Climate Adaptation Plan in the future
Other ordinance and regulation that mitigate the impacts of natural hazards	X			Erosion and Sediment control ordinance that are locally enforced, Soil Relocation Ordinance, and various ordinances within the Municipal Stormwater and Separate Sewer Ordinances that regulate activities including active construction sites.

Administrative and Technical Capabilities

Saddle River Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer, Consultant
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

Saddle River Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Borough Engineer provides monthly updates at Mayor and Council meetings. The borough has a newsletter that provides information. There is community outreach through the MS4 program.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Saddle River Borough 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		DCA and Green Acres Funding
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Discussions with the DPW staff and Borough Engineer the projects are identified and prioritized. The next step of funding the project may require administration participation until funding is secured to move forward with the project. Most of the mitigation is performed for flooding from the Saddle River.
Other ongoing efforts to build additional financial capabilities		X	The borough is continuously researching grant opportunities and aggressively applying, including retaining a grant writer.

Additional Capability Assessment Information:

All development in Saddle River is reviewed for compliance with state and local regulations to ensure it meets the standards for stormwater detention, soil erosion, and zoning. Improvements must address any potential negative impacts of flooding on and off the site. If the development is within a Flood Hazard Area (FHA), additional permitting through the state is required.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The borough continues to identify strategies. The borough has prioritized critical buildings including the Municipal Building with a generator, recently completed. The borough continues to identify infrastructure to improve conditions and minimize the potential for failures or exposure to hazardous situations.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
58-01	Purchase and Install Generator at Municipal Building	Purchase and maintain generators to continue critical community services during utility interruptions and storm events	All Hazards		Local OEM and Municipal Staff	Municipal budget	$125,000	2-3 months	Completed	Completed in 2023

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
58-02	Replace and Expand Local Culvert System	Replace and expand local culverts to prevent overflow onto road for 20 miles of local roads and 20 miles of county roads.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Bergen County and Saddle River Borough	Municipal budget	$500,000	1 year	Ongoing	
58-03	Improve Activity Room in Municipal Building to Continue Critical Community Services During Emergencies	Survey Activity Room and provide for necessary changes to continue critical community services during emergencies.	All Hazards	Low	Borough Administration	Municipal budget	$5,000	1 year	Ongoing	
58-04	Replace Diesel Storage Tank with Gas Storage Tank	Replace existing 1,500 gallon diesel storage tank with 2,000 gallon gas storage tank.	All Hazards	Low	Borough DPW	Municipal budget	$25,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
58-05	Purchase and Install Generators to Support Municipal Critical Facilities	Purchase and maintain generator to continue critical community services during utility interruptions and storm events.	All Hazards	Low	Borough Administration, Fire, Police	FEMA HMA	$75,000	1 year	Ongoing	
58-06	Survey and Remove Tree Limbs Near Power Lines	Survey and remove hazardous limbs over power lines.	Nor'easter, Hurricane and Tropical Storm, Winter Storm, Earthquake, Severe Weather, Extreme Wind, Power Failure	Low	Borough budget	Municipal budget	$5,000	1 year	Ongoing	
58-07	Purchase the Emergency Equipment such as Light Towers, Backup Generators, and Moveable Barriers	Purchase the necessary equipment in the event of flooding or other emergency events such as light towers, backup batteries, generators, and moveable barriers.	All Hazards	Low	Saddle River Borough	Municipal budget	$40,000	2 years	New	
58-08	Coordinate with Power Companies to Place Power Transmission Lines Underground	Coordinate with Power Companies to Bury Power Transmission Lines along ROW.	All Hazards	Medium	Borough DPW and Power Company	Municipal budget	$2,000,000	2 years	New	
58-09	Dredge Saddle River	Dredge Saddle River (north to south) to remove heavy deposits and mitigate borough-wide flooding. Mosquito Commission conducts some cleaning and dredging but the River needs more restoration work completed.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough DPW	Municipal budget	$300,000	1 year	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
58-10	Stabilize Critical Evacuation Routes with Curbing to Improve Stormwater Drainage	Critical evacuation routes need road stabilization, such as curbing, to reduce the risk of flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough Engineering	Municipal budget, DOT	$100,000	2 years	New	
58-11	Coordinate with DOT on Bridge and Culvert Improvements	Repair aging culverts and bridges along roads in the Borough.	Nor'easter, Geological Hazards, Earthquake, Severe Weather	Medium	DOT, Borough of Saddle River	DOT, Municipal budget, County budget	$500,000	2 years	New	
58-12	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties in the Saddle River Regulatory Floodway	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA	$10,000,000 +	5 + years	New	
58-13	Construct Flood Reduction Measures (e.g., floodwalls or small berms) along Saddle River	Construct minor structural project (e.g., floodwalls or small berms) along Saddle River to protect Repetitive Loss Properties.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Engineering	FEMA HMA	$1,000,000	2 years	New	

59 – SOUTH HACKENSACK TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael J. Ward	**OEM Coordinator**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Donna Gambutti	Township Clerk	Internal Meetings

COMMUNITY PROFILE

Overview

The Township of South Hackensack spans approximately 0.75 square miles and is located in southcentral Bergen County, New Jersey. It is bisected from north to south by Tenakill Brook and Piermont Road. Key roadways serving the township include Interstate 80, U.S Route 46, and County Route 503. NJ Transit provides bus service between the township and the Port Authority Bus Terminal in Midtown Manhattan. South Hackensack has a population of 2,820 residents. The township is a coastal community that will experience sea level rise from its river.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. In South Hackensack, industrial use is the predominant land use, accounting for 47% of its total area, covering nearly 168 acres in 2022. In the same year, other significant land uses included residential (including apartment), civic/public (tax exempt), commercial, and vacant land uses that made up 23%, 19%, 8%, and 3% respectively of the township's total area. Between 2016 and 2022, there was negligible change in the land use composition of South Hackensack Township.

The significant share of industrial use, followed by residential (including apartment), commercial, and civic/public (tax exempt) is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 89% of the township's total land area, covering nearly 424 acres. Wetlands, water, and forest land followed, covering 5%, 5%, and 1% respectively of South Hackensack's total area. Between 2015 and 2020, the township's total barren land disappeared completely.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	1.4	0.0	-100%
Forest	4.3	4.3	0%
Urban	422.3	423.6	<1%
Water	25.1	24.0	-4%
Wetlands	23.4	24.5	5%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the township.

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

None identified at this time by the township.

Demographics & Vulnerable Populations

South Hackensack Township has a total population estimated at 2,820, a 2.8% increase since the 2013-2017 ACS survey period estimate. Of township residents, an estimated 2.7% are under age 5, and 17.1% are over age 65. A population growth rate of nearly three percent indicates potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potentially increased strain on local resources.

The township has two block groups in its northeast portion which meet criteria for overburden (OBC) according to *Minority* populations indicators. South Hackensack has no CEJST nor CDRZ identified census tracts.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	2,820
Population Change since 2017	2.8%
Percent of Population Age < 5	2.7%
Percent of Population > 65	17.1%

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 high, medium, low, or no concern. The following include the township'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 Temperatures	Tornado
Nor'easter	Extreme Wind	Coastal Erosion
Flood	Lightning	Dam Failure
	Winter Storm	Landslide
	Drought	Earthquake
	Storm Surge	
	Wildfire	
	Human-made Hazards	
Power Failure	Cyber Attack	Civil Unrest
	Economic Disruption	
	Pandemic	
	Terrorism	

Hazard Ranking Explanation

Storm surge sits at a medium level of concern for the township. In particular, Empire Boulevard and the marshes are affected by storm surges and headwinds. Hurricanes and tropical storms are also a high level of concern, as flooding during hurricanes has previously rendered key roads inaccessible. Additionally, the township ranked wildfires as high owing to its experience with brushfires in the Moonachie section from May to September. These fires ended up crossing the river.

The township ranked power failure as high because of frequent power outages that can last from minutes to days. Additionally, cyber attacks were ranked as medium owing to the vulnerability of municipal facilities to phishing attempts. Furthermore, the township ranked economic disruption as medium owing to the substantial presence of several chemical plants and food production and distribution facilities in the township, it ranked economic disruption as a hazard of medium concern. Terrorism was also ranked as medium level of concern due to the presence of the post office, chemical factories, schools, and major highways and the proximity to Teterboro Airport, a Federal Express warehouse, an Amazon facility, and the township's proximity to New York City.

Significant Hazard Events Since Last Plan Update

Hurricane Ida affected the township in September 2021. Streets that generally do not flood in storms were flooded up to the curb. Three houses on Dyer Avenue that do not flood during storms had four feet of water in them. Police were not able to pass through Phillips Avenue, south of Grove Street, and all of Huyler from Route 46 to Chippewa Street.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including South Hackensack. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Hackensack River and Saddle River. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's over 17% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

South Hackensack Township	
Number of Policies In-Force:	18
Total Losses:	75
Total Payments:	$1,716,313.38
Number of RL Properties:	12
Number of Mitigated RL Properties:	0
RL – Total Losses:	28
RL – Total Paid:	$1,148,181.01
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

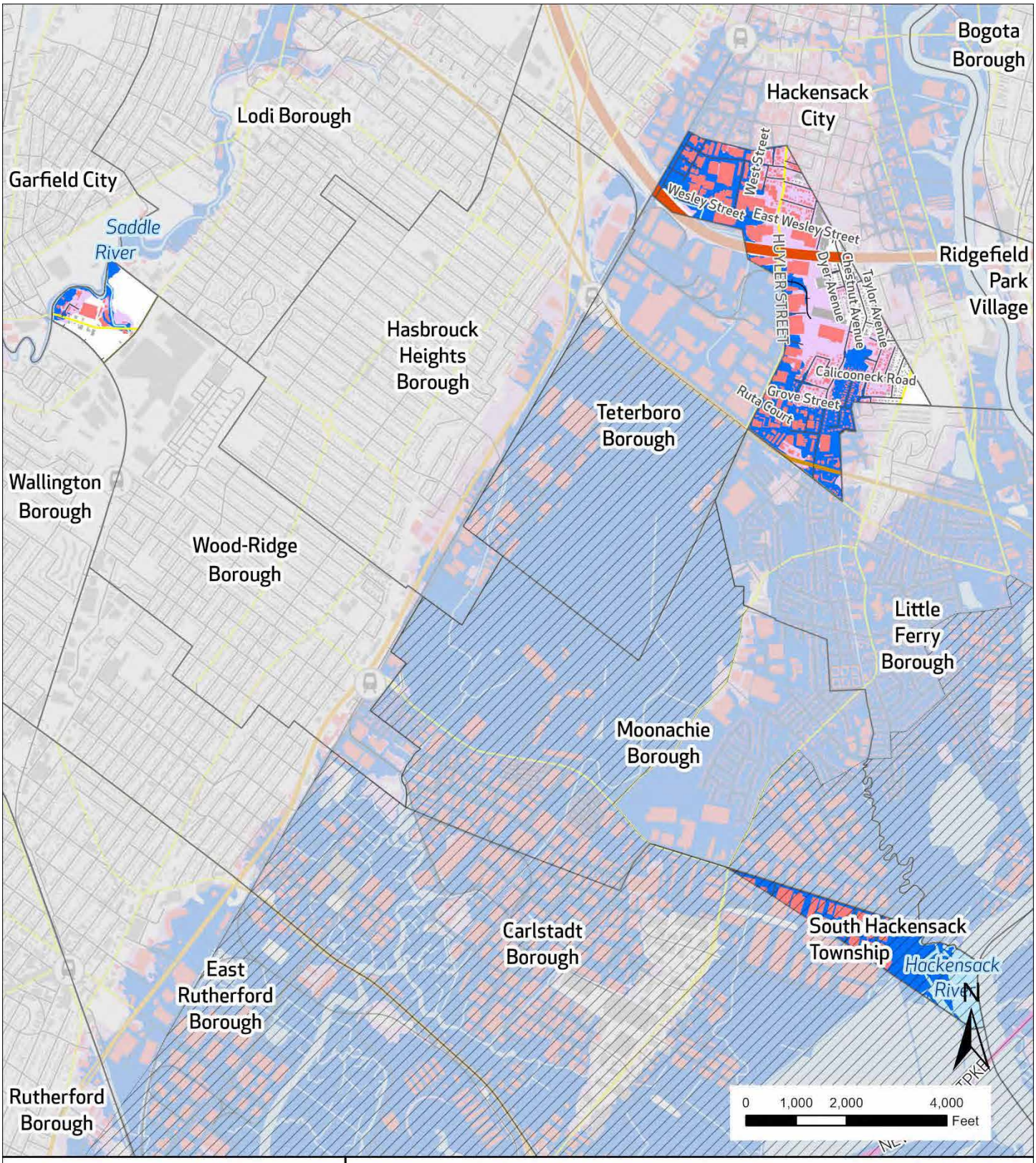
The Special Flood Hazard Area (SFHA) in the Township of South Hackensack is primarily located adjacent to the waterbodies of the township: the Hackensack River and Saddle River. The entirety of the portion of town in the Meadowlands District is located within the SFHA. The norther portion of the township where the majority of residential development is located is roughly evenly divided between the 1% and 0.2% annual chance floodplains and areas not located in the SFHA. The western area of town has several small areas that are considered floodplain. Approximately 51.9 percent of the total area of South Hackensack lies within the 1% annual chance floodplain as defined by FEMA. An additional 31.9 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 72.2 percent of South Hackensack is considered developed. Of the developed parcels of the town, 44.2 percent fall at least partially within the 1% annual chance floodplain and 59.7 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development within the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	44.2	59.7
Exposed Land Area	51.9	31.9

During the planning process, South Hackensack 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 12 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, six are within the 1% annual chance floodplain. Four of these six are also within the area of the township at risk from sea level rise. An additional three facilities are within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Energy	0	1	0
Safety and Security	2	2	2
Transportation	1	0	0
Water Systems	3	0	2



Flood Hazard

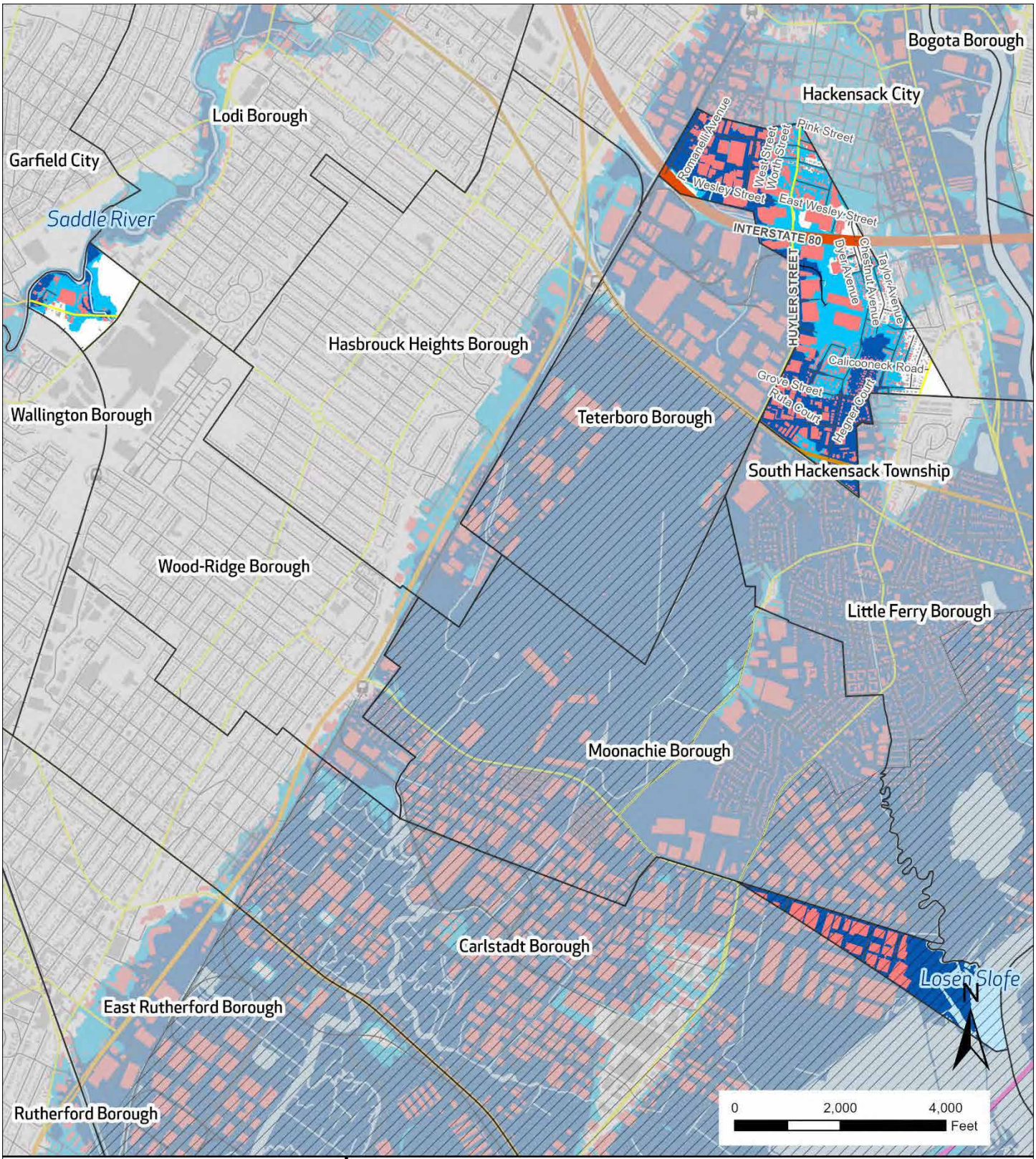
South Hackensack Township

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

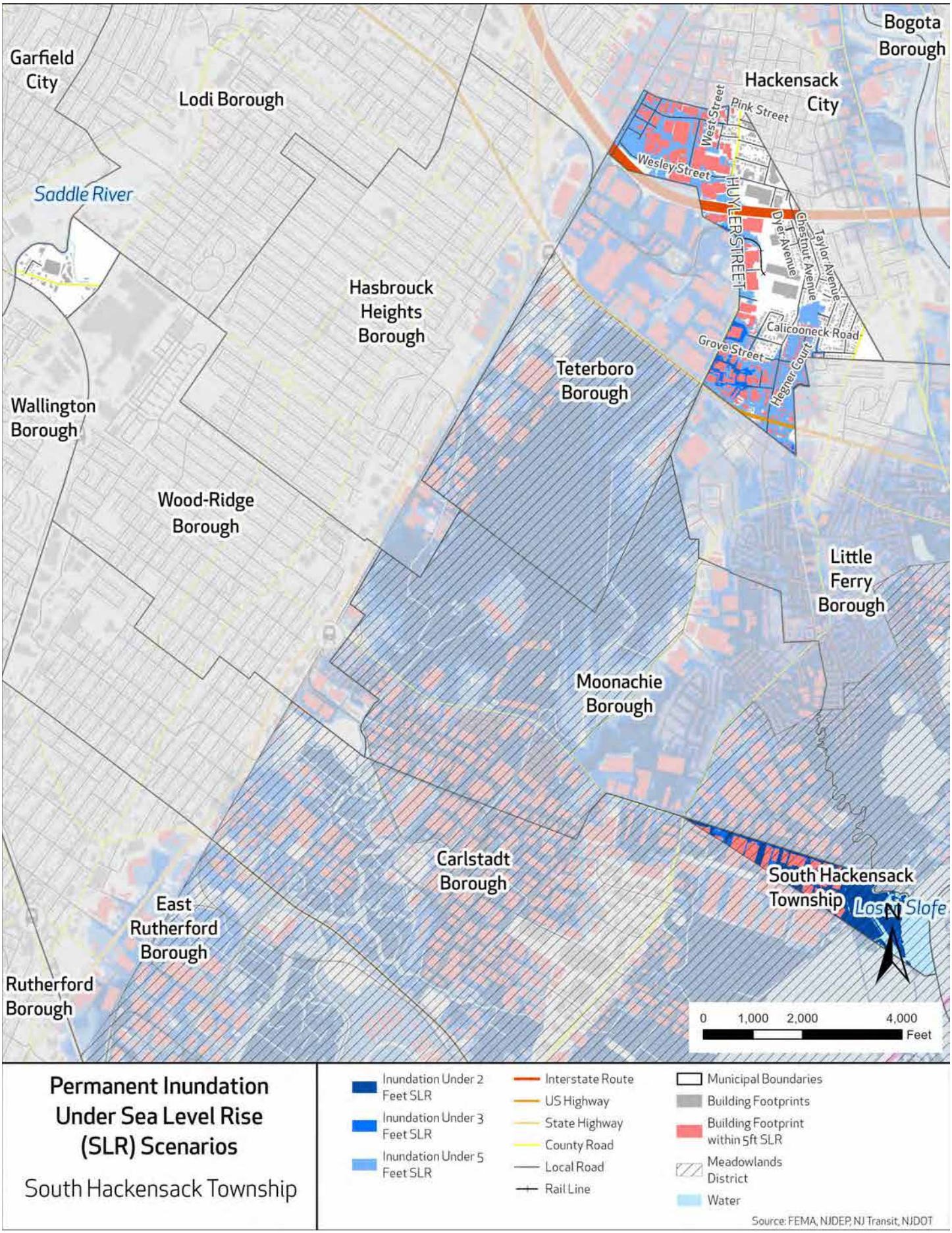


NJ Inland Design Flood Elevation

South Hackensack Township

- Current Base Flood Elevation (1% Annual Chance)
- **NJ Inland Design Flood Elevation: BFE + 3 Feet**
- Interstate Route
- US Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Garfield City
Lodi Borough
Bogota Borough
Hackensack City
Saddle River
West Street
Pink Street
Wesley Street
HUYLER STREET
Dyer Avenue
Chestnut Avenue
Taylor Avenue
Calicooneck Road
Grove Street
Hegner Court
Hasbrouck Heights Borough
Teterboro Borough
Wallington Borough
Wood-Ridge Borough
Little Ferry Borough
Moonachie Borough
Carlstadt Borough
South Hackensack Township
Lost Slofe
East Rutherford Borough
Rutherford Borough
0 1,000 2,000 4,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
South Hackensack Township
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
Interstate Route
US Highway
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

South Hackensack 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		2020	
Capital Improvement Plan	X		2023	
Local Emergency Operations Plan/Continuity of Operations Plan	X		06/2024	
Floodplain Development Ordinance	X		08/08/2019	
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			Through property maintenance and code enforcement.
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			FEMA and Building Department
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X			
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			

Administrative and Technical Capabilities

South Hackensack Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Consultant Engineer
Grant Writer	X		Contractor, Millenium Strategies
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Through Bergen County
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

South Hackensack 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
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, South Hackensack 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the last hazard mitigation plan update, the Township of South Hackensack has downgraded some of its mitigation actions. The township is still looking into getting generators for the Garfield Park Ejector Station. The township is also working with the Bergen County Road Division and Emergency Management on upgrading roadways.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
59-01	Increase Staff Capacity in Swift Water Rescue and HAZMAT	Staff for Swiftwater Rescue and Hazardous Materials this service is provided by Bergen County Regional Team and Hazardous Materials Team.	Dam and Levee Failure, Flood, Nor'easter, Hurricane and Tropical Storm	Low	Township OEM	Municipal budget	n/a	1 year	Withdrawn	This action is no longer a goal for the township. The county provides staff trained for swift water rescue and hazardous materials.
59-02	Develop an Active Shooter Plan	Create an Active Shooter Plan for both the municipality and its businesses.	All Hazards	Low	Township OEM	Municipal budget, Homeland Security grants	n/a	1 year	Completed	Completed with along with the township plan. There were no costs associated.
59-03	Develop a Cyber Attack Response Plan	Update emergency response plans and ordinances to address, mitigate, and recover from a potential cyber-attack affecting the operation of township activities. Police has response plan and training. The township has an Active Shooter Training Program for First Responders in place. OEM is working with businesses and faith organizations to establish a response plan.	Cyber Attack	Low	Administrati on, OEM, Township IT	Homeland Security	$5,000	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
59-04	De-snag and Remove Debris in Ditches and Streams	De-snag ditches and remove stumps, trees, rock and other miscellaneous debris that are in ditches and streams.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Bergen County and NJSEA	Township funds, NJSEA	TBD	1 year	Ongoing	There is forward motion on this action. A councilmember is progressing this action at West River Ditch and East River Ditch which foes to the Hackensack River and Newark Bay.
59-05	Coordinate with Bergen County on the Marcellus Bridge Reconstruction	Coordinate with the County on improvements to the Marcellus Bridge.	All Hazards	Medium	Bergen County Engineering	FEMA HMA, County budget	TBD	1 year	Ongoing	This action requires coordination among many communities. There are about 80 businesses and 40 residences that would be affected. Several municipalities, including Wallington, Garfield, South Hackensack, and Lodi, met with the County regarding this action, but there has not been progress.
59-06	Acquisition of New Generator and Elevation of Sewer Ejector Station	Obtain a new generator. Construct second level to pump station and relocate panels, generator, and all electrical to new second level.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Township of South Hackensack	FEMA HMA, Township funds	$200,000	1 year	Ongoing	
59-07	Purchase Emergency Equipment such as Yodock Water Barriers, Light Towers, Variable Message Signs, and Cones	Purchase barriers (Yodock water barriers), light towers, variable message signs, and cones to use in emergency events. Since these items affect a large amount of jurisdictions, the county is looking into this action too and would like to get funding for barriers.	All Hazards	Medium	Township OEM	Municipal budget	$20,000	1 year	Ongoing	
59-08	Coordinate with the County to Purchase and Install Back-up Generators for Traffic Lights	Purchase and install generators for traffic lights for public safety during power failure and other hazard events.	All Hazards	Medium	Bergen County	Municipal budget, County budget	TBD	1 year	Ongoing	Two County lights have been replaced so far.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
59-09	Purchase and Install Generators for Pump Stations	Purchase and install generators for pump stations for continuity of operations.	All Hazards	Medium	Township OEM	FEMA HMA	$150,000	1 year	Ongoing	The Department of Public Works is getting a rental generator for Garfield Park Station until it makes decisions around purchasing one.
59-10	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Township OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	
59-11	Construct a Berm System with Flood Gates at Berrys Creek	Implement the recommendations from the Rebuild by Design Meadowlands (Pilot Area #1). The proposal is to build a berm system with associated gates in Little Ferry /Moonachie /Carlstadt (with a sliver of South Hackensack and Teterboro) that will extend ocean surge flooding protection to all five towns. The berm system will chamber off Berrys Creek into separate parts that can be cleaned up successively. The proposal also includes the creation of new freshwater basins, and the expansion and sealing of existing basins (e.g. Sewage plant basin, Indian lake, Little Ferry) within the protected	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County, Township Engineering/ Planning	HUD, FEMA	$2,000,000	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		areas, to capture rainwater runoff before and hold it before it, if necessary, gets discharged into the Hackensack River.								

60 – TEANECK TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Larry Robertson	**Emergency Management Coordinator**	**Primary Contact**
Thomas Smith	Emergency Management, Deputy Coordinator	Municipal Meeting
Joseph Harris	Emergency Management, Deputy Coordinator	Municipal Meeting
Eric Orgen	Emergency Management, Deputy Coordinator	Municipal Meeting
Farah Gilani	Township Engineer	Internal Meetings
Joseph Berchtold	Fire Chief	Internal Meetings
Scott M. Tesser	Police Captain (Service Unit)	Internal Meetings
Andrew Verley	Deputy Township Manager	Internal Meetings
Travon Romeo	DPW Superintendent	Internal Meetings

COMMUNITY PROFILE

Overview

Teaneck Township is located in southeastern Bergen County, New Jersey, formed in 1895 by an act of the New Jersey Legislature. The township is just over six square miles in area (6.04mi^2), and borders eight municipalities also in Bergen County. Teaneck is a multicultural community; over a quarter of residents report speaking a language other than English at home. Several homes in Teaneck date back to the colonia era, or the period just after the American Revolution, and are listed on the National Register of Historic Places. Major landmarks in the township include Fairleigh Dickinson University (New Jersey's largest private university), the Teaneck Armory, and Holy Name Medical Center.

Teaneck is located at the intersection of major transportation routes, including the New Jersey Turnpike (as a portion of I-95), Interstate 80 (at which Teaneck is the eastern terminus), and NJ Route 4. Access to New York City is provided just east of Teaneck via the George Washington Bridge in neighboring Fort Lee, or via the Lincoln Tunnel in Hudson County (on the NJ Turnpike). The township is bisected by a major CSX rail line running north-to-south through the center of town, though there is no at-grade crossing of this line within the municipality. Major commercial corridors include those along Cedar Lane, Teaneck Road, DeGraw Avenue, and West Englewood Avenue and Queen Anne Road ("The Plaza").

The township is bordered to the west by the Hackensack River south of its dam at Oradell Reservoir. To the southeast, Teaneck is bordered by the Overpeck Creek. Teaneck Creek runs north-to-south through the center of the township and also passes through large green spaces of the Teaneck Creek Conservancy, a 46-acre restored wetland that is part of the Overpeck Park system, hosting trails, public events, and educational opportunities. Other open and green spaces throughout Teaneck Township include Milton A. Votee Park, Windsor Park, wooded Argonne Park, and the open brushlands of Old Croaker County Park.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Teaneck is a primarily residential community; as of 2022, 60% of the township (nearly 1,720 acres) is classified as residential (including single- and multi-family development). Civic/public (tax exempt) uses make up the next largest portion of Teaneck, with 33% (nearly 973 acres) in this land use category as of 2022. The community is home to an additional 135 acres (5% of Teaneck) of commercial development. These land use categorizations changed since 2016, when industrial land dropped 39% (to a total of 18 acres in 2022), and vacant land grew to a total of 28 acres of Teaneck (a 17% increase since 2016).

According to NJDEP's Land Use/Land Cover (LULC) dataset categories for 2015 and 2020, land in Teaneck classified as urban made up 86% of the township's total area, covering 3,451 acres. Forest cover made up an additional 7% (272 acres). Water (4%, 140 acres) and wetlands (3%, 125 acres) made up the next highest categories of land classification in Teaneck as of 2020. These land cover categories remained largely unchanged between 2015 and 2020.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	3.1	3.1	0%
Barren Land	1.6	2.3	44%
Forest	274	272.4	-1%
Urban	3449.7	3450.6	0%
Water	139.9	139.9	0%
Wetlands	125.3	125.3	0%

Source: LULC 2015, 2020

Recent Major Development and Infrastructure from 2021 to Present

The township identified several points of heightened development that have increased the density of housing and building stock in Teaneck over recent years. At 329 Alfred Avenue, a 256+ unit, six story apartment development was completed in late 2024. New residential developments along State Street in northern Teaneck have also increased density of housing within the township in recent years. Just north of NJ Route 4, currently industrial Alfred Avenue has seen increased densifying development, and more may be anticipated over the next few years.

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

There are significant ongoing conversations within Teaneck government about continued development and densification. Some large-scale projects that are in the planning process include redevelopment of a site along American Legion Drive, commonly referred to as the American Legion/Stop & Shop redevelopment area, where the current plan calls for three residential and commercial buildings, totaling over 300 housing units, commercial development, and a public space component. Densification may also follow current discussions (2025) of allowable accessory dwelling unit (ADU) permitting within Teaneck residential land uses.

Demographics & Vulnerable Populations

Teaneck Township has a total population estimated at 41,427, a 1.1% increase since the 2013-2017 ACS survey estimate. Of township residents, an estimated 5.1% are under age 5, and 17.0% are over age 65. With an aging population making up seventeen percent of the township residents, Teaneck may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

There are twenty-six block groups which meet criteria for overburden (OBC) based on indicators of *Minority* (twenty-three block groups), *Low Income and Minority* (two block groups) and *Minority and Limited English* (one block group) qualifying populations. There are no parts of Teaneck Township which are defined as CDRZ or CEJST census tracts.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	41,427
Population Change since 2017	1.1%
Percent of Population Age < 5	5.1%
Percent of Population > 65	17.0%

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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

High	Medium	Low
	Natural Hazards	
	Hurricanes / Tropical Storms	Wildfire
	Nor'easters	Flood
	Winter Storms	Earthquake
	Dam and Levee Failure	Drought
	Power Failure	Extreme Temperatures
	Storm Surge	Extreme Wind
		Tornado
		Lightning
		Landslide
	Human-made Hazards	
	Cyber Attack	
	Terrorism	
	Pandemic	
	Economic Disruption	
	Civil Unrest	

Hazards of coastal erosion, sea level rise, and wave action were ranked as N/A due to the inland location of Teaneck Township.

Hazard Ranking Explanation

Teaneck Township has experienced recurring nuisance flooding which has impacted homes and public works in the floodplain along River Road, as well as impacting vehicular travel due to standing water during high rain events. This flooding, particularly along Teaneck's western border with the Hackensack River, an estuarine environment, has also led to storm surge and related effects on the river frontage in the township. Any storm event bringing heavy rains and impacts on Teaneck's power utilities (hurricanes/tropical storms, nor'easters, winter storms, power failure) is identified as a medium hazard risk locally.

The Hackensack River is dammed north of Teaneck (creating the Oradell Reservoir north of town). Although the risk for dam failure may be ranked as medium, the township's Office of Emergency Management (OEM) notes that impacts following a dam failure at this location would be catastrophic in Teaneck, and would impact the majority of residents, environments, and businesses in the township. For this reason, they have deemed this a medium hazard risk.

Other hazards ranked low for the township include those which have never presented within Teaneck's borders (i.e., landslide), have not presented in recent years (i.e., tornado) or those which have been present but have been relatively low impact (i.e. lightning) or largely manageable with existing procedures and service provision (i.e., flood).

All human-made hazards profiled in this plan are labeled as medium risk. Although they have not identified existing terroristic threats, cyber-attack, or civil unrest, the township's OEM department notes that due to the high-traffic, hazardous materials transportation along the north-south CSX railroad, Teaneck could potentially be a target for these activities.

Significant Hazard Events Since Last Plan Update

The Township of Teaneck experienced a brushfire in 2023 which was aided by dry and windy conditions, leading to a blaze which ultimately consumed parts of the 800-acre Old Croaker County Park in southeast Teaneck. There were no losses of property, and no injuries reported; the biggest risk to public infrastructure was to the adjacent Interstate 95.

The township experiences regular nuisance flooding throughout areas marked in the community's floodplain. This flooding has been noted most markedly around 1775 Windsor Road, where standing water can reach 3-5 feet making that road impassable in high rain. In addition, the western border of Teaneck, along the estuarine environment of the Hackensack

River, experiences inland storm surge which causes rising water during high rain events upstream. To date, this storm surge and flooding has not caused noted erosion issues.

Flooding is a recurring issue at Sagamore Park, at the intersection of Belle Avenue and Beatrice Street. The township has plans in place for mitigation, particularly to address flooding in this location next to the ambulance house. Teaneck's DPW is building a retention pond at this park.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Teaneck Township. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall (ranked most highly by the township) are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding and storm surge. The estuarine border with the Hackensack River also poses a vulnerability that will continue to see flooding and wave action in a changing climate. Teaneck's current stormwater infrastructure may become even more overwhelmed, leading to more frequent and severe flooding events in and out of Teaneck's floodplain. Rising sea levels will also contribute to coastal erosion, further threatening the township's coastline and infrastructure.

Additionally, higher temperatures and prolonged heatwaves could increase the risk of wildfires, which may become more frequent and harder to manage. Increasing development expected by the township over the next five years, particularly development abutting floodplains and WUI-identified areas may also heighten these vulnerabilities.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Teaneck Township	
Number of Policies In-Force:	98
Total Losses:	109
Total Payments:	$1,880,570.19
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	25
RL – Total Paid:	$227,120.23
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 Teaneck is primarily located adjacent to the waterbodies of the township: the Hackensack River and Overpeck Creek. Approximately 12.9 percent of the total area of Teaneck lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

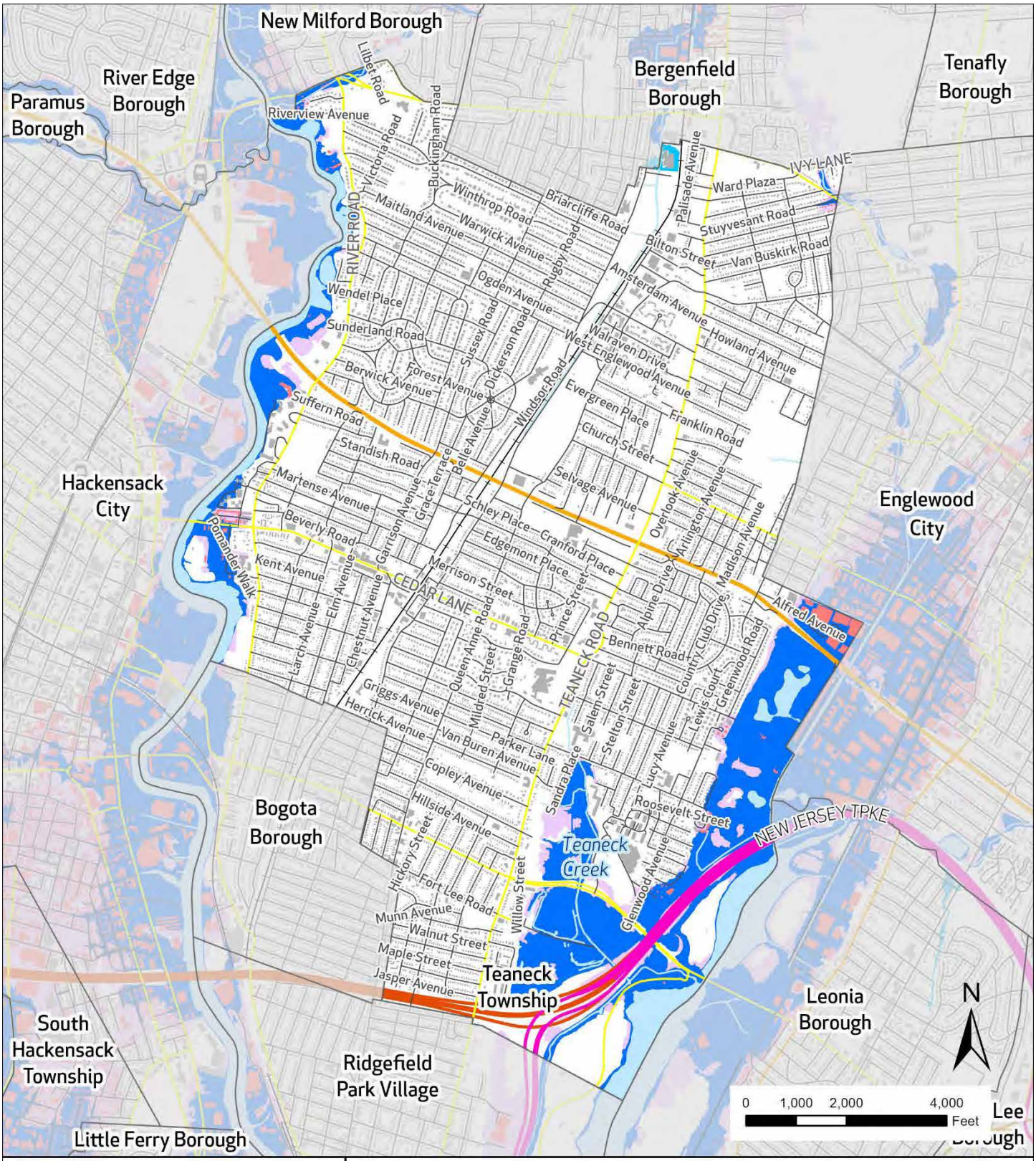
About 56.2 percent of Teaneck is considered developed. Of the developed parcels of the town, 1.3 percent fall at least partially within the 1% annual chance floodplain and 1.3 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development in the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	1.3	1.3
Exposed Land Area	12.9	2.7

During the planning process, Teaneck 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 43 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, two are within the 1% annual chance floodplain. These two facilities are also within the area of the township at risk from sea level rise. An additional facility is within the 0.2% annual chance area.

The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5' of Sea Level Rise
Safety and Security	2	0	2
Water Systems	0	1	0



Flood Hazard

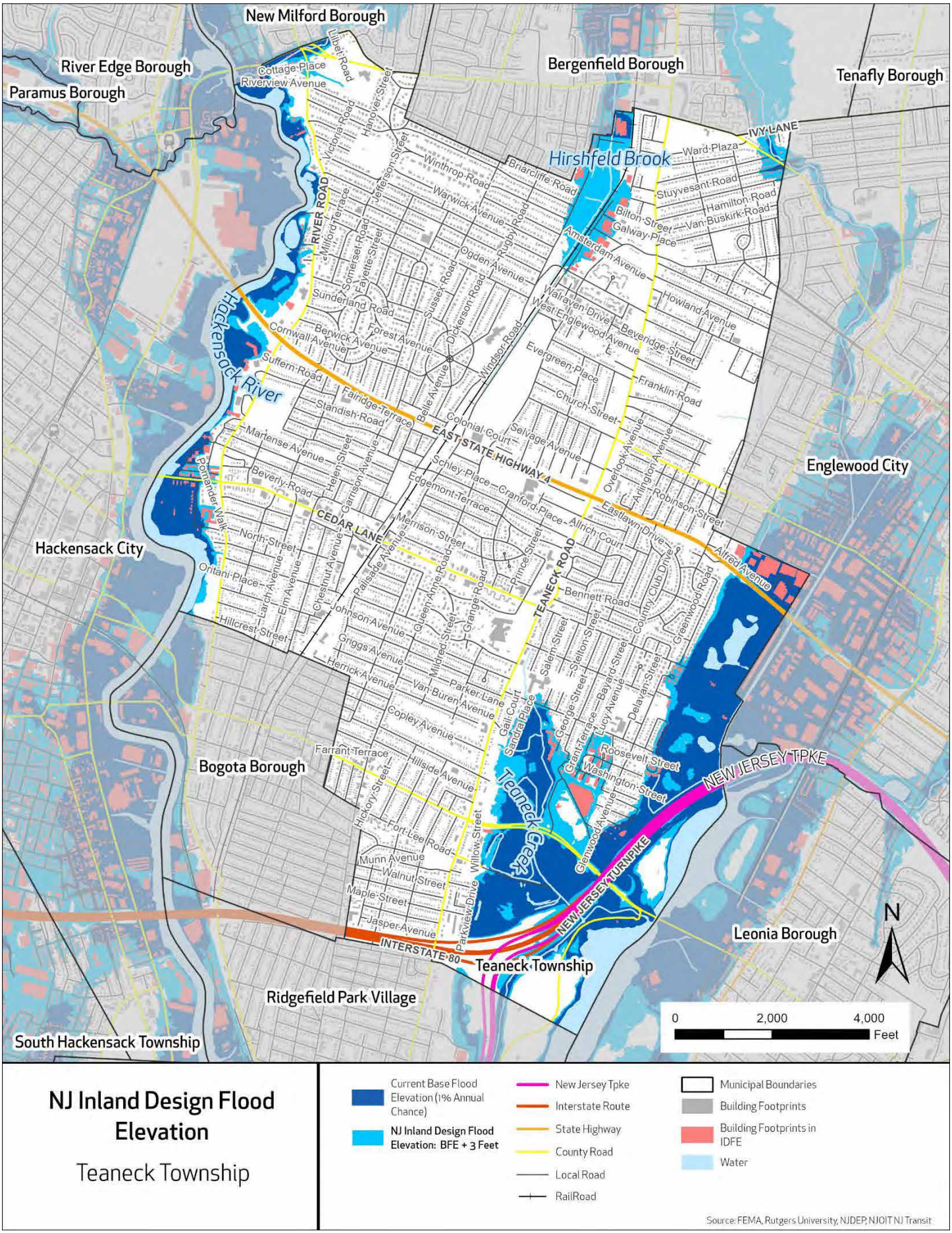
Teaneck Township

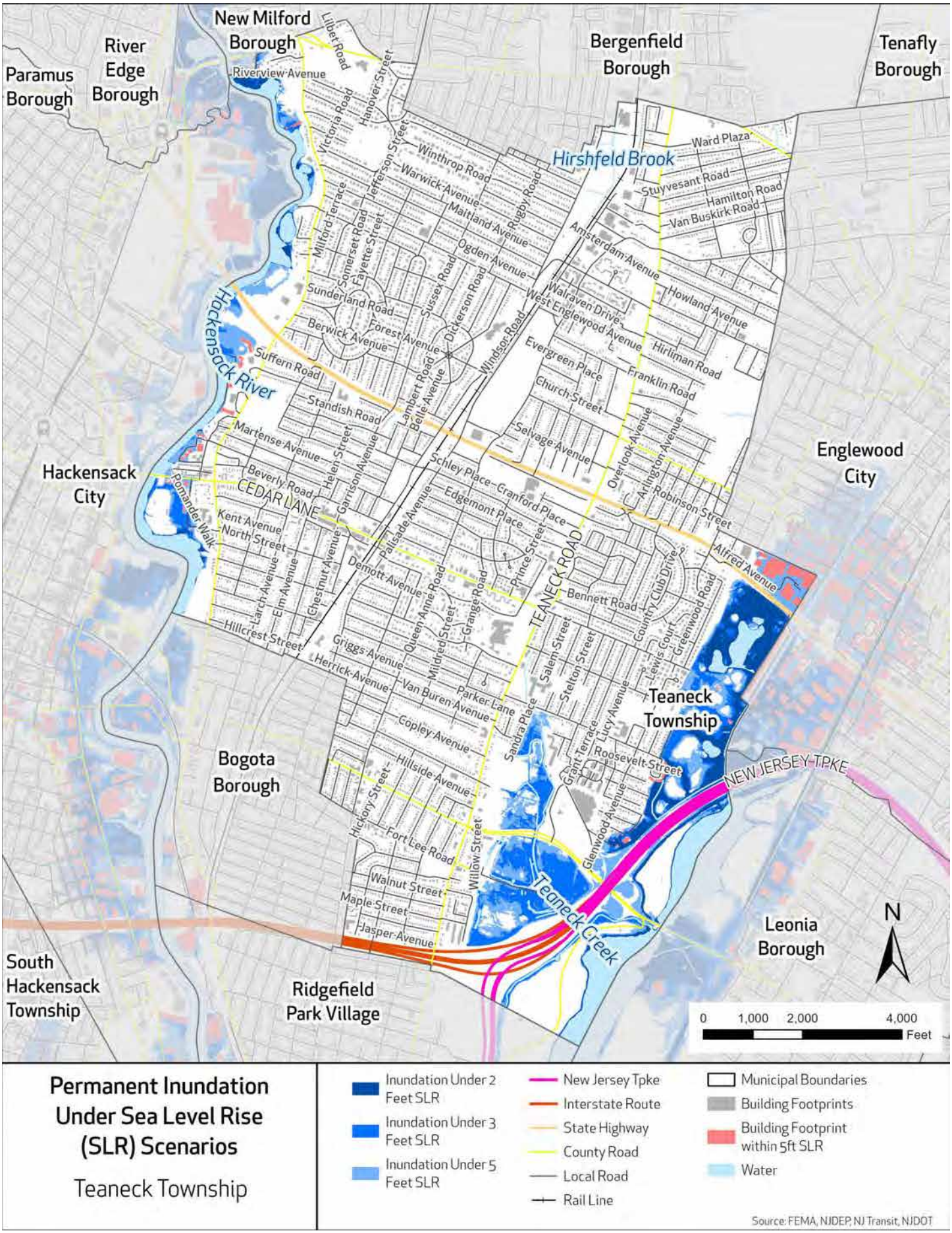
FEMA Flood Zone
- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)

- New Jersey Tpke
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


New Milford Borough
River Edge Borough
Paramus Borough
Bergenfield Borough
Tenafly Borough
Englewood City
Hackensack City
Bogota Borough
Leonia Borough
Teaneck Township
Ridgefield Park Village
South Hackensack Township
Hirshfeld Brook
Hackensack River
Teaneck Creek
RIVER ROAD
EAST STATE HIGHWAY 4
CEDAR LANE
TEANECK ROAD
NEW JERSEY TURNPIKE
NEW JERSEY TURNPIKE
INTERSTATE 80
IVY LANE
Cottage Place
Riverview Avenue
Liberty Road
Hanover Street
Victoria Road
Jefferson Street
Winthrop Road
Warwick Avenue
Briarcliffe Road
Ward Plaza
Stuyvesant Road
Hamilton Road
Van Buskirk Road
Bilton Street
Galway Place
Amsterdam Avenue
Rugby Road
Ogden Avenue
Dickerson Road
Windsor Road
Wallraven Drive
West Englewood Avenue
Howland Avenue
Beveridge Street
Franklin Road
Evergreen Place
Church Street
Overlook Avenue
Arlington Avenue
Robinson Street
Eastlawn Drive
Alfred Avenue
Milford Terrace
Somerset Road
Fayette Street
Sussex Road
Sundertland Road
Cornwall Avenue
Berwick Avenue
Forest Avenue
Suffern Road
Fairridge Terrace
Standish Road
Belle Avenue
Colonial Court
Salvage Avenue
Martense Avenue
Helen Street
Garrison Avenue
Beverly Road
Pomander Walk
North Street
Oritani Place
Larch Avenue
Elm Avenue
Chestnut Avenue
Hillcrest Street
Palisade Avenue
Schley Place
Cranford Place
Allinch Court
Edgemont Terrace
Merrison Street
Queen Anne Road
Grange Road
Prince Street
Bennett Road
Country Club Drive
Greenwood Road
Johnson Avenue
Griggs Avenue
Herrick Avenue
Mildred Street
Parker Lane
Van Buren Avenue
Copley Avenue
Salem Street
Stelton Street
George Street
Bayard Street
Lucy Avenue
Delavan Street
Gail Court
Sandra Place
Grant Terrace
Roosevelt Street
Washington Street
Glenwood Avenue
Farrant Terrace
Hillside Avenue
Hickory Street
Fort Lee Road
Willow Street
Munn Avenue
Walnut Street
Maple Street
Jasper Avenue
Parkview Drive
N
0
2,000
4,000
Feet
NJ Inland Design Flood Elevation
Teaneck Township
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
New Jersey Tpke
Interstate Route
State Highway
County Road
Local Road
RailRoad
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit


New Milford Borough
River Edge Borough
Paramus Borough
Bergenfield Borough
Tenafly Borough
Riverview Avenue
Liberty Road
Hanover Street
Victoria Road
Jefferson Street
Winthrop Road
Warwick Avenue
Maitland Avenue
Rugby Road
Hirshfeld Brook
Ward Plaza
Stuyvesant Road
Hamilton Road
Van Buskirk Road
Amsterdam Avenue
Howland Avenue
Milford Terrace
Somerset Road
Fayette Street
Sunderland Road
Berwick Avenue
Ogden Avenue
Sussex Road
Dickerson Road
Windsor Road
Wallraven Drive
West Englewood Avenue
Hackensack River
Suffern Road
Forest Avenue
Lambert Road
Belle Avenue
Evergreen Place
Church Street
Hirliman Road
Franklin Road
Standish Road
Selvage Avenue
Overlook Avenue
Arlington Avenue
Englewood City
Martense Avenue
Helen Street
Garrison Avenue
Schley Place–Cranford Place
Robinson Street
Hackensack City
Beverly Road
CEDAR LANE
Pomander Walk
Kent Avenue
North Street
Palisade Avenue
Edgemont Place
Prince Street
TEANECK ROAD
Alfred Avenue
Larch Avenue
Elm Avenue
Chestnut Avenue
Demott Avenue
Queen Anne Road
Grange Road
Bennett Road
County Club Drive
Lewis Court
Greenwood Road
Hillcrest Street
Griggs Avenue
Herrick Avenue
Mildred Street
Salem Street
Stelton Street
Teaneck Township
Van Buren Avenue
Parker Lane
Sandra Place
Lucy Avenue
Grant Terrace
Roosevelt Street
NEW JERSEY TPKE
Copley Avenue
Bogota Borough
Hillside Avenue
Hickory Street
Fort Lee Road
Glenwood Avenue
Willow Street
Walnut Street
Maple Street
Jasper Avenue
Teaneck Creek
Leonia Borough
N
South Hackensack Township
Ridgefield Park Village
0 1,000 2,000 4,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Teaneck Township
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
New Jersey Tpke
Interstate Route
State Highway
County Road
Local Road
Rail Line
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Teaneck 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	
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance	X		2021	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies				
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			EMS Plan for water supply for firefighting in case of train wreck along the CSX right-of-way.
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Teaneck Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Full-time, township engineer.
Grant Writer	X		Contractor.
Staff trained to support mitigation	X		Municipal staff responsible for interpreting hazard mitigation actions.
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

Teaneck Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Annual mailing, occasional public meetings, local website with information on reducing vulnerability to natural hazards.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Teaneck 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		EPA
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		Mayor and council.
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Teaneck plans to extend its warning siren/speaker system. The township also plans to add additional public meetings to update residents and people in charge of life hazard use facilities.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
60-01	Install Drainage Improvements at Fabry Terrace	Installation of larger and additional storm drains at Fabry Terrace. Drainage study at Sagmore Park and two other parks. Actions being considered under Capital Improvement Plan.	Flood	Medium	Teaneck Engineering Department	Municipal Budget	TBD	1 Year	Completed	Ongoing maintenance managed by DPW.
60-02	Replace Broken Sewers Damaged by Storm Surge	Sanitary sewer manhole damaged due to excess storm water infiltration during 2009 weather event.	Storm Surge, Flood	Medium	Teaneck DPW		TBD	1 Year	Completed	
60-03	Acquire Drone and Surveillance Equipment for Emergency Response	Acquire drone and surveillance equipment for emergency response.	All Hazards	Low	Local OEM, Municipal Staff	Municipal Budget, Homeland Security grants	$650,000	1 Year	Completed	
60-04	Upgrade Firewall at all Municipal Locations	Install a newer version firewall at all municipal locations.	Cyber-Attack	Medium	Local OEM, Municipal Staff	Municipal Budget, Homeland Security grants	TBD	3 Years	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
60-05	Improve Public Warning System	Acquire two additional sirens so that the public warning system can reach neighborhoods where the sound is muffled.	All Hazards	Low	Local OEM, Municipal Staff	Municipal Budget	$60,000	1 Year	Ongoing	Have purchase orders for two sirens, submitted, and Administration is working on executing (2025).
60-06	Purchase Indoor Warning System Receivers in Schools and Libraries	Install indoor receivers in schools and other public buildings: 9 public schools, 10 private schools, all recreation buildings, public library (at least 5 public buildings).	All Hazards	Medium	Local OEM, Municipal Staff	Municipal Budget, Homeland Security grants	$5,000	1 Year	Ongoing	Will require ordinance, put in municipal order.
60-07	Create a Public Warning System Ordinance	Develop an ordinance that retroactively requires the public warning system for all buildings (current zoning only requires for new buildings).	All Hazards	Low	Local OEM, Municipal Staff	Municipal Budget	TBD	1 Year	Ongoing	
60-08	Purchase Equipment for Secondary Command Center	Acquire computer terminals, radios, and mapping software for secondary command center.	All Hazards	Low	Local OEM, Municipal Staff	Municipal Budget	$20,000	1 Year	Ongoing	No forward action on this because of changes with existing command centers. May be on hold.
60-09	Purchase and Install Generators for Schools that Serve as Shelter	Acquire generators so that public schools are equipped to be potential Red Cross shelters.	All Hazards	Medium	Local OEM, Municipal Staff	FEMA HMA	$200,000	1 Year	Ongoing	
60-10	Purchase and Install a Replacement Generator for Fire Station 3	Purchase and install a replacement generator for Fire Station 3.	All Hazards	Medium	Local OEM, Municipal Staff	FEMA HMA	$200,000	1 Year	Ongoing	
60-11	Purchase Generators for Traffic Lights During Power Outages	Acquire generators for all traffic lights, including County and State lights. Lights are LED so will not need a massive generator.	All Hazards	Medium	Local OEM, Municipal Staff	Municipal Budget	$150,000	1 Year	Ongoing	Conversations about where to store these when not in use – ongoing

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
60-12	Purchase Emergency Response Vehicles	Acquire transportation options for evacuation and response, including a high-water vehicle for flood events.	All Hazards	Medium	Local OEM, Municipal Staff	Municipal Budget	TBD	1 Year	Ongoing	Was previously on hold as previous administrator forbid the use of military vehicles; expected this has changed.
60-13	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties Along Hackensack River	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Local OEM, Homeowners	FEMA HMA	TBD	5+ Years	Ongoing	
60-14	Construct Flood Reduction Measures (e.g. Floodwalls, Small Berms) Along Hackensack River	Construct minor structural projects (floodwalls or small berms) along Hackensack River to protect RL properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Teaneck Township	FEMA HMA	TBD	3 Years	Ongoing	

61 – TENAFLY BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael DeMoncada	**OEM Coordinator / Tenafly PD Captain**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Pat Mason	Director, Public Works	Municipal Meeting
Michael Greeley	Deputy OEM Coordinator / Tenafly PD Lieutenant	Municipal Meeting
Andrew Hipolit	Engineering Consultant (Colliers)	Municipal Meeting
Nicki Louloudis	Engineering Consultant (Colliers)	Municipal Meeting
David P. Fanslau	Borough Administrator	Municipal Meeting
Omar Stovall	Borough Clerk/Assistant Borough Administrator	Coordination, Input and Review
Susan Corrado	Chief Financial Officer	Coordination, Input and Review
Mark Zinna	Mayor	Coordination, Input and Review

COMMUNITY PROFILE

Overview

Tenafly is an affluent suburb of New York City located in northeastern Bergen County. Tenafly was incorporated as a borough on January 24, 1894. The eastern portion of town houses most development as the terrain rises dramatically to the east of the downtown area, terminating at the New Jersey Palisades, overlooking the Hudson River. Major transportation routes in the borough include County Route 501, U.S. Route 9W, and the Palisades Interstate Parkway. The borough is serviced by NJ Transit bus route 166 and several commuter coach buses. The borough has a population of almost 15,300 residents. Although Tenafly is near the Hudson River, it is not considered a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Tenafly is a predominantly residential community with residential (including apartment) use accounting for 59% of its area, covering over 1,470 acres in 2022. In the same year, civic/public (tax exempt), commercial, and vacant land made up 34%, 5%, and 1% respectively of its area. Between 2016 and 2022, vacant land fell from 35 acres to 25 acres, while civic/public (tax exempt) land increased by 50 acres, from 801 to 852, and residential land increased by 13 acres, from 1,443 to 1,457.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 76% of the borough's total land, covering 2,210 acres. Forest and wetlands followed, covering 20% and 3%, respectively, of Tenafly's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	16.2	14.7	-9%
Forest	583	578.6	-1%
Urban	2204.2	2210.1	<1%
Water	14.9	14.9	0%
Wetlands	97.9	97.9	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

In 2021, a building with retail on the bottom and multiple units on the top was constructed. In 2024, a building with retail on the bottom and multiple units on top was constructed. In 2025, there is currently the demolition of the old movie theater, which is being replaced by a new building with multiple units on multiple floors.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
Upcoming construction includes a housing development and the redevelopment of Clinton Inn including assisted living. This project does not lie within a regulatory floodplain.

Demographics & Vulnerable Populations

Tenafly Borough has an estimated total population of 15,299, a 2.8% increase since the 2013-2017 ACS survey estimate. Of Tenafly residents, an estimated 3.1% are under age 5, and nearly 14% (13.96%) are estimated to be over age 65. A growth rate of nearly three percent may indicate potential hazard vulnerabilities to changing landscape conditions including development and redevelopment, densification, and potential strain on local resources.

There are four block groups within Tenafly which meet criteria for overburden (OBC) with potentially vulnerable populations due to indicators of *Minority* overburden. There are no parts of Tenafly meeting criteria for vulnerable populations based on CDRZ or CEJST identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	15,299
Population Change since 2017	2.8%
Percent of Population Age < 5	3.1%
Percent of Population > 65	14.0%

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 in 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 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 Wind	Extreme Temperatures
Nor'easter	Winter Storm	Lightning
Landslide	Earthquake	Tornado
Flood		Dam Failure
		Drought
		Wildfire
	Human-made Hazards	
Terrorism	Cyber Attack	Civil Unrest
		Economic Disruption
		Pandemic
		Power Failure

Coastal erosion, storm surge, and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked flood as a hazard of high concern. Areas that have experienced significant flooding include the Knickerbocker County Club golf course on Palmer Avenue, along the Overpeck Creek, and the Tenakill Brook. The borough worked to identify its problem areas after Hurricane Ida and found that debris build-up can cause even minor storms to have significant effects on the borough. Some of the debris comes from upstream.

Additionally, landslides are also ranked high because of subsidence along the Overpeck Creek and Tenakill Brook causes landslides. Additionally, there was a substantial landslide behind Smith School.

Terrorism was also ranked as high; since 2021, the borough has seen large rallies of over 4,000 people.

Winter storms are at a medium level of concern, because icy weather makes the borough's hilly terrain slippery.

Earthquakes, including small ones, slowly dislodge utilities. The borough is concerned about the long-term effect of earthquakes. As a result, earthquakes were ranked medium.

Significant Hazard Events Since Last Plan Update

Surge flooding from Hurricane Ida in 2021 shut down the Bliss Avenue Bridge and caused $3 million in damage to a borough elementary school. The borough was awarded $1.6 million in federal money following this disaster which will be used to clear the Tenakill Brook and Overpeck Creek of natural plant growth, fallen trees, and stumps which have contributed to flooding. The impact of flooding from the Tenakill Brook affected the sanitation system.

There were also notable rain events on December 24, 2023, and September 11, 2024.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Tenafly. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Hudson River and Tenakill Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's 14% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Tenafly Borough	
Number of Policies In-Force:	52
Total Losses:	59
Total Payments:	$988,910.92
Number of RL Properties:	8
Number of Mitigated RL Properties:	0
RL – Total Losses:	16
RL – Total Paid:	$146,982.94
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

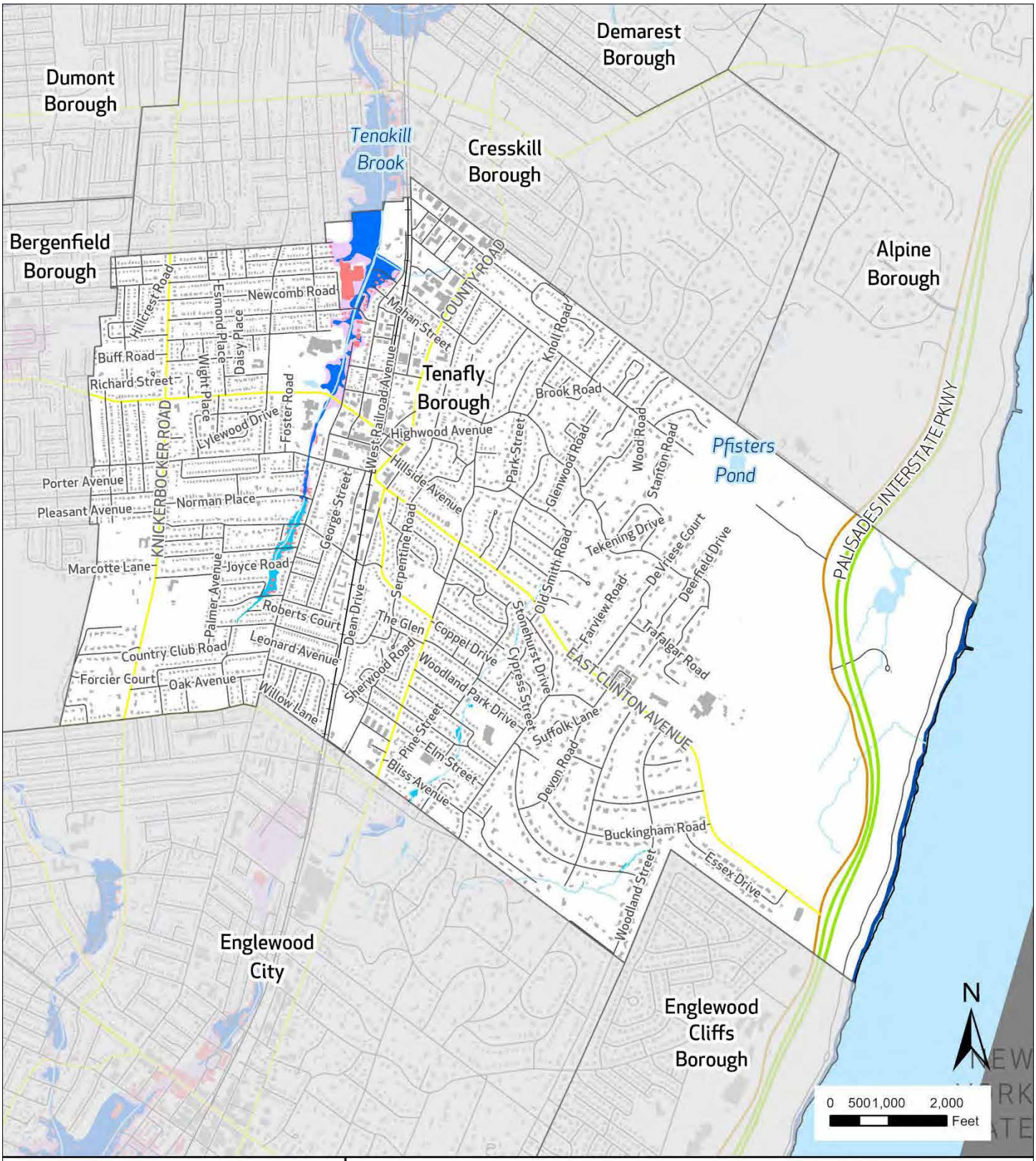
The Special Flood Hazard Area (SFHA) in the Borough of Tenafly primarily located adjacent to the waterbodies of the borough: the shore of the Hudson River and Tenakill Brook which runs roughly parallel to the railroad track in the northwestern area of the borough. Approximately 1.4 percent of the total area of Tenafly lies within the 1% annual chance flood zone as defined by FEMA. An additional 1 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 61.8 percent of Tenafly is considered developed. Of the developed parcels of the borough, 1.5 percent fall at least partially within the 1% annual chance flood zone and 3.3 percent are at least partially 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
Developed Parcels	1.5%	3.3%
Exposed Land Area	1.4%	1%

During the planning process, Tenafly Borough 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 20 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 0.2% annual chance floodplain. None are within the 1% annual chance area or the area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Safety and Security	0	1



Flood Hazard

Tenafly Borough

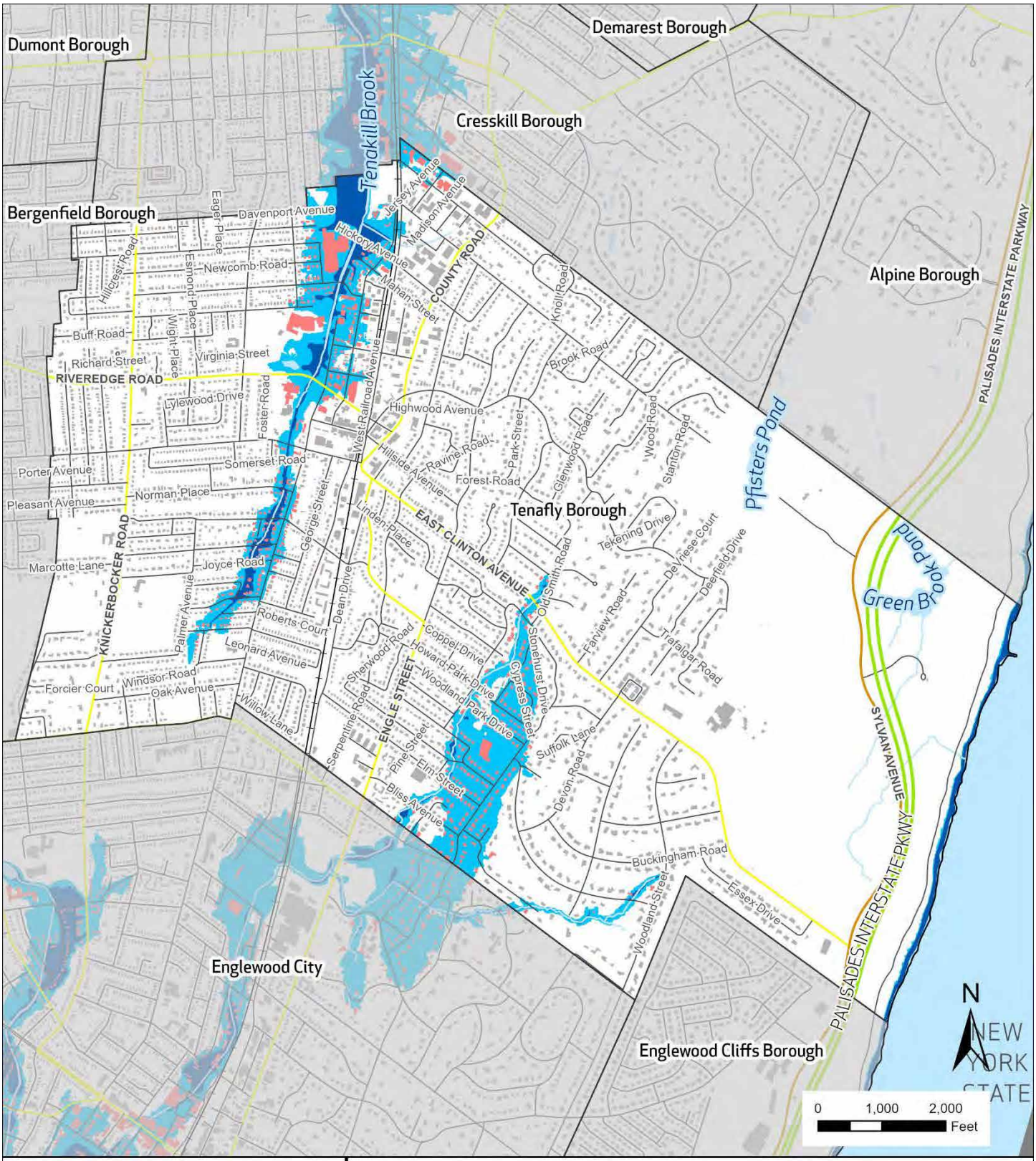
FEMA Flood Zone

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

- Palisades Interstate Pkwy
- US Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Tenafly Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Palisades Interstate Pkwy
- US Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Tenafly Borough 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X			
Floodplain Development Ordinance	X		6/16/2025	
Floodplain Management Plan	X		6/16/2025	
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X		2024	
Watershed Management Plan	X		2023	
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan	X			
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X		2023	
Community Wildfire Protection Plan	X			
Climate Adaptation Plan	X		2023	
Other Plans that discuss hazard mitigation				
Other ordinance and regulation that mitigate the impacts of natural hazards	X		2023	

Administrative and Technical Capabilities

Tenafly Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Borough Engineer
Grant Writer	X		Contract consultant
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		Borough Employee – We have a licensed social worker on staff.

Education and Outreach Capabilities

Tenafly Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The Borough of Tenafly has CodeRED reverse 911 and utilizes social media, when appropriate.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

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

Financial Capability	Yes	No	Explanation
FEMA BRIC	X		Applied – program ended
FEMA FMA			
FEMA Public Assistance	X		Hurricane Ida
FEMA HMGP			
Non-FEMA Federal Funding Programs	X		HUD grant
Other FEMA resources			
NJ Infrastructure Bank		X	
Other state municipal assistance or grant programs			
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Strategic Plan and Capital Plan reviewed annually.
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Tenafly has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate natural hazard risks. Key completed actions include elevating homes to meet updated FEMA standards, improving drainage systems, and enhancing backup power at essential facilities. Over the next five years, Tenafly aims to prioritize projects that address emerging climate challenges, such as frequent 500-year flood producing storms, by expanding mitigation strategies like updated flood mapping, adopting advanced emergency alert systems, and mitigating debris and stream cleaning, and culvert inspections/cleanouts. These efforts underscore the Borough of Tenafly's commitment to safeguarding residents and promoting sustainable growth in the face of evolving hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Borough has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
61-01	Purchase High-water Vehicle for Emergency Rescues	Purchase a high axle vehicle that would allow emergency response to neighborhoods isolated by flooding.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough Engineer	Municipal budget	$250,000.00	5 + years	Ongoing	
61-02	Stabilize the Banks of the Tenakill Brook and its Tributaries and Overpeck Creek	Implement stabilization methods to improve the banks of the Tenakill Creek and its tributaries and Overpeck Creek.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Engineer	FEMA HMA, HUD	$10,000,000.00	5 + years	Ongoing	Survey work is being performed. Vegetative solutions are being sought.
61-03	Install Backflow Preventers on Stormwater Outfall Pipes	Install duckbill backflow preventers on the outlets of stormwater pipes that discharge to the Tenakill Creek and its tributaries.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough Engineer	FEMA HMA	$40,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
61-04	Expand Public Education on Flood Risk	Provide literature to educate the public about the risks of flooding and methods for protecting themselves and their property.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Borough Engineer	Municipal budget	$5,000.00	5 + years	Ongoing	
61-05	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Elevation of structures in flood prone areas, specifically Repetitive Loss and Severe Repetitive Loss properties.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Engineer	FEMA HMA	$8,500,000.00	5 + years	Ongoing	
61-06	Prepare Geographic Information System (GIS) Mapping of all Stormwater Infrastructure	Use GIS to produce data visualizations and information on the status of stormwater infrastructure.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Borough Engineer	Municipal budget	$250,000.00	5 + years	Ongoing	
61-07	Elevate Bridge that Supports Continuity of Operations and Critical Evacuation Routes	Elevate bridge located in a Special Flood Hazard Area that supports emergency management.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Engineer	FEMA HMA, DOT, County and municipal budget	$6,000,000.00	5 + years	Ongoing	
61-08	Develop a Plan to Relocate Emergency Responder Staging Locations	Locate high ground areas, located outside the Special Flood Hazard Areas, and establish plans for staging emergency responders at these locations.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	OEM	Municipal budget	$25,000.00	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
61-09	Develop a Plan to Evaluate the Risk of Falling Trees	Establish plan to evaluate the risk existing trees pose to existing elevated utilities.	Flood, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Severe Weather	Low	DPW	Municipal budget	$40,000.00	5 + years	Ongoing	
61-10	Prepare a Plan on the Need for Warming Stations	Locate available facility and prepare plans for establishing a warming station for at-risk residents during cold weather conditions	Severe Weather	Low	OEM	Municipal budget	$25,000.00	5 + years	Ongoing	
61-11	Protect Critical Facilities from High-wind Events	Evaluate critical facilities and identify facilities that are at risk to damage during high wind events. Construct appropriate measures to mitigate the risk of winds to critical facilities.	Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	DPW	FEMA HMA	$750,000.00	5 + years	Ongoing	
61-12	Purchase and Install Generators at Critical Facilities	Purchase and installation of generators at Mount Carmel Roman Catholic Church and Tenafly Presbyterian Church.	All Hazards	High	Borough OEM	FEMA HMA	$200,000.00	1 year	Ongoing	
61-13	Dredge and Clean Streams to Reduce Flooding	Dredge streams to reduce flooding in the borough. Fund a local project for drainage infrastructure and to clean the system.	Flood	Medium	Borough Administrator, Borough OEM	Municipal budget	$5 million	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
61-14	Target Harden Critical Facilities by Installing Surveillance Cameras, Traps, and Bollards	Obtain additional surveillance equipment, such as cameras, bollards, and traps for DPW, municipal building, places of worship, schools, and pump stations.	Terrorism	Medium	Borough Administrator, Borough OEM	Homeland Security grants, Municipal budget	$250,000.00	1 year	Ongoing	
61-15	Purchase Emergency Equipment such as Light Towers and Variable Message Signs	Purchase light towers and variable message signs for use in the event of a major storm event or evacuations.	All Hazards	Medium	Borough Administrator, Borough OEM	Municipal budget	$50,000.00	1 year	Ongoing	
61-16	Develop a Cyber Attack Response Plan for Schools	In coordination with the Board of Education, create data backups and place secondary servers offsite.	Cyber Attack	Low	Borough Administrator, Borough OEM	Homeland Security grants, municipal budget, BOE funding	$150,000.00	1 year	Ongoing	
61-17	Repair Culverts in the Central Business District Where Repetitive Flooding Occurs	Repair culverts in the Central Business District.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Administrator, Borough OEM	Municipal budget	$1,000,000.00	1 year	Ongoing	Two repairs have been completed.
61-18	Apply Soil Stabilization Measures, such as Planting Soil Stabilizing Vegetation, on Steep, Publicly-owned Slopes	Apply soil stabilization measures, such as planting soil stabilizing vegetation, on steep, publicly-owned slopes.	Geological Hazards, Landslide	High	Borough of Tenafly and Palisades Interstate Park Commission	FEMA HMA	$500,000.00	3 years	Ongoing	

62 – TETERBORO BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Richard Behrens	**Emergency Management Coordinator, Chief**	**Primary Contact, Municipal Meeting**
Nicholas Saros	Municipal Manager	Reviewed appendix and added additional details

COMMUNITY PROFILE

Overview

Teterboro Borough is a borough in southern Bergen County, New Jersey. The borough is notable for being the third smallest (by population) in the state, currently estimated at under 100 residents; it is home to Teterboro Airport, which takes up a majority of the borough's area. Due to the large presence of the airport and associated land uses, Teterboro is primarily industrial and transportation (air) land uses, with very little residential land use seen in the borough.

The borough lies to the west of the Hackensack River and lies within the Hackensack Watershed.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Teterboro's land use is primarily categorized as civic/public (tax exempt) – this category makes up 59% of the borough area (nearly 360 acres) as of 2022. Industrial land uses make up an additional 31% (186 acres) of Teterboro. Notably, residential land uses make up 1% of the borough (4.1 acres) and commercial uses make up an additional 1% (3.2 acres). Vacant land within the borough accounts for an additional 57 acres (9% of the municipality's land area). These categories have changed somewhat since estimates in 2016; vacant land grew to 57 acres from 9.6 acres, accounting for an increase of nearly 500%. Industrial categorization lost nearly 22 acres during this time, accounting for a decrease of 10%.

According to NJDEP's Land Use/Land Cover (LULC) datasets from 2015 and 2020, urban land accounted for 93% (667 acres) of all land in Teterboro. The borough is also home to some wetland geographies, which make up an additional 5% (nearly 37 acres) of the borough. Forest coverage lost 4.4 acres (or 30%) between these two time periods, and barren land dropped to 0 acres from a 2015 estimate of nearly 16 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0	0	
Barren Land	15.8	0	-100%
Forest	14.9	10.5	-30%
Urban	647.1	667.2	3%
Water	0.1	0.1	0%
Wetlands	36.9	36.8	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

The unique land uses making up much of Teterboro have not changed from 2021 to present. There have been no noted developments nor redevelopment of the airport or related land uses, which make up much of the acreage of the borough.

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

No known development or infrastructural changes are anticipated within Teterboro over the next five years.

Demographics & Vulnerable Populations

Teterboro Borough has a total estimated population of 91, which is a -15.7% decrease from 2013-2017's estimated 108 residents. The borough has no residents under age 5, and 14.3% of residents are over age 65. Teterboro's demographics

are unique; though the population is low (and residential land is not the primary use in the borough), a population decrease may indicate changing landscape conditions which impact vulnerability to hazards.

The entirety of Teterboro is made up of one block group, which meets criteria for overburden (OBC) based on indicators of Minority population. There are no designations of CDRZ or CEJST vulnerable populations within Teterboro.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	91
Population Change since 2017	-15.7%
Percent of Population Age < 5	--
Percent of Population > 65	14.3%

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 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	
Hurricanes/Tropical Storms	Winter Storms	Wildfire
Nor'easter	Extreme Temperatures	Earthquake
Flood	Extreme Wind	Drought
	Tornado	Landslide
	Lightning	
	Power Failure	
	Sea Level Rise	
	Human-made Hazards	
	Cyber Attack	Economic Disruption
	Terrorism	Civil Unrest
	Pandemic	

Dam & levee failure, storm surge, wave action, and coastal erosion were ranked as N/A.

Hazard Ranking Explanation

The Borough of Teterboro ranks hazards which have, in recent years, caused flooding in the borough and neighboring municipalities, to be of particularly high concern. These include hurricanes, tropical storms, nor'easters, and general flooding hazards. Secondary hazards of medium concern include those which have presented in recent years within the borough and surrounding municipalities but have been more easily managed or resolved – power failure, lightning strike, extreme temperatures, and winter storms.

Due to Teterboro's topography, the municipality deems landslide a low concern, along with drought, earthquake, and dam and levee failures (not impacted by an upstream dam). Additionally, the borough's geography nearby the Hackensack River and tributaries results in medium hazard identification for future sea level rise risk, which does have the potential for inundation in the borough.

Due to Teterboro's unique landscape, with primarily industrial and airport acreage, the concern for potential targeted cyber attack or terrorism activity is ranked as of medium concern.

Significant Hazard Events Since Last Plan Update

Flooding is the main concern for Teterboro. The borough experiences regular flooding after storms, heavy rains, and due to gathering run-off after a heavy storm event. The standing water has impacted vehicle travel and has caused the closure of roadways in adjacent Moonachie.

Beyond regular flooding, which has impacted travel and caused roadway closures, there have been no significant hazard events in recent years, nor any storms causing widespread impacts (e.g., power failure) across the borough.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Teterboro Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding, and areas of known standing water during storm events. Additionally, adjacent wetlands and nearby riparian buffers may be less equipped to handle runoff from Teterboro and surrounding municipalities. Rising sea levels can further impact this wetland capacity, further threatening the borough's infrastructure.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Teterboro Borough	
Number of Policies In-Force:	6
Total Losses:	3
Total Payments:	$405,674.86
Number of RL Properties:	-
Number of Mitigated RL Properties:	-
RL – Total Losses:	-
RL – Total Paid:	-
Number of SRL Properties:	-
Number of Mitigated SRL Properties:	-
SRL – Total Losses:	-
SRL – Total Paid:	-

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

The Special Flood Hazard Area (SFHA) in the Borough of Teterboro comprises almost the entirety of the borough. Approximately 96 percent of the total area of Teterboro lies within the 1% annual chance floodplain as defined by FEMA. An additional 2.6 percent of the area of the municipality is in the 0.2% annual chance floodplain.

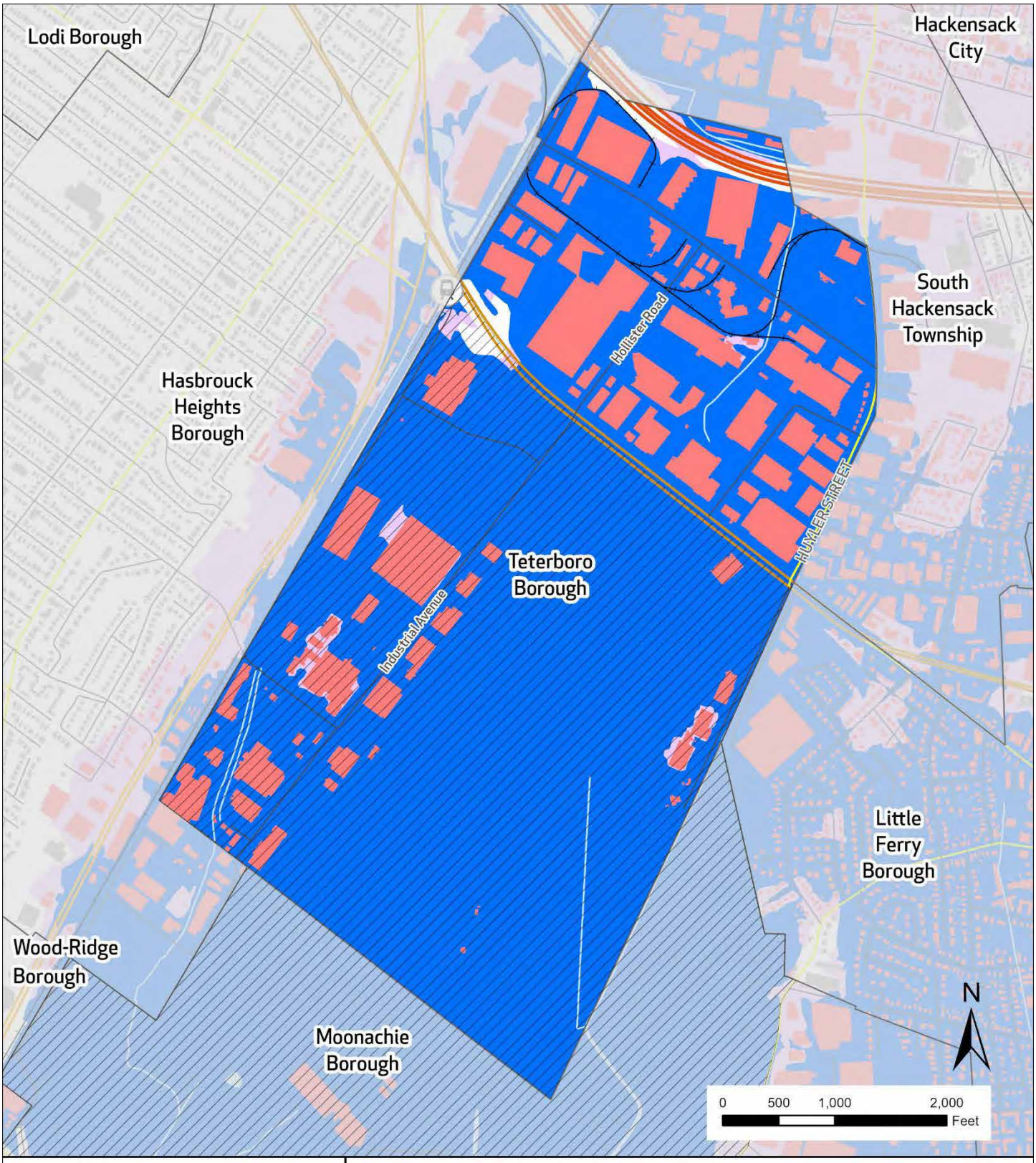
About 92.8 percent of Teterboro is considered developed. Of the developed parcels of the town, 100 percent fall at least partially within the 1% annual chance floodplain including 14.8 percent that are also at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	100.0	14.8
Exposed Land Area	96.0	2.6

During the planning process, Teterboro Borough 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 six total facilities. These facilities were geolocated and intersected with delineated

flood hazard data using GIS. Of these facilities, five are within the 1% annual chance floodplain. Four of these five facilities are also within the area of the borough at risk from sea level rise. An additional facility is within the 0.2% annual chance area. The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5' of Sea Level Rise
Safety and Security	4	1	3
Water Systems	1	0	1



Flood Hazard

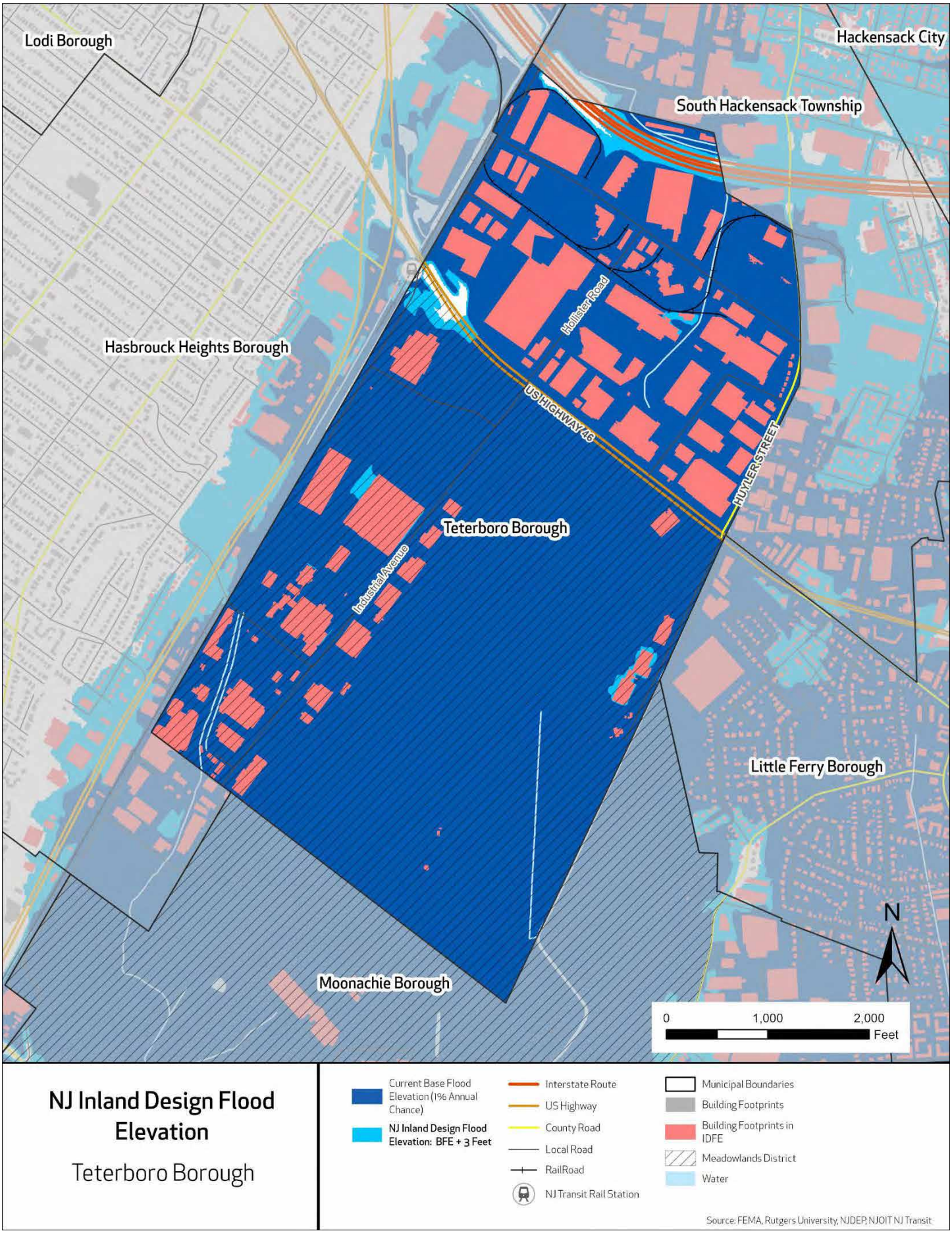
Teterboro Borough

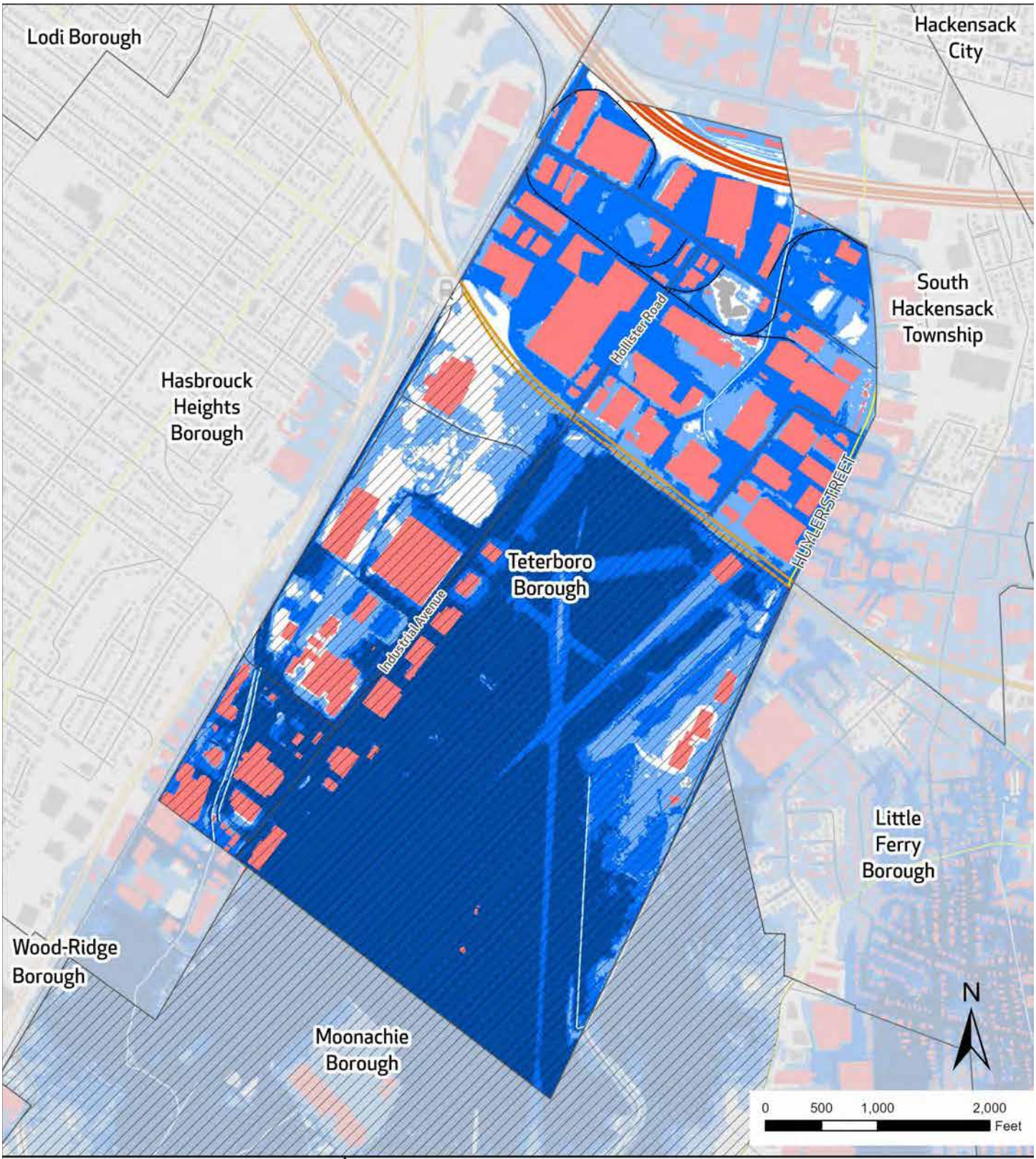
FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT


Lodi Borough
Hackensack City
South Hackensack Township
Hasbrouck Heights Borough
Hollister Road
US HIGHWAY 46
HUYLER STREET
Teterboro Borough
Industrial Avenue
Little Ferry Borough
Moonachie Borough
N
0
1,000
2,000
Feet
NJ Inland Design Flood Elevation
Teterboro Borough
Current Base Flood Elevation (1% Annual Chance)
NJ Inland Design Flood Elevation: BFE + 3 Feet
Interstate Route
US Highway
County Road
Local Road
RailRoad
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprints in IDFE
Meadowlands District
Water
Source: FEMA, Rutgers University, NJDEP, NJOIT NJ Transit



Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Teterboro Borough

- Inundation Under 2 Feet SLR
- Inundation Under 3 Feet SLR
- Inundation Under 5 Feet SLR
- Interstate Route
- US Highway
- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprint within 5ft SLR
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Teterboro Borough 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			Coordinate with NJSEA
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X			With Moonachie
Floodplain Development Ordinance	X			
Floodplain Management Plan	X			Redoing it now (flood zones are changing)
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			With Moonachie
Evacuation Plan	X			With Moonachie
Substantial Damage/Improved Structures Response	X			With Moonachie PD
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			With Moonachie and PDW
Tracking elevation certificates and/or Letter of Map Change	X			Track with building department and NJSEA
Post-Disaster Recovery Plan	X			With Moonachie PD
Current/recent redevelopment plans or studies	X			Part of master plan
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		

Administrative and Technical Capabilities

Teterboro Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		
Grant Writer	X		Engineering Consultant
Staff trained to support mitigation	X		Engineering Consultant
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Fire with Hasbrouck Heights Borough Police with Moonachie
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations	X		Moonachine Police helps with outreach with these groups

Education and Outreach Capabilities

Teterboro Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Reverse 9-11
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	Will review with Moonachie police department
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Teterboro Borough 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		Rebuild by Design projects
Evaluation process on the prioritization of risk reduction projects against other local activities		X	
Other ongoing efforts to build additional financial capabilities		X	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Teterboro's strategy to reduce the risk of flooding, hurricane/tropical storms, and nor'easters is to improve stormwater drainage throughout the borough. This includes improving drainage infrastructure at the East Riser Ditch and the West Riser Ditch. There are a few Rebuild by Design projects being built within the Borough to help improve drainage.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
-	-	-	-	-	-	-	-	-	-	-

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
62-01	Remove Inadequate Culverts and Improve Channels on the East Riser Ditch	Removal of various culverts and channel improvements on the East Riser Ditch, located between Route I-80 and Huyler Street.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough of Teterboro	FEMA HMA, municipal budget	TBD	1 year	Ongoing	Rebuild by Design has authorized the construction of a pump station for the East Riser.
62-02	Purchase Mobile Generators for Traffic Lights	Purchase mobile generators for traffic lights for public safety during power failure and other hazard events.	All Hazards	Low	Borough OEM	Municipal budget	$100,000.00	1 year	Ongoing	Remains a priority. Funding concerns.
62-03	Retrofit Pump Stations to Remain Operational During Storms	Retrofit pump stations to remain operational during storm or flooding events; an engineering study will be required.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough OEM	FEMA HMA	TBD	1 year	Ongoing	Beginning the engineering study soon.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
62-04	Construct 70-FT Utility Poles to Protect from Natural and Human-based Hazards	Construct 70-FT utility poles for more reliable service.	All Hazards	Medium	Borough DPW	Municipal budget	TBD	1 year	Ongoing	
62-05	Develop a Cyber Attack Response Implementation	Purchase and install a secondary server and data backups; acquire off-site data storage; update emergency response plans and ordinances to address, mitigate, and recover from a potential cyber-attack affecting the operation of borough activities.	Cyber Attack	Low	Borough Administration, OEM, Borough IT	Homeland Security grants, municipal budget	TBD	2 years	Ongoing	Has begun (in progress) – funding sourced from municipal budget.
62-06	Construct a Berm System with Flood Gates at Berry's Creek	Implement the recommendations from the Rebuild by Design Meadowlands (Pilot Area #1). The proposal is to build a berm system with associated gates in Little Ferry /Moonachie /Carlstadt (with a sliver of South Hackensack and Teterboro) that will extend ocean surge flooding protection to all five towns. The berm system will chamber off Berrys Creek into separate parts that can be cleaned up successively. The proposal also includes the creation of new freshwater basins, and	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough Planning and Engineering	FEMA HMA, HUD	$2,000,000.00	2 years	Ongoing	Part of a list of projects for regional coordination with Moonachie.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		the expansion and sealing of existing basins (e.g. Sewage plant basin, Indian lake, Little Ferry) within the protected areas, to capture rainwater runoff before and hold it before it, if necessary, gets discharged into the Hackensack River.								
62-07	Install Pump Station in West Riser Ditch	Increase capacity and install a pump station in West Riser Ditch.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Administrator, Borough OEM	FEMA HMA	$10,000,000.00	2 years	Ongoing	Securing funding for this project.
62-08	Connect the Vincent Place Pump Station to West Riser Ditch	Connect the Vincent Place Pump Station to the West Riser Ditch via pipe to use the pump station's excess capacity to drain the water in the West Riser Ditch.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Administrator, Borough OEM	FEMA HMA	$2,000,000	2 years	Ongoing	No current progress.
62-09	Purchase and Install Generators for Municipal Properties that serve both Moonachie and Teterboro	Municipal properties include Municipal Building, DPW Building, and pump stations.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Moonachie Police Department	FEMA HMA	$200,000	5 years	New 2026	

63 – UPPER SADDLE RIVER BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Theodore Preusch	**OEM Coordinator**	**Primary Contact, Municipal Meeting**
Robert Fleshman	Deputy OEM Coordinator	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Upper Saddle River spans approximately 5.27 square miles and is located in northern Bergen County, New Jersey. The borough is bisected by the Saddle River, a tributary of the Passaic River. It is served by several major highways, including the Garden State Parkway and Route 17. Upper Saddle River has a population of approximately 8,313 residents. Upper Saddle River is not a coastal community, as it is located inland in northern Bergen County, away from the coastline.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Upper Saddle River is a predominantly residential community with residential (including apartment) use accounting for 86% of its area, covering over 2,550 acres in 2022. In the same year, civic/public (tax exempt), commercial, and vacant land made up 7%, 4%, and 3% respectively of its area. Between 2016 and 2022, commercial land area decreased by 39%, from 213.2 acres to 129.4, while residential, civic/public (tax exempt), and vacant land all had small increases.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 81% of the borough's total land, covering 2,740.4 acres. Forests, wetlands, and barren land followed, covering 11%, 5%, and 2% respectively of Upper Saddle River's area. Between 2015 and 2020, the share of barren land jumped from 2.1 acres to 79.3 acres.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	2.5	2.5	0%
Barren Land	2.1	79.3	3676%
Forest	380.7	369.3	-3%
Urban	2804.8	2740.4	-2%
Water	23.5	23.5	0%
Wetlands	160.8	159.5	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

240 condominium units at Lake Street were constructed; it is a six-story building with 64 affordable housing units. 44 single-family homes were also constructed off Woodmere Road. These developments did not occur within the regulatory floodplain/floodway.

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

None identified.

Demographics & Vulnerable Populations

Upper Saddle River Borough has a total population estimated at 8,313, a near constant (-.31%) population from the 2013-2017 ACS survey period estimate. The Borough's population is nearly 7% (6.99%) aged under 5 and 12.9% aged over 65, based on 2018-2022 estimates. Though the population age is relatively distributed within Upper Saddle River, a larger proportion of aging population over age 65 may indicate hazard vulnerability to be addressed with efforts toward

populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

One block group in Upper Saddle River's southwest portion meets criteria for potential overburden (OBC) based on indicators related to *Minority* populations. There are no parts of the borough which meet criteria for CDRZ or CEJST designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	8,313
Population Change since 2017	-0.3%
Percent of Population Age < 5	7.0%
Percent of Population > 65	12.9%

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 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	
Extreme Wind	Nor'easter	Extreme Temperatures
Hurricane/ Tropical Storm	Winter Storm	Tornado
Dam Failure		Landslide
Flood		Drought
	Human-made Hazards	
Cyber Attack	Pandemic	
Power Failure		

Lightning, coastal erosion, storm surge, wave action, earthquake, wildfire, civil unrest, economic disruption, and terrorism were ranked as N/A.

Hazard Ranking Explanation

The borough ranked extreme wind, hurricane/tropical storm, and flood as hazards of high concern because of damage to not only residential, but also sometimes to commercial and industrial properties. Septic and wells also end up getting disrupted. During such extreme weather events, the borough experiences power outages as well, from high-speed winds. As a result, it ranked power failure as a hazard of high concern too.

Cyber attack is also a hazard of high concern. The borough has previously seen phishing attempts.

Significant Hazard Events Since Last Plan Update

The last significant hazard event impacting the borough was Hurricane Ida in 2021. During Ida, areas previously not impacted by flooding experienced flooding.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Upper Saddle River. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Saddle River. The current drainage system, which already may be undersized to handle severe storms,

may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's nearly 13% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Upper Saddle River Borough	
Number of Policies In-Force:	47
Total Losses:	71
Total Payments:	$543,753.39
Number of RL Properties:	6
Number of Mitigated RL Properties:	0
RL – Total Losses:	15
RL – Total Paid:	$170,699.85
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

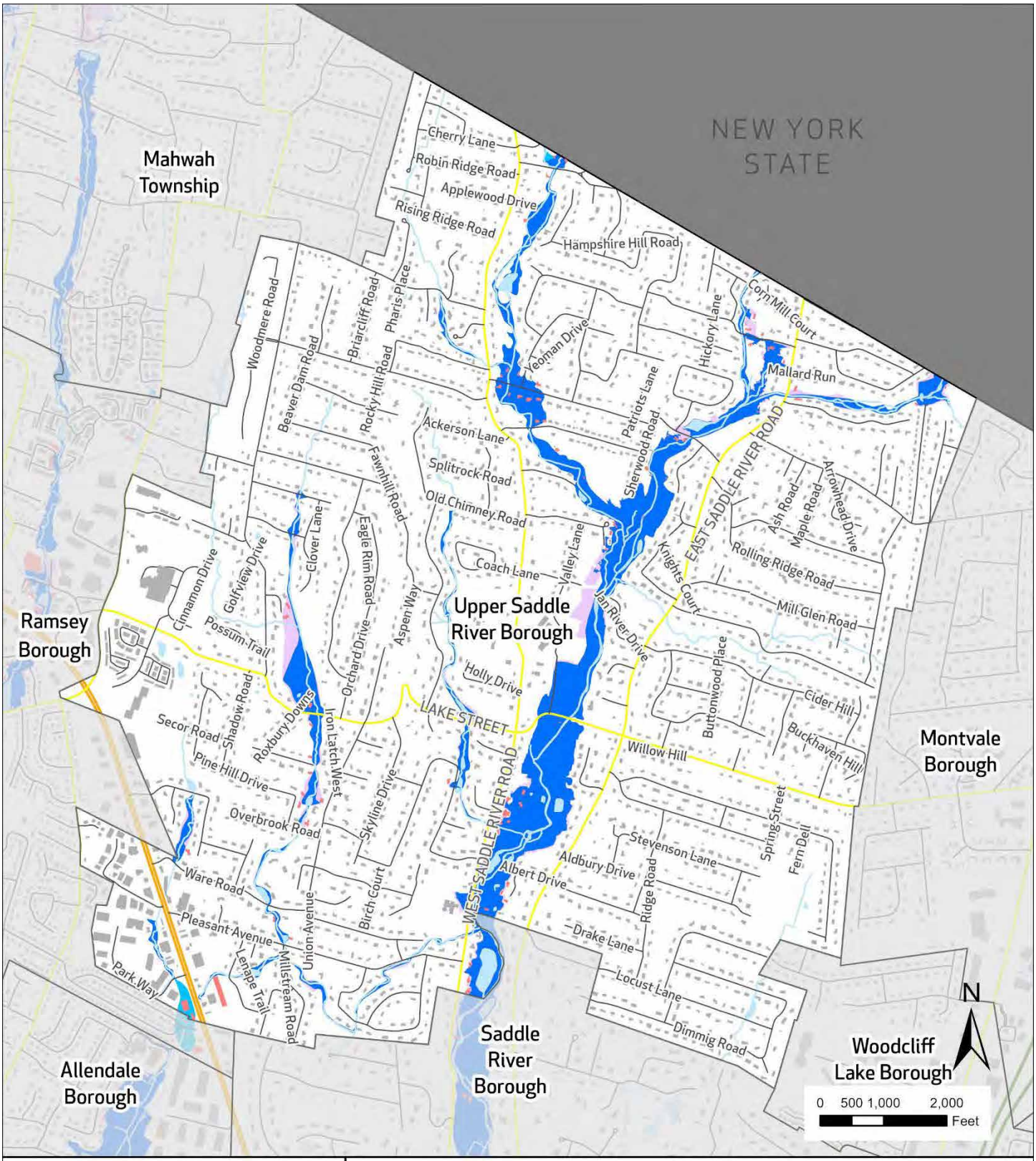
The Special Flood Hazard Area (SFHA) in the Borough of Upper Saddle River primarily located adjacent to the Saddle River and its smaller tributaries. Approximately 6.3 percent of the total area of Upper Saddle River lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 86.2 percent of Upper Saddle River is considered developed. Of the developed parcels of the borough, 12.9 percent fall at least partially within the 1% annual chance floodplain and 6.6 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	12.9	6.6
Exposed Land Area	6.3	0.8

During the planning process, Upper Saddle River Borough 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 eight total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



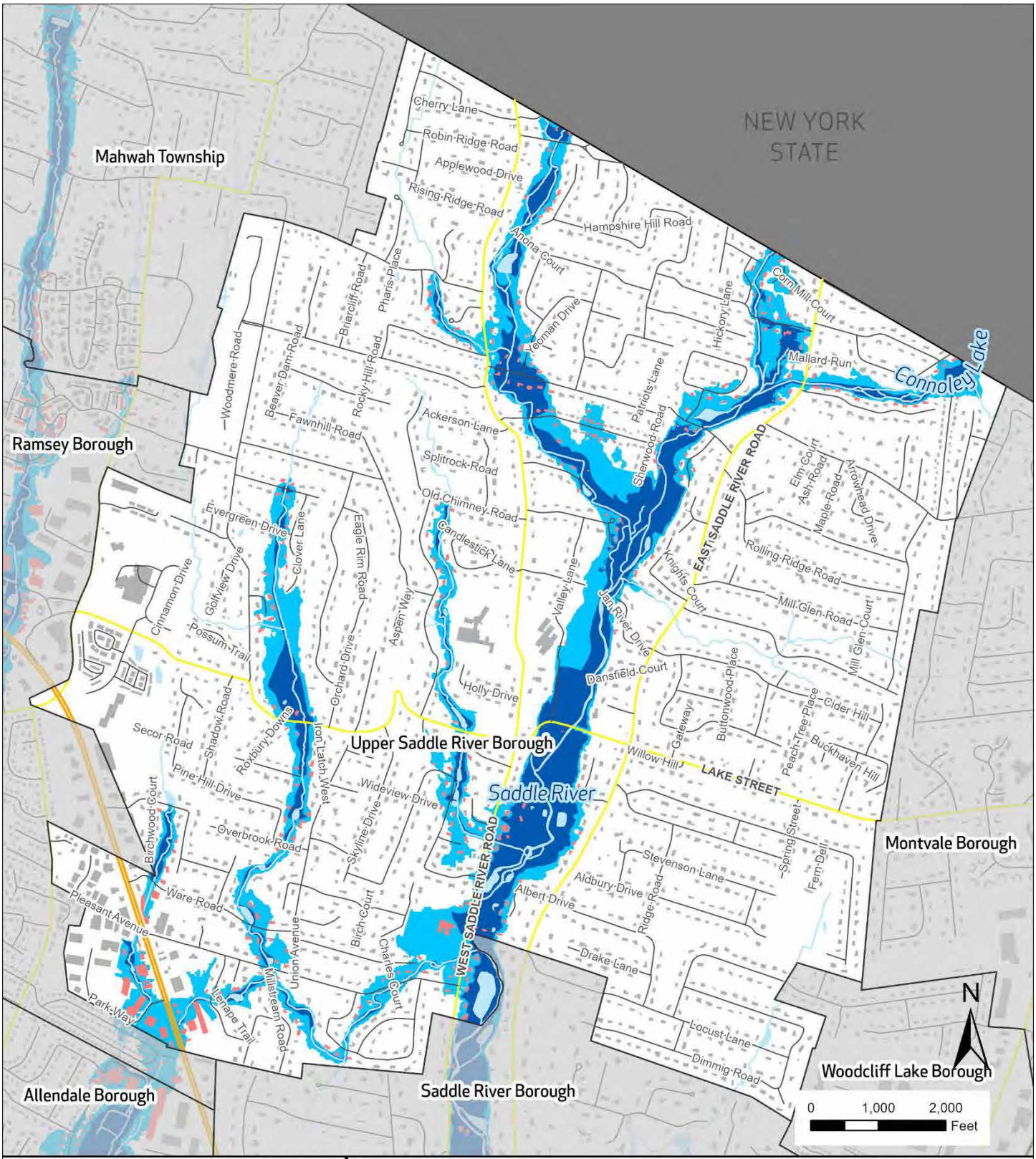
Flood Hazard

Upper Saddle River Borough

FEMA Flood Zone

- 0.2% Annual Chance
- A (1%); AH (1%)
- AE (1%)
- State Highway
- County Road
- Local Road
- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Upper Saddle River Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Upper Saddle River Borough 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			Provides wide range of info to many
Capital Improvement Plan	X		2016	Allows for purchases that enhance/improve capabilities
Local Emergency Operations Plan/Continuity of Operations Plan	X		In progress	Provides clear/organized approach to borough's place or responsibility/response.
Floodplain Development Ordinance	X		In progress	Assists building/planning/zoning depts.
Floodplain Management Plan	X		2025	Clearly defines problematic areas
Stormwater Management Ordinance	X		2023	Helps keep waterways clean/clear of debris/pollutants
Stormwater Management Plan	X		2025	Helps keep waterways clean/clear of debris/pollutants, provides specific details
Watershed Management Plan		X		
Sheltering Plan	X		2025	Provides a place of refuge for percentage of residents
Evacuation Plan	X		2025	Provides plan to those that facilitate or order evacuations
Substantial Damage/Improved Structures Response	X		2025	Meets latest building code standards
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		2025	Provides Public Works details of staging/removal/FEMA reporting
Tracking elevation certificates and/or Letter of Map Change	X		2025	Colliers Engineers oversees and manages current mapping
Post-Disaster Recovery Plan	X		2025	Helps coordinate FEMA reporting and costing
Current/recent redevelopment plans or studies	X		2001	Helps provide a picture/forecast for the future
Community Wildfire Protection Plan	X		In progress	Organizes fire responders
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			Organizes emergency responders
Other ordinance and regulations that mitigate the impacts of natural hazards			In progress	Provides enforcement and reduction of potential hazards

Administrative and Technical Capabilities

Upper Saddle River Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Municipal Engineer
Grant Writer		X	
Staff trained to support mitigation	X		Public Works
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Begen County along with those municipalities within share resources
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		FEMA
Organizations that work with socially vulnerable or underserved populations	X		USR CARES Organization

Education and Outreach Capabilities

Upper Saddle River Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Borough reaches community members via RAVE emergency messaging
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Upper Saddle River Borough 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		COVID Pandemic support funding
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		Borough planners/managers prioritized project funding
Other ongoing efforts to build additional financial capabilities	X		Financial instruments that are interest bearing

MITIGATION STRATEGY

Overview and Progress Since Last Update

The borough is in discussions to add additional height and length to the existing Gabion Wall along the Saddle River at Lions Park, with the hopes to reduce or eliminate the river overtaking the banks and flooding the park, athletic areas and playground. Similar discussions are a topic at Hess Court Park with additional Gabion Walls intended to reduce or eliminate flooding water in the park.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
63-01	Floodproof Critical Facilities Near the Saddle River Regulatory Floodway, Including Borough Hall and Police HQ	Floodproof critical facilities at risk of flooding from Saddle River.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Administrator, Borough OEM	FEMA HMA, borough funds	TBD	1 year	Withdrawn	These facilities are not flood prone.
63-02	Purchase and Install Switches and Portable Generators for Traffic Lights	Purchase and install switches and portable generators for traffic lights.	All Hazards	Medium	Borough OEM	Military equipment giveaway program	$0.00	1 year	Completed	All traffic lights are done, including two County lights and one light that the borough shares with Ramsey. No cost to the borough as the county took care of the switches and the portable generators were free from the military give back program.
63-03	Purchase a Street Sweeper	Purchase a street sweeper so that debris will not get into the catch basin.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough OEM	Municipal budget	$240,000.00	1 year	Completed	The borough has a sweeper truck with a vacuum but not one with jet capabilities. The sweeper truck is shared with Saddle River and cost $240,000 between the two towns.
63-04	Purchase an Additional Variable Message Signage	Purchase an additional Variable Message Sign for use in the event of a major storm event or evacuations.	All Hazards	Medium	Borough OEM	Municipal budget, Military equipment giveaway program	$37,000.00	1 year	Completed	The borough received one variable message sign from the military giveaway program free of charge; the other was purchased using municipal funds and cost $37,000.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
63-05	Expand Coordination with Utility Authority on Reducing Power Outages	Continue to act as lead agency to handling critical community services during utility interruptions and coordinate with utility authority on ongoing maintenance required to reduce the risk of power outages.	All Hazards	Medium	Primary - Borough, secondary - utility	Municipal budget	$5,000.00	1 year	Ongoing	After Superstorm Sandy, the budget to trim trees increased. Orange & Rockland have a cycle through which they reduce trees. The borough would like to increase the frequency of tree trimming.
63-06	Continue to Coordinate Removal of Vegetation Impacting Utility Infrastructure	Coordinate efforts with power electrical utilities to reduce and remove hazardous vegetation. Public Works assembled and trained a team of ariel bucket truck operators, known as the Timber Team. The team is tasked with reducing the potential impact of hazard trees where extreme winds could cause both healthy and unhealthy trees to fall upon or damage electrical power supply lines, resulting in power failure to homes.	Extreme Wind, Power Failure, All Hazards	Low	Power Utility and borough for assistance	Utility company maintenance budget	$85,000.00	1 year	Ongoing	This action ties in with 63-05.
63-07	Install New Gabion Walls and Repair Existing Gabion Walls	Install new gabion walls and repair existing gabion walls.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough	FEMA HMA	$224,523.00	1 year	Ongoing	Gabion walls line Hess Park to keep water in the river. They are functional in some places, but in others, water goes above the existing gabion and leaves debris.
63-08	Develop and Lead Regional Mitigation Coordination on Waterways Shared with New York	Meet and consult with Rockland County OEM (New York) and the New York State Department of Environmental Conservation.	All Hazards	Medium	Borough	Municipal budget	TBD	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
63-09	Assist with Residential Floodproofing	Investigate, research, and review any technology or products to assist in floodproofing.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough	TBD	TBD	TBD	Ongoing	The borough facilitated a meeting between FEMA and homeowners after Hurricane Ida. People from 25-30 residences attended. Some applied to FEMA for and received recovery funds.
63-10	Coordinate with County to Install Drainage Improvements on County Roads Including Creating Catch Basins and Increasing Pipe Diameters	Additional drainage includes creating catch basins and increasing pipe diameter.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Borough Administrator, Borough OEM	FEMA HMA, Borough funds, County budget	$600,000.00	1 year	Ongoing	
63-11	Coordinate with Bergen County on a Drainage Engineering Study	Develop a drainage engineering study to understand and identify vulnerable areas.	Flood, Nor'easter, Hurricane and Tropical Storm, Geological Hazards	Low	Borough OEM	County and Borough funds	$600,000	1 year	Ongoing	The county is working to determine a shared cost structure. It is reviewing drainage for the Stormwater Management Plan and discussing improvements with municipalities. About half of the bridges in the borough are county-owned.
63-12	Upgrade Cyber Security Infrastructure	Upgrade a secondary server and data backups.	Cyber Attack	Medium	Borough OEM	Municipal budget	$65,000.00	1 year	Ongoing	The borough acquired cybersecurity infrastructure over this planning cycle; however, it now seeks to upgrade this infrastructure.
63-13	Purchase a New Jet/Vac Truck	Purchase a new Jet/Vac truck to clean out debris from sewers and stormwater pipes.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Low	Borough OEM	Municipal budget	$500,000.00	1 year	Ongoing	The borough has a sweeper truck with a vacuum but not one with jet capabilities. The sweeper truck is shared with Saddle River and cost $350,000.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
63-14	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm, Dam Failure	High	Borough OEM and Homeowners	FEMA HMA	$7,000,000	5 + years	Ongoing	

64 – WALDWICK BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Troy Seifert	**OEM Coordinator / PD Lieutenant**	**Primary Contact, Local OEM Meeting, Municipal Meeting**
Steven Neale	Borough Administrator	Municipal Meeting

COMMUNITY PROFILE

Overview

The Borough of Waldwick, spanning approximately 2.07 square miles, was formed from parts of Ho-Ho-Kus and Washington Townships in 1886, and originally known as Orvil Township, becoming the Borough of Waldwick in 1919. Today Waldwick is defined by its small-town character and proximity to New York City. Major landmarks include the historic Waldwick Railroad Station and several houses listed on the National Register of Historic Place. The Ho-Ho-Kus Brook flows through the center of the borough and Saddle River forms the eastern border of the borough. Major transportation routes in Waldwick include NJ-17 and County Route 507 and the borough is serviced by the NJ Transit Main-Bergen County commuter rail line. The borough has a population of around 10,000 residents. Waldwick is not a coastal community as it is situated inland, bordered by Ho-Ho-Kus Brook and Saddle River.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Waldwick is a predominantly residential community with residential (including apartment) use accounting for 70% of its area, covering nearly 717 acres in 2022. In the same year, civic/public (tax exempt), commercial, vacant, and industrial land made up 15%, 7%, 4%, and 4% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 92% of the borough's total land, covering 1,213.1 acres. Forest land and wetlands followed, covering 4% and 3% respectively of Waldwick's area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	2.7	2.7	0%
Barren Land	2.8	2.8	0%
Forest	58.3	56.5	-3%
Urban	1211.2	1213.1	<1%
Water	15.5	15.5	0%
Wetlands	33.6	33.6	0%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

An assisted living center with 120 rooms and 150 residents at 245 Wyckoff Avenue was constructed. It is not located within a regulatory floodplain. Additionally, PSE&G increased the size of its substation.

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

Major redevelopment for the center of the borough is being planned; this redevelopment is primarily residential although some is commercial. There is already one 25-unit building approved and one is slated for approval. This development is not in the floodplain.

Demographics & Vulnerable Populations

Waldwick Borough has a total population estimated to be 10,068, a nearly constant (0.83%) population from the 2013-2017 ACS survey estimates. Waldwick's population is estimated to be 8.1% under age 5 and 17.6% over age 65. With an aging population making up nearly eighteen percent of the borough's residents, Waldwick may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

There is one block group within Waldwick meeting criteria for potential overburden (OBC) based on *Low Income* population vulnerabilities. There are no parts of the borough which meet designation criteria for CDRZ or CEJST communities.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	10,068
Population Change since 2017	0.8%
Percent of Population Age < 5	8.1%
Percent of Population > 65	17.6%

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

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked extreme wind as medium. There are a couple places in the borough that quickly experience power outages. It also ranked winter storms as at a medium level of concern but noted that its DPW responds well.

Cyber attacks are a medium concern for the borough; it did experience one in September of 2020.

Significant Hazard Events Since Last Plan Update

The last significant hazard experienced by the borough was Hurricane Ida in 2021. During Ida, the borough experienced some damage from wind and fallen trees, and a few houses experienced flooding in their basements. Additionally, water blocked access to a few streets. However, the borough noted that Hurricane Ida was less significant in the borough

compared to the rest of the county. Currently, during significant rain events, the borough checks the low area of the Wyckoff Avenue Bridge.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Waldwick. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from the Ho-Ho-Kus Brook and Saddle River. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 17% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) Statistics

Waldwick Borough	
Number of Policies In-Force:	29
Total Losses:	36
Total Payments:	$702,578.42
Number of RL Properties:	1
Number of Mitigated RL Properties:	0
RL – Total Losses:	2
RL – Total Paid:	$6,651.06
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 Borough of Waldwick is primarily located adjacent to the Ho-Ho-Kus Brook and the Saddle River. Approximately 6.2 percent of the total area of Waldwick lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.5 percent of the area of the municipality is in the 0.2% annual chance floodplain.

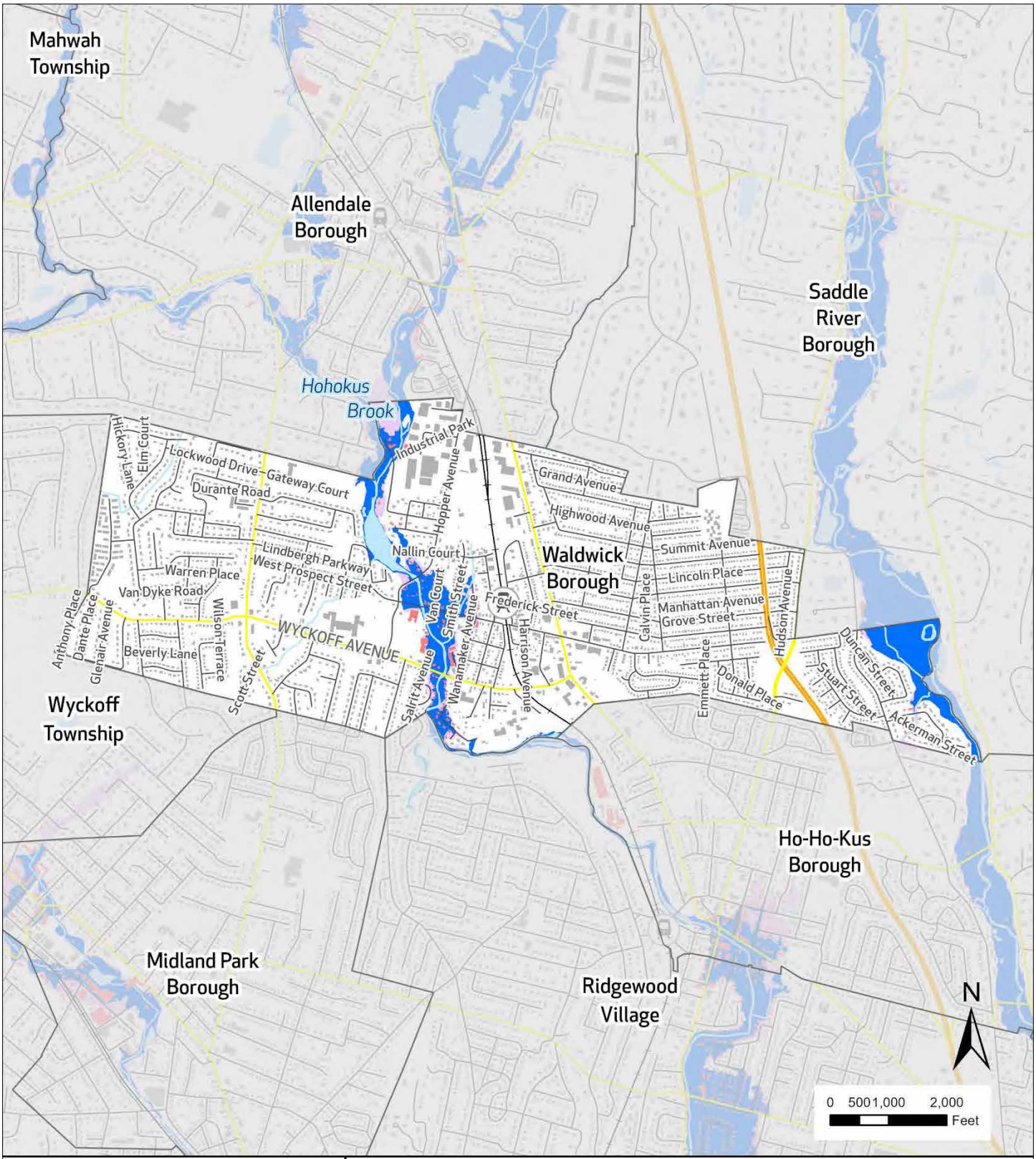
About 79.1 percent of Waldwick is considered developed. Of the developed parcels of the borough, 4.2 percent fall at least partially within the 1% annual chance floodplain and 4.7 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	4.2%	4.7%
Exposed Land Area	6.2%	1.5%

During the planning process, Waldwick Borough 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 22 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

Waldwick Borough

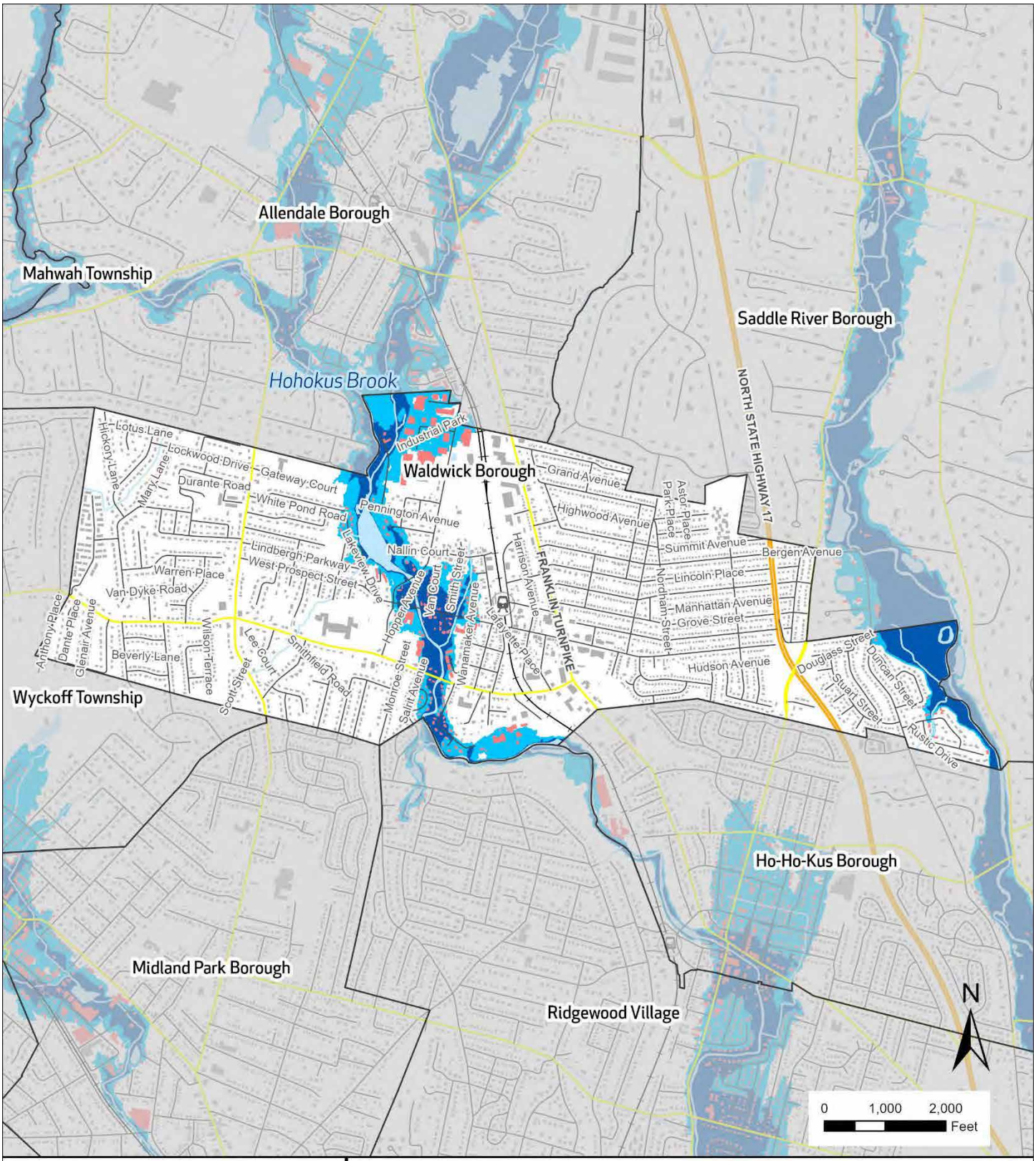
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Waldwick Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Waldwick Borough 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		2018	
Capital Improvement Plan	X		4/15/25	
Local Emergency Operations Plan/Continuity of Operations Plan				
Floodplain Development Ordinance	X		4/29/25	
Floodplain Management Plan	X		4/29/25	
Stormwater Management Ordinance	X		8/13/24	
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies				
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		

Administrative and Technical Capabilities

Waldwick Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		
Grant Writer	X		External Grant Writing Firm
Staff trained to support mitigation	X		DPW and first responders trained to handle different mitigation efforts
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		Borough Engineers
Organizations that work with socially vulnerable or underserved populations	X		CERT

Education and Outreach Capabilities

Waldwick Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Waldwick Borough 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		Working with a new grant writing firm to help identify new opportunities

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Waldwick has focused on enhancing flood resilience, improving emergency radio capabilities, and upgrading critical infrastructure. Key completed actions include improving drainage systems and purchasing breathing apparatus for emergency responders and enhancing generator backup power at essential facilities. Over the next five years, Waldwick aims to prioritize projects that address maintenance of our White's Pond and Dam area by expanding mitigation strategies like updated flood mapping, adopting advanced emergency alert systems, and removing debris from local waterways. Waldwick will continue to evaluate structures in flood prone areas that experience repetitive loss for possible elevation or other mitigation solutions. These efforts underscore the Borough of Waldwick's commitment to safeguarding residents and promoting sustainable growth in the face of potential hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
64-01	Purchase Draeger Escape Masks for the Police Department	Purchase a set of 10 Draeger escape masks for the Police Department for filtering hazardous materials.	All Hazards	Low	Waldwick Police Chief	Capital Budget/Bond Ordinance	$10,000.00	1 year	Completed	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
64-02	Continue the Whites Pond Dam Study	There is an ongoing need to continue this study to ensure there are no weaknesses in the dam structure or a need for rehabilitation.	Dam and Levee Failure, Flood	High	Waldwick	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	$30,000.00	1 year	Ongoing	
64-03	Remove Debris from the Ho-Ho-Kus Brook	Clean up the vegetation along the Ho-Ho-Kus Brook to increase the volume of water.	Flood	Medium	Waldwick - Borough Administrator	Municipal budget	$1,000,000.00	1 year	Ongoing	Debris was removed by the repetitive loss properties.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
64-04	Clean-up and Maintenance of Whites Pond	White's Pond is shallow and needs to be cleared out, including hydro-raking, leaf and litter cleanup of vegetative material.	Flood	Medium	Waldwick - Borough Administrator	Municipal budget	$12,000	1 year	Ongoing	Annual maintenance plan for hydro-raking at approximate cost of $12,000/year
64-05	Purchase and Install Three Generators and Transfer Switches for Middle School and Other Facilities	Purchase three tow-behind generators plus transfer switch for the middle school and other municipal facilities to allow for provision of services during a holdover for people transferring to shelters, or during a hazard event.	All Hazards	Medium	Waldwick Borough, BOE	FEMA HMA	$450,000.00	1 year	Ongoing	
64-06	Run Fiber Optic Lines Directly to all Six Pump/Well Houses	Run fiber optic lines directly to all six pump/well houses to prevent hacking. Supplement the security system with cameras on well houses inside and outside, and on the sewer station. Obtain a shared service agreement with Ridgewood, whose employees have skills splicing fiber optic cable.	Terrorism, Cyber Attack	Medium	Waldwick Water Supervisor	Municipal budget, Homeland Security	$200,000	1 year	Ongoing	
64-07	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties in the Ho-Ho-kus	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other types of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough OEM and Homeowners	FEMA HMA Blue Acres	$2,000,000	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Brook Regulatory Floodway									
64-08	Construct Flood Reduction Measures (e.g., floodwalls or small berms) along Ho-Ho-Kus Brook	Construct minor structural project (e.g., floodwalls or small berms) along Ho-Ho-Kus Brook to protect Repetitive Loss Properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough	FEMA HMA	$1,000,000	3 years	Ongoing	Bank stabilization project was completed at one culvert on Yvonne Street in 2023. There are several other locations that could use the same.

65 – WALLINGTON BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Mark Lepinski	**OEM Coordinator**	**Primary Contact, Attended Municipal Meeting**

COMMUNITY PROFILE

Overview

The Borough of Wallington spans approximately 1.05 square miles and is located on a bend of the Passaic River in southern Bergen County, across the river from the City of Passaic in Passaic County. The Saddle River forms the northern border of borough where it flows into the Passaic River. The borough is not a coastal community. New Jersey Route 21 briefly passes through the northwest corner of Wallington and NJ Transit's Bergen County Line passes through but does not stop in the borough. Westmont station is located along the border between Wallington and Wood-Ridge, but it can only be accessed from the latter. The borough has a population of around 11,800 residents.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Wallington is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 61% of the total land use, and covering around 300 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, comprising 13% and 12% respectively of the total land use in the same year. From 2016 to 2022, the area under the industrial category decreased notably, falling from 85 acres to 60.6 acres (a 29% reduction).

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as urban occupied the largest share, making up nearly 85% of the area in 2020. The water and forest categories followed, accounting for 9% and 4% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	1.8	1.8	0%
Barren Land	6.5	26.5	308%
Forest	26.8	25.3	-6%
Urban	600.8	582.2	-3%
Water	34.7	34.7	0%
Wetlands	0	0	-

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified.

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

Due to the borough's low-income housing requirements, some former industrial land has been rezoned to accommodate a 275-unit development proposed (including 48 affordable)which is located on Main Ave near the South Hackensack border. This development is not in the floodplain or future conditions floodplain, or at risk from any other delineated hazards.

Demographics & Vulnerable Populations

Wallington Borough has a total estimated population of 11,838, of which an estimated 5.6% are under 5 years of age and 14.3% are over age 65. With an aging population making up over fourteen percent of the borough's residents, Wallington may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The borough's population grew slightly (an estimated 1.2%) over the recent ACS survey periods of 2013-2017 and 2018-2022. There are two block groups within Wallington which meet overburden (OBC) criteria of Minority populations. There is one census tract noted as potentially vulnerable by CEJST criteria identified Workforce Development indicators. No parts of the Borough meet criteria for CDRZ designation.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	11,838
Population Change since 2017	1.2%
Percent of Population Age < 5	5.6%
Percent of Population > 65	14.3%

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

Hazard Ranking Explanation

Coastal erosion is ranked medium due to erosion around the tidally influenced Passaic River. About two years ago flooding along the river caused erosion and the loss of sidewalk near the river. Dam failure is also of medium concern. Dundee Dam is just upstream on the Passaic River in Garfield, New Jersey. Dam failure could have major impacts on Wallington. Flood is the hazard of highest concern in the borough.

Significant Hazard Events Since Last Plan Update

Tropical Storm Ida caused a great deal of flooding in Wallington, both roadway and residential. Over 100 residents were displaced, but luckily there was no injury or loss of life. The flooding occurred mostly in the eastern side of the borough,

with borough officials reporting the flooding area as reaching the 0.2% annual chance floodplain as designated on the flood risk map for Wallington. The borough reported that areas up the hill which typically don't see flooding were impacted from Ida, including Mount Pleasant Avenue and Hillside Terrace. As a result of the event, riverbank Erosion occurred near Main Ave and Park Road. Clean up following Ida was intensive as there was a significant amount of debris from flood damaged homes. The borough was approved by the EPA to dump on large cement slab and it was cleaned up within a week.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Wallington. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, exacerbating existing vulnerabilities, particularly in areas prone to flooding such as the area in the eastern part of the borough located within the bend of the Passaic River. Additionally, in the future, any development within the city or upstream within the watershed, could increase the amount of runoff entering the water bodies of the Village. Actions identified by the Village's mitigation strategy focused on flood risk reduction should consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Wallington Borough	
Number of Policies In-Force:	165
Total Losses:	725
Total Payments:	$13,401,356.33
Number of RL Properties:	81
Number of Mitigated RL Properties:	0
RL – Total Losses:	209
RL – Total Paid:	$4,412,972.09
Number of SRL Properties:	23
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	99
SRL – Total Paid:	$4,021,051.93

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

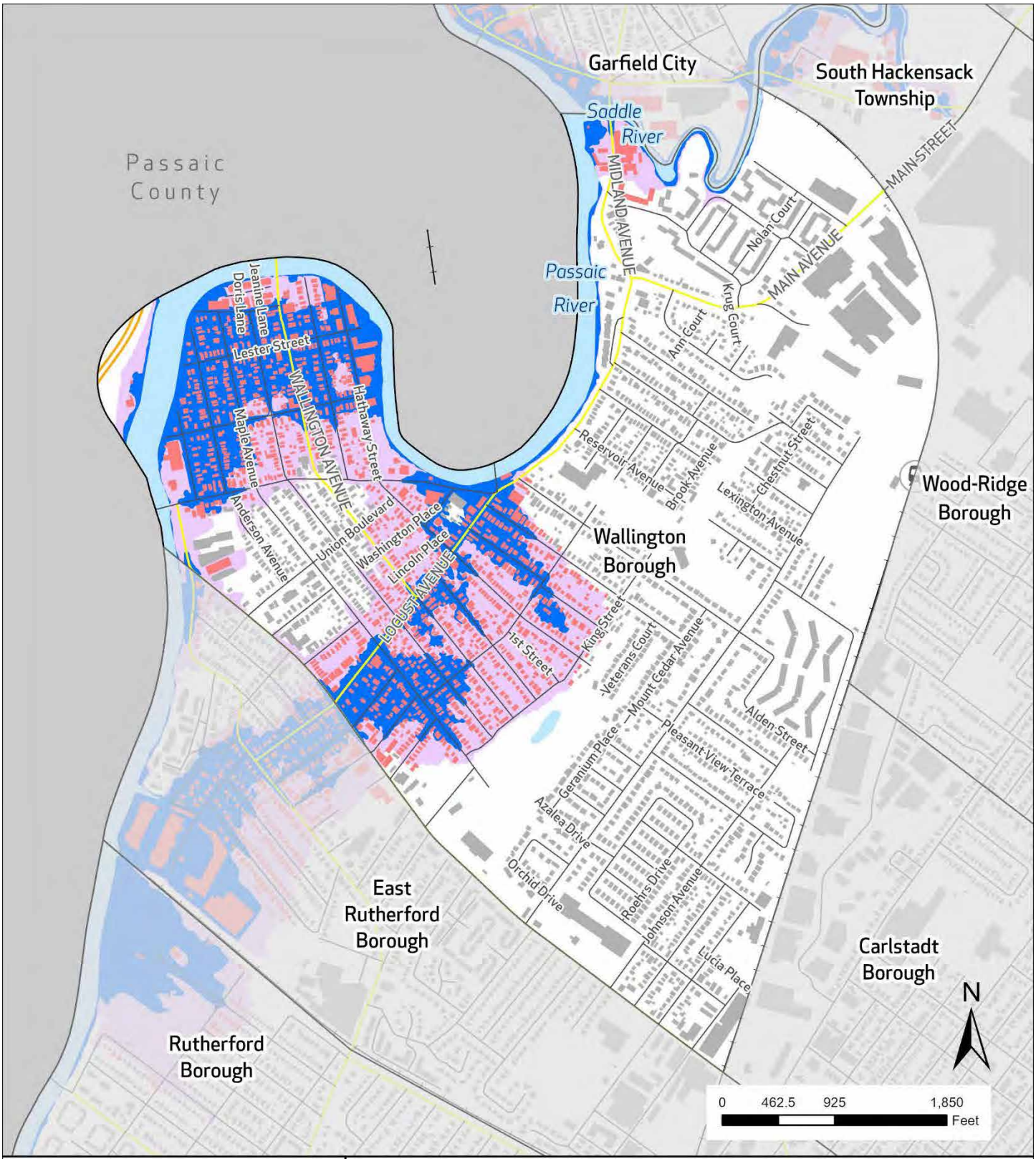
The Special Flood Hazard Area (SFHA) in the Borough of Wallington is primarily located adjacent to the Passaic River and the Saddle River, especially in the western portion of the borough in the curve of the Passaic. Approximately 17.7 percent of the total area of Wallington lies within the 1% annual chance floodplain as defined by FEMA. An additional 13.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 70.8 percent of Wallington is considered developed. Of the developed parcels of the borough, 26.6 percent fall at least partially within the 1% annual chance floodplain and 32.1 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that development of the municipality is generally in areas that are more prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	26.6%	32.1%
Exposed Land Area	17.7%	13.8%

During the planning process, Wallington Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain. area of the municipality projected to be permanently inundated under a scenario of five feet of sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	0	0	0



Flood Hazard

Wallington Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Wallington Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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


Passaic County
Garfield City
South Hackensack Township
Saddle River
MIDLAND AVENUE
MAIN STREET
MAIN AVENUE
Passaic River
Weasel Brook
Nolan Court
Blue Ridge Court
Krug Court
Ann Court
Jeanine Lane
Parkway
Lester Street
WALLINGTON AVENUE
Hathaway Street
Reservoir Avenue
Brook Avenue
Lexington Avenue
Pine Street
Anderson Avenue
Maple Avenue
Union Boulevard
Washington Place
Lincoln Place
LOCUST AVENUE
Wallington Borough
Wood-Ridge Borough
King Street
1st Street
Veterans Court
Mount Cedar Avenue
Alden Street
Pleasant View Terrace
Geranium Place
Orchid Drive
Roehrs Drive
Johnson Avenue
Van Dyke Street
Lucia Place
East Rutherford Borough
Carlstadt Borough
Rutherford Borough
N
0 425 850 1,700 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Wallington Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Wallington Borough 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		12-15-2020	Land Use Objective to protection population from dangers of flood.
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan		X		
Floodplain Development Ordinance	X		8-22-2019	Provisions for Flood Hazard reduction.
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2-6-2025	Stormwater Control
Stormwater Management Plan	X		1-12-2024	Stormwater Pollution Prevention and Control
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X		8-22-2019	Required per the Flood Damage Prevention Ordinance.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies	X		9-5-2024	Land Use Objective to protection population from dangers of flood.
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X		7-13-1989	Subdivision of Land and Site Plan Review requirements
Other ordinance and regulation that mitigate the impacts of natural hazards	X		4-25-2024	Tree Removal and Replacement Ordinance

Administrative and Technical Capabilities

Wallington Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Will be appointed in June 2025.
Grant Writer			
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

Wallington Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		The borough communicates all emergency notifications by utilizing social media, the Borough's Website and the Smart 911 Emergency Alert Program.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Wallington Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Wallington has installed a generator in the Civic Center which is used as the borough's primary shelter. The borough has also met with the Army Corps of Engineers to discuss and implement the dredging of the Passaic River to help reduce the flooding within the borough during nor'easters, hurricanes and storm surges. To date, the dredging initiative has not made any progress. Once this dredging project is underway, the borough will be able to commence with the installation of duck bills and the repair or replacement of the outfalls that are in poor condition.

The borough is also trying to secure funding to install generators at the public safety building to include all three firehouses in the borough. Over the course of the next five years, the borough will be completing the construction of the Police Department's headquarters and will be researching the relocation of the Department of Public Works, which is currently located in a flood zone. Moving the DPW to another location will help them maintain operability during their response to flooding and storm surge incidents.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes

The Borough has no completed or withdrawn actions since 2021.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
65-01	Purchase and Install Generator borough EMS and Fire Houses	Purchase and maintain generators to continue critical community services during utility interruptions and storm events. A study of the electrical usage and needs has been completed; the next step is to determine a location.	All Hazards	Medium	Wallington Borough	FEMA HMA	$150,000	1 year	Ongoing	No progress. A generator was installed in the civic center recently.
65-02	Build Berms along the Passaic River Riverfront to Provide a Natural Defense Against Flooding	Build berms along the entire borough riverfront to provide a natural barrier between the River and waterfront properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	NJDEP, Wallington Borough	FEMA HMA	$40 million	5 + years	Ongoing	No progress

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
65-03	Coordinate with the County on Elevation of Locust Ave.	Raise or modify at least one roadway in order to protect access to property and critical facilities during flood related hazards.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Bergen County, Wallington Borough	FEMA HMA, County and municipal budget	$20 million	3 years	Ongoing	No progress
65-04	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties in the Lester St and Mercer St Neighborhood.	Elevate structures to higher standards and elevation or acquire properties and return to open space to stop the repetitive flooding in the borough.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Wallington Borough and private residents	FEMA HMA	$30 million	5 + years	Ongoing	No progress
65-05	Coordinate with the County on Elevation of Main Ave.	Raise or modify at least one roadway in order to protect access to property and critical facilities during flood related hazards.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Wallington Borough and Bergen County	FEMA HMA, County budget, Municipal budget	$30 million	3 years	Ongoing	No progress
65-06	Install a Duck Bill on Outfall and Replace Outfalls in Poor Condition	Replace any municipal outfalls that are in poor condition.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Wallington Borough DPW	FEMA HMA	$10 million	5 + years	Ongoing	This initiative is dependent on the Army Corps of Engineers dredging of the Passaic River initiative.
65-07	Implement the Risk Reduction Projects from Wallington's Community Resiliency Plan	Wallington Planning Department was awarded $262,500 of HMGP funding for a Community Resiliency Plan. Over the next five years, implement the recommendations and projects from the Resiliency Plan with a	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Planning Department	FEMA HMA, Municipal budget (depends on project type)	TBD	4 years	New	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		focus on Risk Reduction projects.								

66 – WASHINGTON TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Saverio Fasciano	**OEM Coordinator**	**Primary Contact**
Cpl. Clayton Kenny	Police Department	Municipal Meeting

COMMUNITY PROFILE

Overview

Washington Township is located in northeastern Bergen County and lies primarily within the Hackensack River watershed. The township features gently rolling terrain with a mix of suburban neighborhoods, wooded areas, and small streams, including Pascack Brook. A notable landmark is the historic Washington Township Museum, housed in a 19th-century building. Land use within the township is primarily residential, with pockets of commercial development along Pascack Road and Ridgewood Road, as well as preserved green space, including Schlegel Lake and multiple municipal parks that support outdoor recreation. Washington Township spans approximately 3 square miles and has a population of roughly 9,285 residents. The township is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Washington is a predominantly residential community with residential use accounting for nearly 72% of its area, covering approximately 1,060 acres of land in 2022. In the same year, civic/public (tax exempt) land, vacant land, and commercial land made up 21%, 4%, and 2% respectively of its total area. Between 2016 and 2022, vacant land fell by 14 acres, falling to 60 acres in total and commercial land decreased by 9 acres, reducing from 43 acres to 34 acres. On the other hand, residential land rose by 19 acres, increasing from 1,041 acres to 1,060 acres.

The significant share of residential use, followed by civic/public (tax exempt) use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 83% of the township's total land, covering nearly 1,595 acres of land. Forested land, wetlands, and water followed, accounting for 11%, 4%, and 2% respectively of Washington's Township's total area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	-
Barren Land	0.0	0.0	-
Forest	217.7	213.6	-2%
Urban	1590.3	1595.5	<1%
Water	36.2	36.2	-
Wetlands	76.9	75.9	-1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the township.

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

An affordable housing project is planned in what is currently open space at 781 Van Emburgh Avenue. There are concerns regarding access to infrastructure in this development. This area was previously wooded and undeveloped and is not in the flood prone area.

Demographics & Vulnerable Populations

Washington Township has a total population of an estimated 9,268, a -1.1% population decrease since the 2013-2017 ACS survey estimates. Township residents are estimated to be 4.9% under 5 years of age and 23.9% over age 65. With an aging population making up nearly a quarter of the township's residents, Washington may focus hazard mitigation efforts on

populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

The community has no areas designated as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9,268
Population Change since 2017	-1.1%
Percent of Population Age < 5	4.9%
Percent of Population > 65	23.9%

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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal erosion, storm surge and wave action were ranked as N/A.

Hazard Ranking Explanation

The township is vulnerable to damage from lightning and has lightning warning systems at several town and school fields. As a result, it ranked lightning as a hazard of medium concern. It also ranked dam failure as medium owing to its proximity to Oradell Reservoir and Woodcliff Lake Reservoir.

Significant Hazard Events Since Last Plan Update

Since 2021, the township has experienced recurring flooding, including in areas that did not previously flood. This is accompanied by erosion, particularly along Cambridge Drive and Dartmouth Drive, which the township seeks to address. In other places, the township is experiencing unstable sediment accumulation. Lafayette Avenue is especially prone to inland flooding. The areas south of Pershing Avenue are also vulnerable to flooding.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Washington Township. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly

in areas prone to flooding from Musquapsink Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the township's nearly 24% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Washington Township	
Number of Policies In-Force:	26
Total Losses:	60
Total Payments:	$1,666,054.30
Number of RL Properties:	4
Number of Mitigated RL Properties:	0
RL – Total Losses:	15
RL – Total Paid:	$166,921.96
Number of SRL Properties:	1
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	4
SRL – Total Paid:	$37,293.61

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

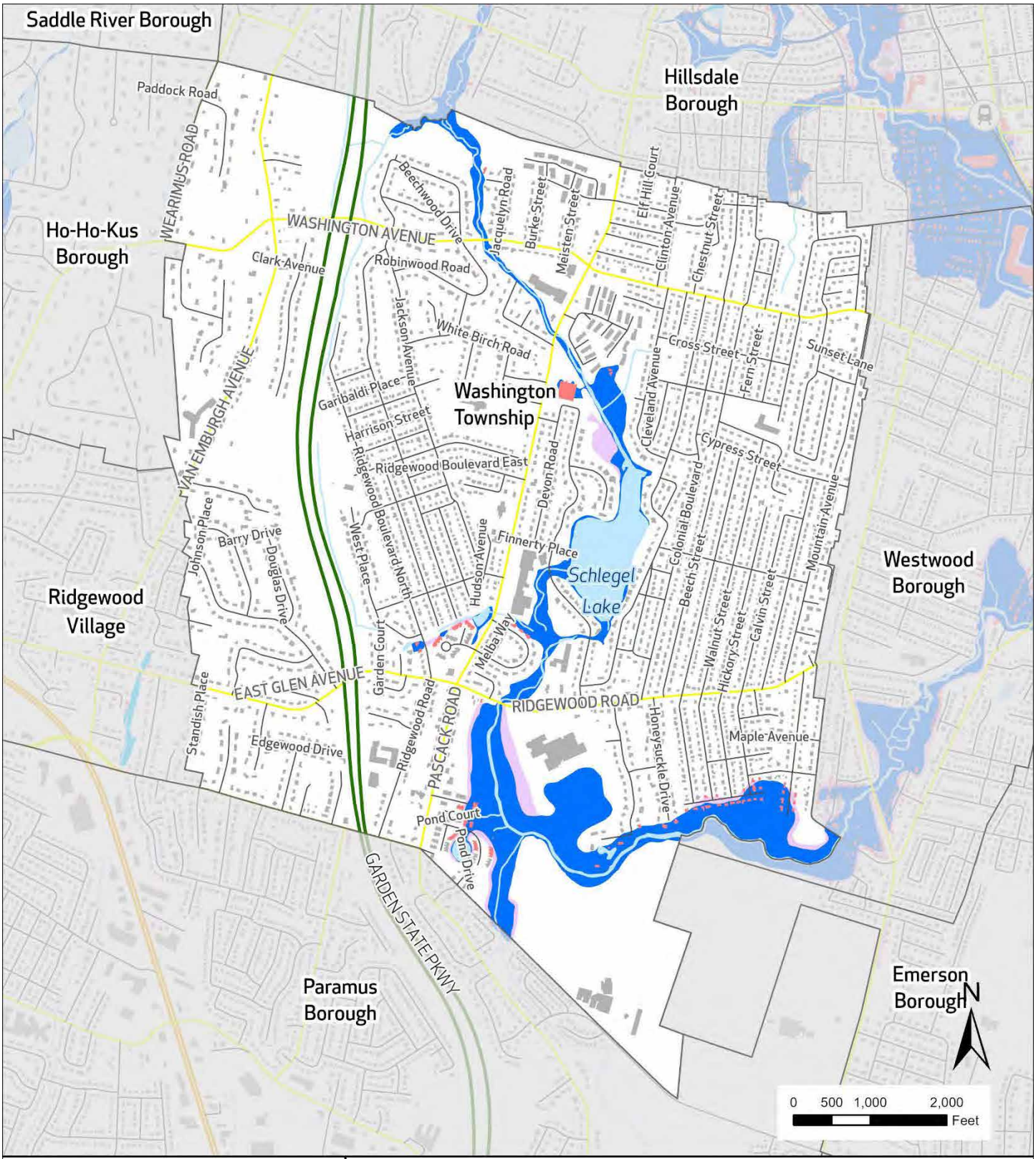
The Special Flood Hazard Area (SFHA) in the Township of Washington is primarily located adjacent to Musquapsink Brook which flows through the center of town. Approximately 7.5 percent of the total area of Washington lies within the 1% annual chance floodplain as defined by FEMA. An additional 0.8 percent of the area of the municipality is in the 0.2% annual chance floodplain.

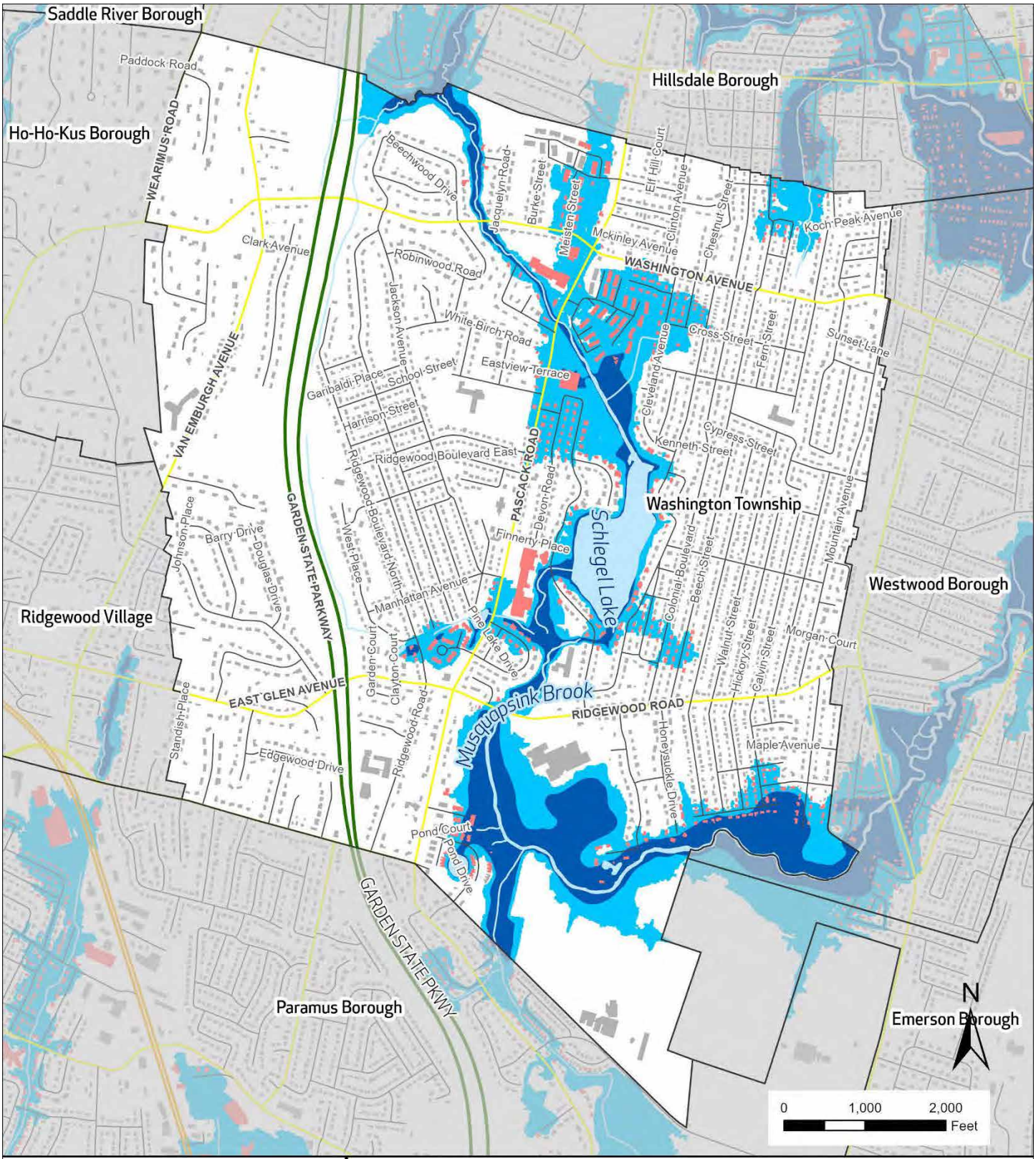
About 78 percent of Washington is considered developed. Of the developed parcels of the town, 4.4 percent fall at least partially within the 1% annual chance floodplain and 2.2 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	4.4	2.2
Exposed Land Area	7.5	0.8

During the planning process, Washington 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 nine total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0


Saddle River Borough
Hillsdale Borough
Ho-Ho-Kus Borough
Washington Township
Ridgewood Village
Westwood Borough
Paramus Borough
Emerson Borough
Schlegel Lake
Paddock Road
WEARIMUS ROAD
WASHINGTON AVENUE
Clark Avenue
Beechwood Drive
Jacquelyn Road
Burke Street
Meisten Street
Elf Hill Court
Clinton Avenue
Chestnut Street
Robinwood Road
Jackson Avenue
White Birch Road
Cross Street
Fern Street
Sunset Lane
Cleveland Avenue
Garibaldi Place
Harrison Street
VAN EMBURGH AVENUE
Ridgewood Boulevard East
Ridgewood Boulevard North
Devon Road
Cypress Street
Colonial Boulevard
Beech Street
Mountain Avenue
Johnson Place
Barry Drive
Douglas Drive
West Place
Hudson Avenue
Finnerty Place
Melba Way
Walnut Street
Hickory Street
Galvin Street
Garden Court
EAST GLEN AVENUE
RIDGEWOOD ROAD
Standish Place
Edgewood Drive
Ridgewood Road
PASCACK ROAD
Honeysuckle Drive
Maple Avenue
Pond Court
Pond Drive
GARDEN STATE PKWY
N
0 500 1,000 2,000
Feet
Flood Hazard
Washington Township
FEMA Flood Zone
0.2% Annual Chance
AE (1%)
Garden State Pkwy
State Highway
County Road
Local Road
Building Footprints
Building Footprints in Floodplain
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Washington Township

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- County Road
- Local Road
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Washington 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		01/24	
Capital Improvement Plan				
Local Emergency Operations Plan/Continuity of Operations Plan	X		01/24	
Floodplain Development Ordinance				
Floodplain Management Plan				
Stormwater Management Ordinance	X		01/25	Ordinance 24-20
Stormwater Management Plan	X		01/25	Ordinance 24-20
Watershed Management Plan				
Sheltering Plan	X		01/24	EOP Annex O
Evacuation Plan	X		01/24	EOP Annex G
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		Looking into “Firewise” program implementation
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Washington Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	
Grant Writer	X		The Township staffs a part time grant writer
Staff trained to support mitigation			
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			Red Cross

Education and Outreach Capabilities

Washington Township has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Washington 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since our last update of this plan in 2021, the purchase of a light tower generator and electronic message board was completed, allowing for emergency messages, Scene lighting and supplementing power of traffic signals during weather events. Also completed was a project involving flood hazard mitigation along with education to our flood prone residents throughout the township. This project consisted of distributing flood disaster recovery kits received from the American Red Cross to these residents who opted in to participate. While kits were distributed, information was exchanged with residents on the changes in the flooding they have witnesses over the last several years and information was provided on how they may stay informed and up to date on forecasted flood events. Priorities for the next 5 years are to secure the infrastructure needed to supply power to our last remaining intersection with a traffic light in the event of a power outage (updated power supply to allow for accessory power), to seek for solutions to assist the fire department with accessing wooded areas in the event of a fire/emergency and to fortify the riverbank in the area of Pascack Road and Dartmouth Drive which is eroding due to silt buildup.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
66-01	Replacement of Earth and Dam at Washington Dam	The Twp of Washington is no longer responsible for matters related to Washington Lake. Through legal actions the Washington Lake Association is now responsible for all matters related to the lake and its associated properties.	Flood		Washington Lake Association (Wash Twp)				Withdrawn	
66-02	Replace Existing Siren/Alerting System for Fire Personnel	The existing fire siren alerting system has been refurbished and repaired. The existing system had four separate siren heads in four different locations strategically located throughout the township.	Flood		Township of Washington				Completed	
66-03	Install Generator at Municipal Complex/Police Headquarters	Back-up generator was installed and operational as of February, 2014.	Flood		Township of Washington				Completed	
66-04	Purchase Light Tower and Variable Message Signs for Emergencies	Purchase Light Tower and Variable Message Signs for Emergencies.	All Hazards	Low	Washington Township	Municipal budget, Homeland Security grants		1 year	Completed	Light Tower and message board purchased by the township

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
66-05	Provide Hazardous Material Training	Provide training on hazardous materials at the Pool and Bethany Community Center.	All Hazards	Low	Washington Township Police, OEM	Municipal budget		1 year	Withdrawn	Withdrawn due to Pool Complex placed out of service, pool and corresponding hazards have been/will be removed and replaced with sports fields
66-06	Coordinate with County to Replace Woodfield Road Bridge	Bridge replacement is needed on Woodfield Road.	All Hazards	Mediu m	Twp. Of Washington	DOT, Municipal or County funding	$10,000, 000.00	2 years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimat e	Time-line	Action Status	Notes
66-07	Elevate Structures and Utilities, With a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties, Located Near the Musquapsink Brook	Work with property owners to mitigate and elevate properties in the floodplain that are below the BFE.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Twp. Of Washington and its residents	FEMA HMA	$5,000,0 00.00	5 + years	Ongoing	
66-08	Acquire Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties Located Near the Musquapsink Brook	Acquire and remove or relocate residential structures from Repetitive Loss and Severe Repetitive Loss areas, specifically around the Musquapsink Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Twp. Of Washington and its residents	FEMA HMA	TBD	5 + years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
66-09	Enhance Hazard Mitigation Education to Residents	Discussions and actions to plan and inform local elected and appointed officials and citizens about hazards and ways to mitigate them.	All Hazards	Low	Twp. Of Washington	Municipal budget	TBD	1 year	Ongoing	Flood preparation kits were distributed. Additional resources and information will be sought in an attempt to further assist these residents. Currently the FD recently acquired a new flat-bottom boat and is training to provide a better service in the event of an emergency.
66-10	Build Retaining Walls along Stream Walls	Build retaining walls along stream walls to prevent future land erosion.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Twp. Of Washington	FEMA HMA	$10,000,000.00	2 years	Ongoing	Currently the township is looking into all available options to fortify the bank along the river to mitigate the erosion issue.
66-11	Retrofit Dam System to Prevent Repetitive Flooding	Repair, replace, upgrade of antiquated dam system to prevent repetitive flooding	Dam and Levee Failure, Flood	Medium	Washington Lake Association	FEMA HMA	TBD	3 years	Ongoing	The Twp of Washington is no longer responsible for matters related to Washington Lake. Through legal actions the Washington Lake Association is now responsible for all matters related to the lake and its associated properties.
66-12	Purchase Cyber Security Infrastructure	Purchase and install a secondary server and data backups.	Cyber Attack	Low	Township Administrator, OEM	Homeland Security grants	TBD	1 year	Ongoing	In-house professional took measures to address cyber security issues.
66-13	Target Harden Municipal Complex/DPW and Washington Ave Fire House Installing Surveillance Cameras	Purchase and install cameras at the Municipal Complex/DPW and the Fire House for surveillance purposes.	Terrorism	Medium	Washington Township Police, Administration, Fire	Homeland Security grants	TBD	1 year	Ongoing	New ambulance corps at old fire station.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
66-14	Purchase Offroad Vehicles to Access Wooded Areas	Explore options into a brush / utility vehicle capable to accessing hard to reach wooded areas	TBD	TBD	TBD	TBD	TBD	TBD	New	Looking into a variety of options to acquire a vehicle capable of accessing these areas for fire suppression/rescue operations

67 – WESTWOOD BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Darren Blankenbush	**OEM Coordinator, Fire Marshal**	**Primary Contact, Municipal Meeting**
Karen Hughes	Deputy OEM Coordinator	Municipal Meeting
Ray Arroyo	Mayor	Flood Committee review of HMP
Cheryl Hodges	Councilmember, Flood Liaison	Flood Committee review of HMP
Lauren Letizia	Councilmember, Flood Liaison	Flood Committee review of HMP

COMMUNITY PROFILE

Overview

Westwood Borough spans an area of approximately 2.3 square miles and is located in central Bergen County, New Jersey. Pascack Brook flows along the northern border of the Borough while the Musquapsink Brook and Bogert Pond bisect it from north to south. Pascack Brook County Park serves as an important public space for fishing and recreation. Downtown Westwood is a regional hub that offers many options for shopping and dining, and is home to the Westwood Plaza, a large outdoor shopping mall. The Borough also offers other opportunities for recreation at the Fritz Deitl Ice Rink, home to the AM3 Hockey Academy and a local Community Center. Westwood is served by the NJ Transit Pascack Valley line at the Westwood train station, which connects to the Secaucus Junction transfer station which in turn connects to the New York Penn Station and several other NJ Transit rail services. The most significant roads passing directly through Westwood are County Route 503 (Kinderkamack Road) and County Route 502. The borough has a population of approximately 11,282 residents. Westwood Borough is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Westwood is a predominantly residential community with Residential (including Apartment) use accounting for 60% of its area, covering nearly 722 acres in 2022. In the same year, civic/public (tax exempt) land, commercial land, and vacant land made up 22%, 11%, and 4% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough. The significant share of residential use, followed by civic/public (tax exempt) and commercial use is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, urban/developed land constituted nearly 87% of the borough's total area. Forest land, wetlands, water, barren land and agricultural land followed, accounting for the remaining 13% of the borough.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	2.6	2.6	<1%
Barren Land	3.1	7.9	155%
Forest	84.1	82.5	-2%
Urban	1283.8	1280.6	<1%
Water	34.3	34.3	<1%
Wetlands	65.4	65.4	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

Westwood is a fully built municipality with no vacant land. Westwood Plaza, a retail property located in a regulatory floodplain at 700 Broadway, is currently under-occupied due to the closing of Kmart and has a reasonable expectation for redevelopment. Several commercial properties along Broadway in the floodplain have either been sold or are for sale,

with the potential for redevelopment in some form. There is also potential for redevelopment on several other parcels in the Borough, none of which are in the floodplain.

Demographics & Vulnerable Populations

Westwood Borough's total population is an estimated 11,241, a near constant population as during the 2013-2017 ACS survey estimates (-.04% change) of borough residents, an estimated 3.9% are under 5 years old, and 21.5% are over age 65. With an aging population making up one in five residents, Westwood may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement challenging (FEMA, 2023).

There are four block groups in Westwood meeting criteria for overburden (OBC) based on *Minority* population indicators. There are no parts of the borough which are designated as qualifying for CDRZ or CEJST programs.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	11,241
Population Change since 2017	-0.04%
Percent of Population Age < 5	3.9%
Percent of Population > 65	21.5%

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 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	
Flood	Hurricane/Tropical Storm	Extreme Temperatures
	Dam Failure	Extreme Wind
		Lightning
		Nor'easter
		Tornado
		Winter Storm
		Drought
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Economic Disruption
		Pandemic
		Power Failure
		Terrorism

Coastal erosion and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough ranked flood as high because it experiences flooding whenever there is rainfall of 2 inches or more in an hour, or if there is a microburst event. In particular, the borough is prone to flooding from Pascack Brook. The Steuben, Harding and Nugent experience recurring flooding. Additionally, Westwood ranked Dam Failure as Medium because it lies in the vicinity of Woodcliff Lake Reservoir.

Significant Hazard Events Since Last Plan Update

The last significant hazard event experienced by the borough was Hurricane Ida in 2021.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Westwood. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly flooding from Musquapsink Brook and Pascack Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 21% population over 65. Aging infrastructure, already leading to standing water points during heavy rains, could be further strained by more severe storms, leading to compounding impacts of roadways flooding and potential power outages.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Westwood Borough	
Number of Policies In-Force:	230
Total Losses:	685
Total Payments:	$17,351,867.55
Number of RL Properties:	59
Number of Mitigated RL Properties:	0
RL – Total Losses:	177
RL – Total Paid:	$3,725,707.37
Number of SRL Properties:	36
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	218
SRL – Total Paid:	$6,683,971.42

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

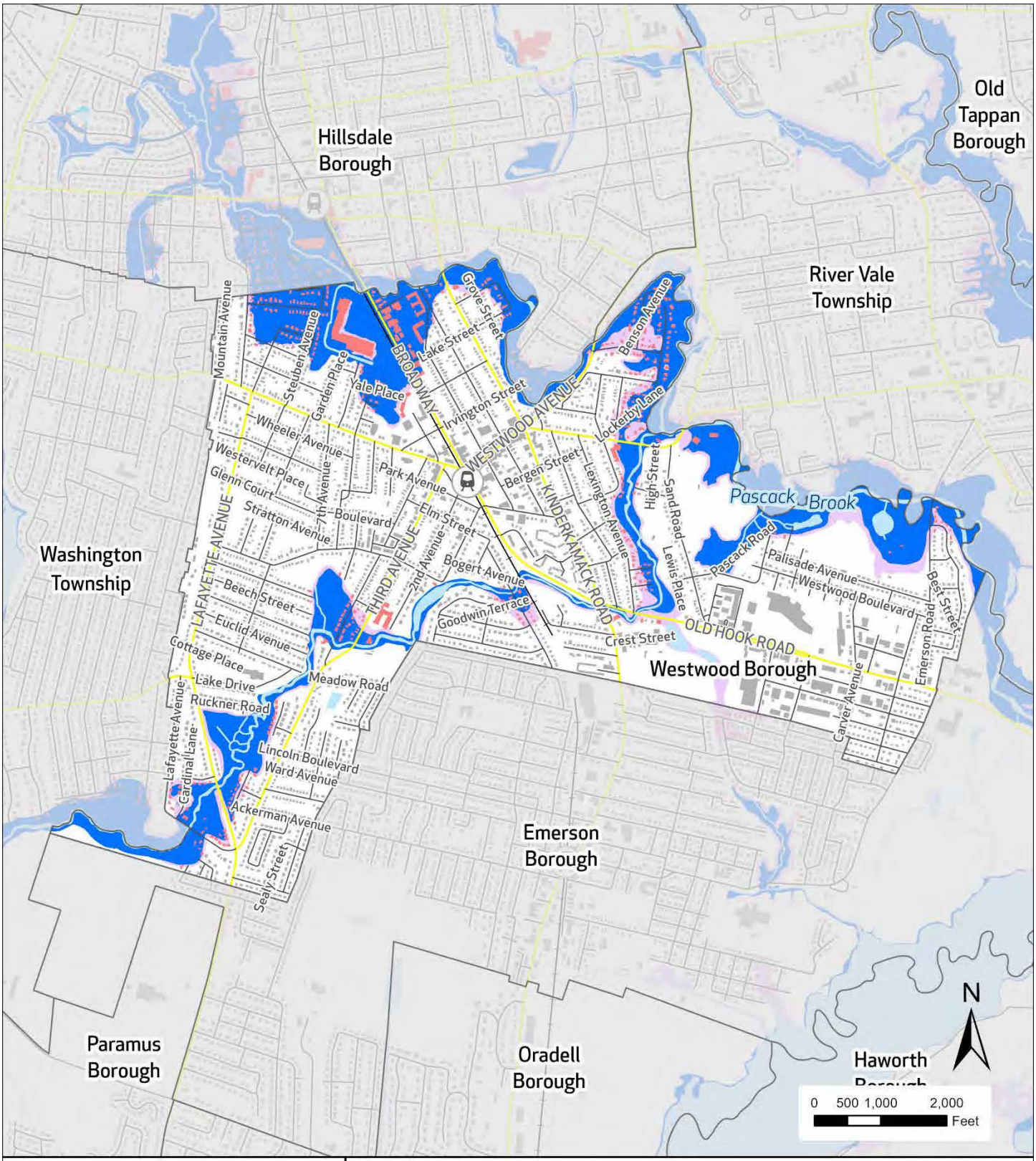
The Special Flood Hazard Area (SFHA) in the Borough of Westwood is primarily located adjacent to Musquapsink Brook and Pascack Brook. Approximately 18.5 percent of the total area of Westwood lies within the 1% annual chance floodplain as defined by FEMA. An additional 5.1 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 73.2 percent of Westwood is considered developed. Of the developed parcels of the borough, 17.8 percent fall at least partially within the 1% annual chance floodplain and 12.4 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	17.8%	12.4%
Exposed Land Area	18.5%	5.1%

During the planning process, Westwood Borough 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 seven total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	-	-



Flood Hazard

Westwood Borough

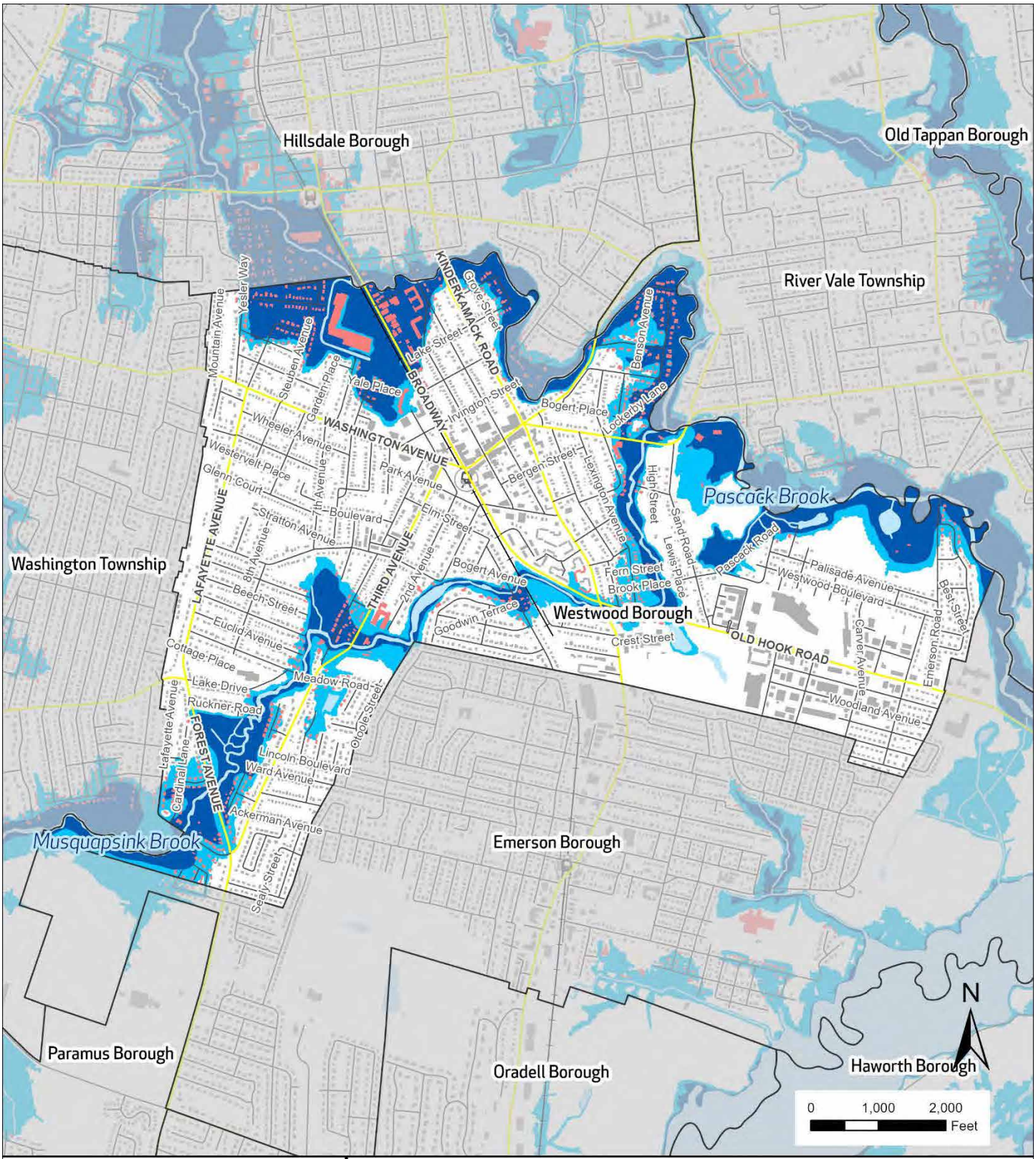
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Alpine Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Westwood Borough 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		2020	The Master Plan notes the floodplain and stream flooding as significantly important and recommends protecting environmentally sensitive land. Goal #2 of the Master Plan is to encourage development which preserves steeply sloped areas, protect wetlands and floodplains, and retain vegetation.
Capital Improvement Plan	X		2025	The five-year capital improvement plan is the funding mechanism for projects, including mitigation.
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	While an EOP deals with disaster recovery, having a regularly updated plan makes the municipality eligible for grant funding for mitigation
Floodplain Development Ordinance				
Floodplain Management Plan	X		2025	Adopted new State model in June 2025.
Stormwater Management Ordinance	X		2021	Adopted State model.
Stormwater Management Plan	X		2021	This Municipal Stormwater Management Plan (MSWMP) documents the strategy for the Borough of Westwood to address stormwater-related impacts.
Watershed Management Plan				
Sheltering Plan	X		2024	Part of EOP; having a regularly updated plan makes the municipality eligible for grant funding for mitigation
Evacuation Plan	X		2024	Part of EOP; having a regularly updated plan makes the municipality eligible for grant funding for mitigation
Substantial Damage/Improved Structures Response	X		2025	Part of Floodplain Management Plan
Repetitive Loss Plan	X		2025	Part of Floodplain Management Plan
Disaster Debris Management Plan				
Tracking elevation certificates and/or Letter of Map Change	X		2025	Part of Floodplain Management Plan; CRS requirement.
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan				
Other Plans that discuss hazard mitigation	X		2023	Hazard Vulnerability Assessment Study for the Master Plan. The Hazard Vulnerability Assessment aims to inform and guide the borough's Land Use Plan of the Master Plan. This assessment is developed using a step-by-step review of the natural hazards resulting from a changing climate and the potential impacts to the borough's land uses and critical infrastructure. The objective is to enhance the borough's resilience, minimizing costs and risks associated with these hazards for residents, emergency services, and employment centers.
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Westwood Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	
Grant Writer	X		
Staff trained to support mitigation	X		Assistant Administrator position was made full time in 2024 in part to focus on flood mitigation.
Existing mutual aid or technical assistance agreements to	X		Westwood, Hillsdale, Washington Twp and River Vale have applied jointly for funding to implement the mitigation recommendations of their individual drone studies of the Pascack and Musquapsink brooks. Westwood has applied for a FEMA FMA grant to conduct a multi-

Position	Yes	No	Explanation
support hazard mitigation projects			jurisdictional mitigation scoping study. The Pascack Valley Mayors Association has held initial discussions on exploring shared mitigation and/or stormwater projects.
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Veolia water funded 30% of the drone study of the Pascack and Musquapsink brooks to determine the condition of the waterways and make recommendations. Additional opportunities to partner will be explored.
Organizations that work with socially vulnerable or underserved populations	X		The Westwood House, Borough Social Services

Education and Outreach Capabilities

Westwood Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Emergency Notification System through voice, text, social media, and email.
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		Class 8

Financial Capabilities

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

Financial Capability	Yes	No	Explanation
FEMA BRIC		X	
FEMA FMA	X		2022 Elevation Grant; Applied for 2024 Multi-jurisdictional Mitigation Scoping Grant of the Pascack and Musquapsink Brooks
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		The 2023-2024 State budget allocated $200,000 for a Stream Stabilization project to fund a Forecast Informed Reservoir Operations (FIRO) study by Stevens Institute of Technology. This study will determine the feasibility of operating the Woodcliff Lake reservoir and dam as a flood mitigation tool, without detriment to maintaining an adequate water supply.
Evaluation process on the prioritization of risk reduction projects against other local activities		X	
Other ongoing efforts to build additional financial capabilities	X		The Borough is exploring options to contract with either a full-delivery mitigation firm or infrastructure partner to navigate both the available funding sources and resiliency solutions.

Additional Capability Assessment Information:

In 2023, Westwood commissioned its Borough Engineer to perform a condition assessment via drone of the Pascack and Musquapsink brooks. The study revealed where erosion and blockages have occurred; where shoals have formed; and where bank stabilization is required. The Borough has used this study as the basis for applications to various funding sources to finance either the implementation of the study's recommendations, or in the case of the 2024 FEMA FMA grant application, to perform a multi-jurisdictional mitigation scoping project that will generate solutions for mitigating risk and improve resilience in Westwood and the surrounding municipalities. Veolia subsidized 30% of this study in a public/private partnership.

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Westwood performed a condition assessment via drone of the waterways and is pursuing options for reducing risk and mitigating flooding, preferably as a multi-jurisdictional project so risk is not shifted to neighboring municipalities.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
67-01	Develop an Engineering study on Channel Stabilization	Engineering study of an 18" cast iron along with 20" clay sanitary sewer trunk line that is exposed and bowed at Pascack Brook, Westwood Ave near Park Pl. Study performed by Boswell Engineering.	Flood		Borough of Westwood		$500,000		Complete	Old lines replaced.
67-02	Repair 15" high pressure line along the Musquapsink Brook	Repair 15" high pressure line at First Ave near Bogart Ave. Second location Prospect Ave near Goodwin Ter.	Flood	Mediu m	Borough of Westwood		$20,000		Complete	
67-03	Install Lighting Strike Notification Alarm System	First portion of the project, specifically the installation of a lightning strike notification system, has been completed. The second portion of the project, specifically the purchase of two (2) electronic message boards needs to be completed.	Severe Weather		Borough of Westwood		$20,000		Complete	
67-04	Relocate DPW Complex Out of Floodplain and Maintain Property as Open Space	Relocate DPW Complex out of flood plain and then maintain property as open space	Flood	High	Local administrati on & government	FEMA HMA	$2,500,0 00.00	5+ years	Withdrawn	The borough did not find a place viable for relocation.
67-05	Reline and/or replace Water and Sewer Lines	Reline and/or replace water and sewer lines Borough wide	Flood	Mediu m	Borough of Westwood	Municipal budget	unknown	3 years	Withdrawn	Unfeasible; will require coordination with Veolia and BCUA on as-needed basis

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimite	Time-line	Action Status	Notes
67-06	Elevate or Floodproof Structures in Flood-prone Areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties in the Harding Ave/Nugent Pl neighborhood	Mitigate RL and SRL properties and Repetitive Loss properties in the Harding Ave./Nugent Pl neighborhood.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Westwood	Blue Acres, FEMA HMA	$151,500 - $229,500	3 years	Ongoing	All properties are on Harding Ave. Four homes have received grants through 2022 FEMA FMA grant for elevation. Unfortunately, all four withdrew: one is receiving a Blue Acres buyout, the remaining three were unable to continue due to health- and/or age-related concerns.
67-07	Acquire Structures in Flood-prone Areas, with a focus on Repetitive Loss (RO) and Severe Repetitive Loss (SRL) properties in the Harding Ave/Nugent Pl Neighborhood	Mitigate Repetitive Loss properties throughout the municipality.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Blue Acres, Borough of Westwood	Blue Acres, FEMA HMA	Dependent on housing market	5+ years	Ongoing	Five homeowners are currently in negotiation with Blue Acres for buyouts. Nine additional property owners have expressed interest, but funding has not yet been identified for those buyouts.
67-08	Develop and implement a Multi-hazard Public Awareness Educational Program	Develop and implement a multi-hazard public awareness educational program.	Flood	Low	Local municipal government, local OEM	Municipal budget	$1,000	2 years	Ongoing	Develop and implement educational seminars regarding the borough's emergency operations and imparting CERT-style training.
67-09	Update Local Ordinances pursuant to FEMA, NJDEP and local requirements	Update local ordinances to reflect the changing requirements of FEMA and NJDEP, and the needs of the Borough.	Flood	Medium	Local administration & construction office	Municipal budget	$1,000	1 year	Ongoing	Borough is in the process of updating its Flood Ordinance pursuant to the latest NDEP requirements.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimite	Time-line	Action Status	Notes
67-10	Pursue SOP with Local Water Utility to Maintain 91' Year-round Elevation of Woodcliff Lake Reservoir through state legislation supported by Stevens Institute FIRO study	Legislation has been introduced at the State level to implement SOP with local water utility to maintain 91' year-round elevation of Woodcliff Lake Reservoir. Stevens Institute is conducting a State grant-funded Forecast Informed Reservoir Operations study to determine the feasibility of the legislation.	Flood	High	Local water utility, State legislature & local municipal officials	State-funded study by Stevens Institute	$200,000	2 years	Ongoing	Stevens Institute anticipates completing the FIRO study in the spring of 2026.
67-11	Expand Flood Mitigation Committee Activities	In addition to discussing flooding issues and recommending project, work with OEM to implement desktop exercises and community training	Flood	Medium	Local OEM	Funding source not required	No funding required	3 years	Ongoing	Two Council liaisons, the Mayor and the Assistant Administrator comprise the Flood Committee. This committee works with OEM and the administration to keep flooding a borough priority and ensure resident concerns and education are addressed.
67-12	Pursue mitigation of the Stream behind the Kmart Shopping Center (700 Broadway) by property owner to improve Stormwater Infiltration	Facilitate flood mitigation by the property owner to the Westdale Brook (drainage ditch) behind the K-Mart Shopping Center and across from Harding Ave and Steuben Ave	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Westwood and Property Owner	Property Owner, Borough of Westwood through grant funding	No cost at this time	3 years	Ongoing;	With the Kmart building vacant, the borough anticipates some type of redevelopment on this property, and will be monitoring environmental impact/mitigation
67-13	Stabilize the Pascack Brook and the Musquapsink Brook	Pursue a grant-funded, preferably multi-jurisdictional, stream stabilization project for the Pascack and Musquapsink Brook	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Borough of Westwood, other brook-bordering municipalities including Hillsdale, River Vale, Washington Twp	Federal and State grants, Municipal budgets	$2.8 million for Westwood; $8.5 million for all four municipalities	10 years	Ongoing	The borough has applied through its federal representatives for appropriation funding. We have also submitted a FEMA FMA grant application for a multi-jurisdictional mitigation scoping project.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimite	Time-line	Action Status	Notes
67-14	Purchase various equipment to perform stream maintenance	Amphibious all-terrain vehicle, mini excavator, chainsaws, chains, etc for removing trees and brush along the banks of the brooks as part of regular maintenance plan	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Westwood	Grants, budget	$100,000	5 yrs	Ongoing	
67-15	Enhance flood mitigation capabilities of vacant properties	Install rain gardens and mitigation projects on Blue Acres properties in flood zones	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Westwood	Grants, budget	$100,000	5 yrs	Ongoing	
67-16	Stormwater drainage in flood-prone areas	Install/improve stormwater drainage system in the Harding-Nugent-Steuben flood area	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Borough of Westwood	Grants	$5,000,000	5 yrs	Ongoing	

68 – WOODCLIFF LAKE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Raphael-Jose Maurrasse	**OEM Coordinator**	**Primary Contact; Municipal Meeting**
David Linko	DPW Superintendent	Reviewed Appendix
Thomas Padilla	Borough Administrator	Reviewed Appendix
Mark Beringer	Construction Code Official	Reviewed Appendix

COMMUNITY PROFILE

Overview

Woodcliff Lake is a borough in northern Bergen County, New Jersey. It has a total area of over 3.5 square miles (3.55mi^2), of which nearly 5% is water, as Woodcliff Lake is also home to the Woodcliff Reservoir, a dammed reservoir, on the Pascack Brook, a stream which is also a tributary of the Hackensack River. The borough is bordered by Bergen County municipalities of Hillsdale, Montvale, Park Ridge, River Vale, Saddle River, and Upper Saddle River. Woodcliff lake is served by NJ Transit at the Woodcliff Lake Station, located just east of the reservoir at Broadway and Woodcliff Avenue. While Woodcliff Lake boasts its own reservoir, it is not considered a coastal community as it is situated inland.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Woodcliff Lake is a predominantly residential community with Residential (including Apartment) use accounting for 65% of its area, covering nearly 1,225 acres of land in 2022. In the same year, Vacant land, Commercial land, and Civic/Public (Tax Exempt) land made up 13%, 12%, and 9% respectively of its area. Between 2016 and 2022, there was negligible change in the land use composition of the borough.

The significant share of Residential land, Commercial and Civic/Public (Tax Exempt) land is reflected in NJDEP's Land Use/Land Cover data as well; in 2020, Urban/developed land constituted nearly 77% of the borough's total land, covering 1.745 acres. Forest land, Water, and Wetlands followed, covering11%, 7%, and 4% respectively of the Wetlands' area.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	25.6	25.6	<1%
Barren Land	3.5	3.5	<1%
Forest	248.1	249.5	1%
Urban	1745.8	1744.5	<1%
Water	154.7	154.7	<1%
Wetlands	92.6	92.5	<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

None identified at this time by the borough.

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

An affordable housing development of condos, townhomes, and apartments is planned at 188 Broadway, a location that is not prone to flooding. Additionally, the Hilton Hotel at 200 Tice Boulevard will be redeveloped into a townhome project.

Demographics & Vulnerable Populations

Woodcliff Lake Borough has a total population estimated at 6,096, a 3.9% population increase since the 2013-2017 ACS survey estimates. Borough residents are estimated to be 5.4% under 5 years of age and 18.1% over age 65. With an aging population making up over eighteen percent of the residents of the borough, Woodcliff Lake may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The community has no areas identified as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	6,096
Population Change since 2017	3.9%
Percent of Population Age < 5	5.4%
Percent of Population > 65	18.1%

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 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 Wind	Extreme Temperatures
Flood	Nor'easter	Lightning
	Dam Failure	Tornado
		Winter Storm
		Landslide
		Drought
		Earthquake
		Wildfire
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Pandemic	Economic Disruption
	Terrorism	Power Failure

Coastal erosion, storm surge and wave action were ranked as N/A.

Hazard Ranking Explanation

The borough is particularly prone to flooding during heavy rain events and hurricanes, with areas such as Glen Road, Werimus Road, Old English Ct., and Saddle Road River bridge experiencing recurring flooding. Dam failure was also ranked high owing to the risk posed by Woodcliff Lake Reservoir, a High Hazard Potential Dam.

Extreme wind was ranked as medium because of the borough's experience with trees falling owing to high-speed winds. Terrorism was also ranked as medium owing to the presence of soft targets such as the Woodcliff Lake Reservoir and Woodcliff Lake Train Station.

Significant Hazard Events Since Last Plan Update

In 2021, Hurricane Ida caused substantial flooding in the borough. Glen Road experienced considerable flooding from Bare Brook and areas along Musquapsink Brook also faced flooding. The Saddle River Road bridge was impacted by flooding from Storm Pond, causing the borough to repair the bridge. Additionally, Werimus Road and Old English Ct., experienced flash flooding in August 2024. The borough has acquired a grant of $229,000.00 to repair the intersection of Old Mill and Werimus Road, and upgrade the sidewalk, culvert and head wall.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Woodcliff Lake. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly in areas prone to flooding from Woodcliff Lake and Musquapsink Brook. The current drainage system, which already may be undersized to handle severe storms, may become even more overwhelmed, leading to more frequent and severe flooding events and expansion of existing coverage when standing water does occur. Furthermore, given Woodcliff Lake's vulnerability to dam failure, flooding has the potential to become a very serious issue unless it is mitigated in a timely manner.

Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's over 18% population over 65.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Woodcliff Lake Borough	
Number of Policies In-Force:	32
Total Losses:	29
Total Payments:	$251,194.58
Number of RL Properties:	3
Number of Mitigated RL Properties:	0
RL – Total Losses:	7
RL – Total Paid:	$131,245.57
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

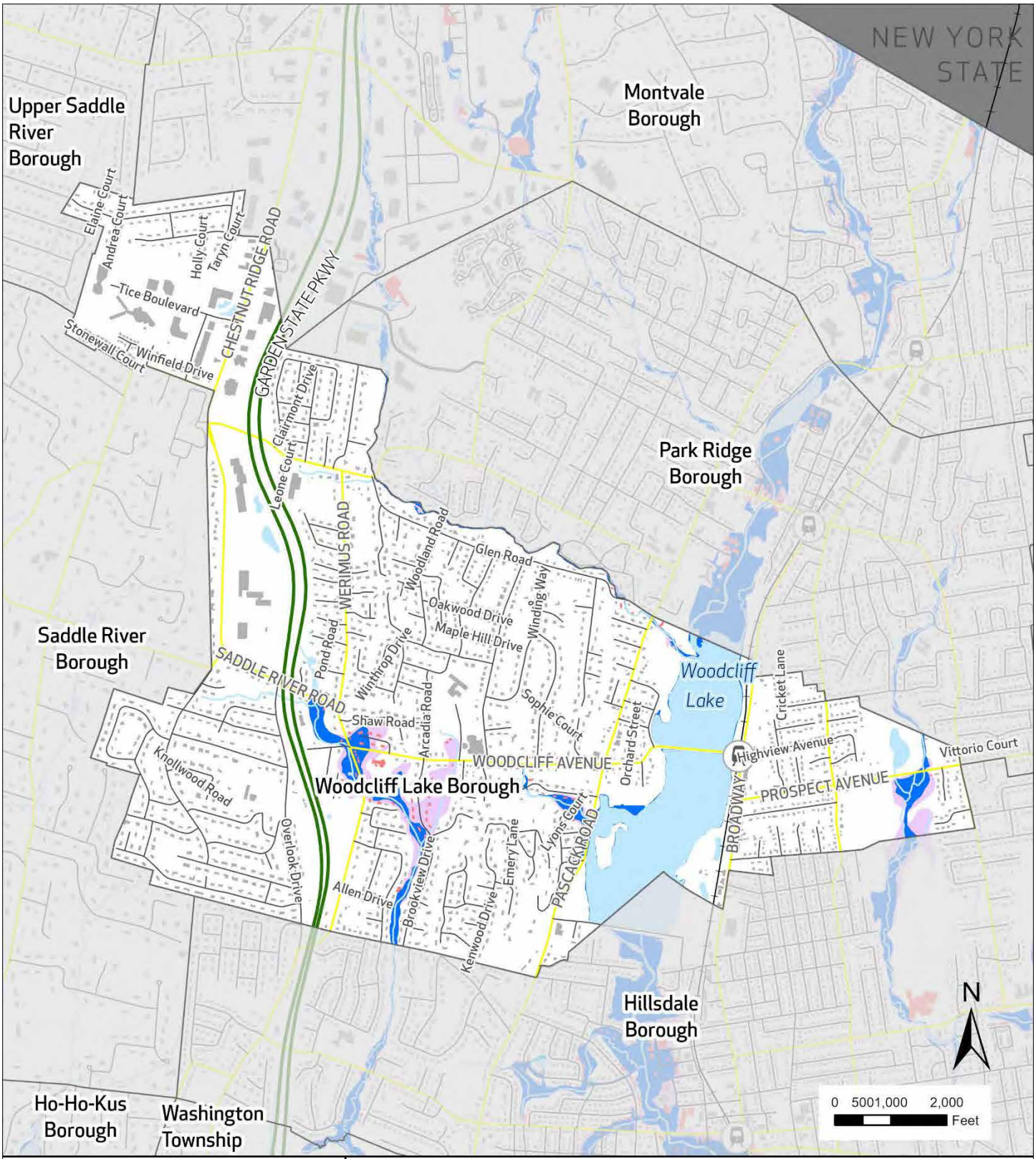
The Special Flood Hazard Area (SFHA) in the Borough of Westwood is primarily located adjacent to Woodcliff Lake and Musquapsink Brook. Approximately 5.5 percent of the total area of Woodcliff Lake lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.9 percent of the area of the municipality is in the 0.2% annual chance floodplain.

About 83.9 percent of Woodcliff Lake is considered developed. Of the developed parcels of the borough, 5.6 percent fall at least partially within the 1% annual chance floodplain and 6 percent are at least partially within the 0.2% annual chance floodplain. 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
Developed Parcels	5.6	6.0
Exposed Land Area	5.5	1.9

During the planning process, Woodcliff Lake Borough 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 four total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, none are located within floodplain.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Community Lifelines and Critical Facilities	0	0



Flood Hazard

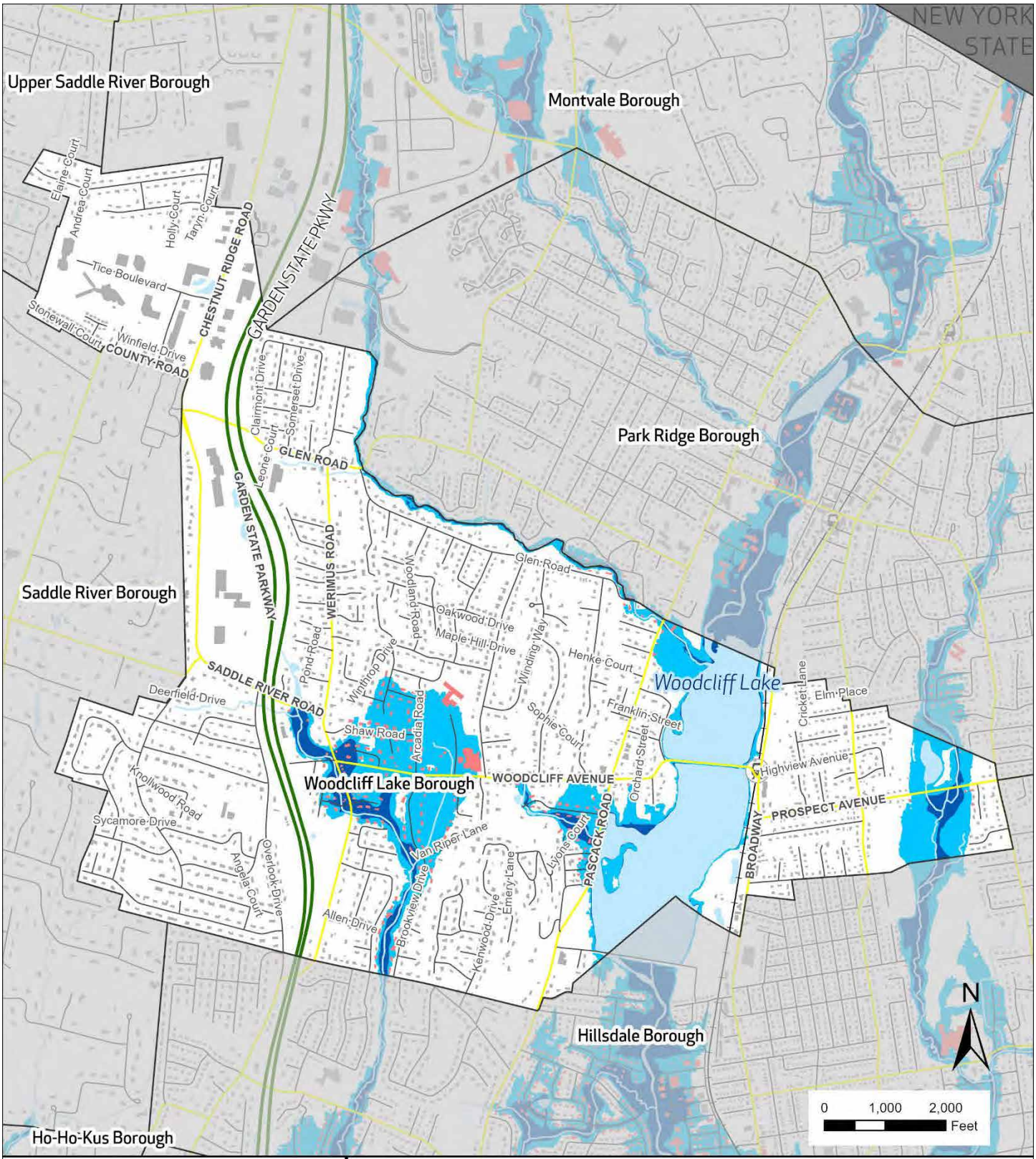
Woodcliff Lake Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- Garden State Pkwy
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT



NJ Inland Design Flood Elevation

Woodcliff Lake Borough

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- Garden State Pkwy
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Woodcliff Lake Borough 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 pending approval 6/2025	
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		Pending approval from County and State 6/2025	
Floodplain Development Ordinance	X		Pending approval 6/2025	
Floodplain Management Plan	X		Pending approval 6/2025	
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X		April 2005	Currently being updated
Watershed Management Plan		X		
Sheltering Plan	X			Under EOP
Evacuation Plan	X			Under EOP
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan		X		Currently , the borough has not had a repetitive loss to date
Disaster Debris Management Plan	X			Under EOP
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X		Ongoing/ Master plan to be finalized 6/2025	Under master plan
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		

Administrative and Technical Capabilities

Woodcliff Lake Borough 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		X	

Position	Yes	No	Explanation
support hazard mitigation projects			
Non-governmental organizations/other partners that work with the municipality on mitigation projects		X	
Organizations that work with socially vulnerable or underserved populations	X		American Red Cross

Education and Outreach Capabilities

Woodcliff Lake Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Woodcliff Lake Borough 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:

Since the last update and with all the storms that have been through the area, the borough has been actively trying to address flooding concerns by sewer pumping stations. The goal is to raise the stations above ground. Another goal is to have the borough engineer update all maps of wastewater, sewer, and outfalls within the borough.

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 update, the Borough of Woodcliff Lake has made significant strides in enhancing emergency response capabilities and fortifying critical infrastructure against natural hazards. Notable accomplishments include improving drainage systems and strengthening backup power at essential facilities. Looking ahead, the borough is committed to addressing emerging climate challenges, especially severe weather, by advancing mitigation strategies. Key priorities for the next 5 years include updating flood mapping, remapping storm water outfalls, and proactively identifying potential risks. These initiatives reflect Woodcliff Lake's dedication to protecting residents and fostering sustainable growth in an evolving environment.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
68-01	Install Folding Stop Signs at Seven Intersections	Folding stop signs installed at 7 intersections in Woodcliff Lake, including: Kinderkamack Road & Prospect Avenue, Woodcliff Avenue & Pascack Road, Glen Road & GSP exit 171, Glen Road & Chestnut Ridge Road, Chestnut Ridge Road & County Road.	All Hazards		Woodcliff Lake Police and DPW		$1,500.00	6 months	Completed	--
68-02	Purchase and Install Permanent Generator at DPW Complex	Purchase & install permanent generator at DPW complex.	All Hazards		Borough Admin		$65,000.00	2 years	Completed	
68-03	Purchase and Install Permanent Generators at Municipal Complex	Purchase & install permanent generators at municipal complex.	All Hazards		Borough Admin		$100,000.00	3 years	Completed	
68-04	Purchase Portable Generators	Replace three ancient portable generators; estimated cost $50k to $100k depending on size.	All Hazards	High	Local OEM and Municipal Staff	FEMA HMA, Municipal Finances	$100,000.00	1 year	Completed	Generators installed at DPW, Municipal Hall, Police and Fire Departments.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
68-05	Relocate Existing Control Panels, Generators, and Station Access Manholes Out of the Floodplain	Bring five sewer pump stations above ground over the next few years, starting with the ones by Glen Road this year, then do Wiermus Lane Pump Station, Stonewall Court, and Woodcrest ($200k each).	All Hazards	Medium	DPW & Borough Admin	Municipal budget	$1,000,000.00	2 years	Ongoing	Glen Road and Woodcrest pump stations have been installed. Werimus Lane Pump Station is in a flood zone. Stonewall Court Pump Station needs updating.
68-06	Construct a Second Culvert Under Causeway to Increase Flow Capability	Construct a second culvert under causeway to increase flow capability when existing culvert is obstructed by debris at Woodcliff Avenue.	Flood	Medium	OEM & Borough Admin, Bergen County, Veolia Water Company	Municipal budget	15,000,000	2 years	Ongoing	
68-07	Purchase and Install Power Transfer Switches and Portable Generators	Install power transfer switches and purchase portable generators for use maintaining signalized intersections during power outages.	All Hazards	Low	Bergen County	FEMA HMA	$25,000.00	2 years	Ongoing	Intersections are all county-owned and have foldable stop signs.
68-08	Use FEMA's Model Ordinance to Write and Adopt Flood Ordinance	Use FEMA's Model Ordinance to Write and Adopt Flood Ordinance	Flood	Low	Ordinance Committee (Council)	Municipal budget	$3,000.00	2 years	Ongoing	Borough is working with Engineer to write and adopt Flood Ordinance.
68-09	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Elevation or relocation of homes within floodplain that repetitively flood.	Flood	High	Residents with Borough support	FEMA HMA	$220,000.00	5 + years	Ongoing	One acquisition took place after Hurricane Ida in 2021. Borough subsequently went door-to-door to gauge interest in acquisitions.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
	Located in the Old English, Wiermus Road, and Glen Road Areas.									
68-10	Restore Stream Functions from DEP/Rutgers Study	Minimize loss of property to flooding and restore stream function through study and design.	Flood	Medium	Borough	DEP grants Rutgers Graduate studies	$5,000,000.00	5 + years	Ongoing	No progress.
68-11	Update Building Codes and Development Standards	Instituting new and revising existing building codes and development standards to ensure buildings withstand flooding.	All Hazards	Low	Borough	Municipal budget	$0.00	1 year	Ongoing	All building codes are under uniform construction code.
68-12	Create a Rescue Task Force	Establish a rescue task force that could do multi-agency drills at one of the schools and train DPW personnel.	All Hazards	Low	Local OEM and Municipal Staff	Municipal Finances	$5000.00	1 year	Ongoing	No progress. High turnover; police and DPW could use trainings.

69 – WOOD-RIDGE BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
William Wolfsohn	**OEM Manager**	**Primary Contact, attended local OEM meeting, attended municipal meeting**
Christopher Eilert	Borough Administrator	Reviewed/Updated plan

COMMUNITY PROFILE

Overview

The Borough of Wood-Ridge, spans approximately 1.11 square miles and is located in southern Bergen County, New Jersey. The borough is bordered by the municipalities of Carlstadt, Hasbrouck Heights, Lodi, Moonachie, South Hackensack, and Wallington. NJ Route 18 passes through the eastern edge of the borough. The eastern border with Moonachie includes Berry's Creek, which flows into the Hackensack River in the New Jersey Meadowlands just south of the borough. The borough contains two NJ Transit train stations, the Wood-Ridge station, serviced by the Pascack Valley Line, and the Westmont station, opened in 2016 and serviced by the Bergen County line. The borough is also serviced by NJ Transit bus routes 76, 144, 145, 148, 163, and 164. The borough is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Wood-Ridge is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 57% of the total land use, and covering around 305 acres of land. Wood-Ridge also has a significant amount of industrial use, comprising 23% of the total land use in the same year. Notably, from 2016 to 2022, vacant land increased from 9.7 acres to 41 acres, a 323% increase.

According to NJDEP's Land Use/Land Cover dataset categories for 2015 and 2020, the area classified as 'Urban' occupied the largest share, making up nearly 80% of the area in 2020. The Barren Land and Forest categories followed, accounting for 11% and 9% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.6	0.6	0%
Barren Land	44.1	19.2	-56%
Forest	18	15.3	-15%
Urban	645.3	672.9	4%
Water	1.1	1.1	0%
Wetlands	0	0	

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Recent development in Wood-Ridge includes Westmont Station, a major mixed-use transit-oriented development located next to the Westmont train station in the west of the borough. Currently in its final phase of construction, the entire development is expected to have around 1,500 residential units when complete, including around 150 affordable units. The area is not located in the floodplain.

Major infrastructure projects include the installation of new stormwater sewers including backflow preventers in the west side of the borough near Westmont Station. The sewer runs parallel to train tracks and the outflow is located at the end of Union Ave.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years:
No known or anticipated major development was identified.

Demographics & Vulnerable Populations

Wood-Ridge Borough has a total population estimated to be 9,978, a 19.5% increase since the 2013-2017 ACS survey estimated population. The Borough residents are estimated to be 7.0% under age 5 and 13.3% over age 65. A notable growth rate of such magnitude, particularly alongside known development bringing even more residential units to the borough, may indicate potential hazard vulnerabilities to changing landscape conditions including redevelopment pressure, densification, and potential increased strain on local resources.

Wood-Ridge has two block groups which are identified as potentially overburdened (OBC) based on criteria of *Minority* and *Low Income and Minority* populations. There are no parts of the borough meeting criteria for designation under CDRZ or CEJST programs.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	9,978
Population Change since 2017	19.5%
Percent of Population Age < 5	7.0%
Percent of Population > 65	13.3%

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 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	
Flood	Earthquake	Dam Failure
Hurricane/Tropical Storm	Landslide	Drought
Nor'easter	Tornado	Extreme Temperatures
	Winter Storm	Extreme Wind
		Lightning
	Human-made Hazards	
	Terrorism	
	Civil Unrest	
	Cyber Attack	
	Economic Disruption	
	Pandemic	
	Power Failure	

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

Coastal erosion, storm surge, and wave action were identified as N/A (not applicable) as the borough is an inland community without the presence of tidally influenced water features.

Flood is a hazard of high concern. The borough is on ridge with slopes on both sides. Water runoff flows down both sides leading to flooding on the western and eastern sides of the borough (near Moonachie and East Rutherford). Flooding primarily occurs in the east (Moonachie/Meadowlands side) where the land use is mostly industrial warehousing and some commercial, however, there is a small amount of residential land in this area too.

Landslide is a potential issue due to geography of the borough (ridge with slopes on either side) however, no significant occurrences beyond small issues during ground disturbance such as construction.

Significant Hazard Events Since Last Plan Update

The most significant event since the last plan update was Hurricane Ida. Ida caused flooding in the east of the borough, near Moonachie from Berry's Creek. Roads in this area flooded and were impassable. Flooding also occurred in the west of the borough, from Arnot Place west, due to unnamed buried creek which flows into the saddle river in East Rutherford. The buried creek runs roughly parallel to the train tracks. This is an area that doesn't typically flood during heavy rain events.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to impact the risks and hazards faced by the Borough of Wood-Ridge. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and heavy rainfall are likely to increase, potentially exacerbating existing vulnerabilities, particularly in areas prone to flooding such low-lying problem areas identified by the borough in the east of the borough bordering Moonachie, this issue would also be compounded by projected sea level rise in this portion of the borough. Additionally, potential future development identified by the borough or development upstream within the watershed, could increase the amount of runoff entering waterbodies. Actions identified by the borough's mitigation strategy involving flood risk reduction consider future conditions and climate change in the design phase.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Wood-Ridge Borough	
Number of Policies In-Force:	24
Total Losses:	46
Total Payments:	$637,314.67
Number of RL Properties:	11
Number of Mitigated RL Properties:	0
RL – Total Losses:	26
RL – Total Paid:	$403,230.22
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 Borough of Wood-Ridge is primarily located in the eastern edge of the borough near what is considered the Meadowlands District. Approximately 8.5 percent of the total area of Wood Ridge lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

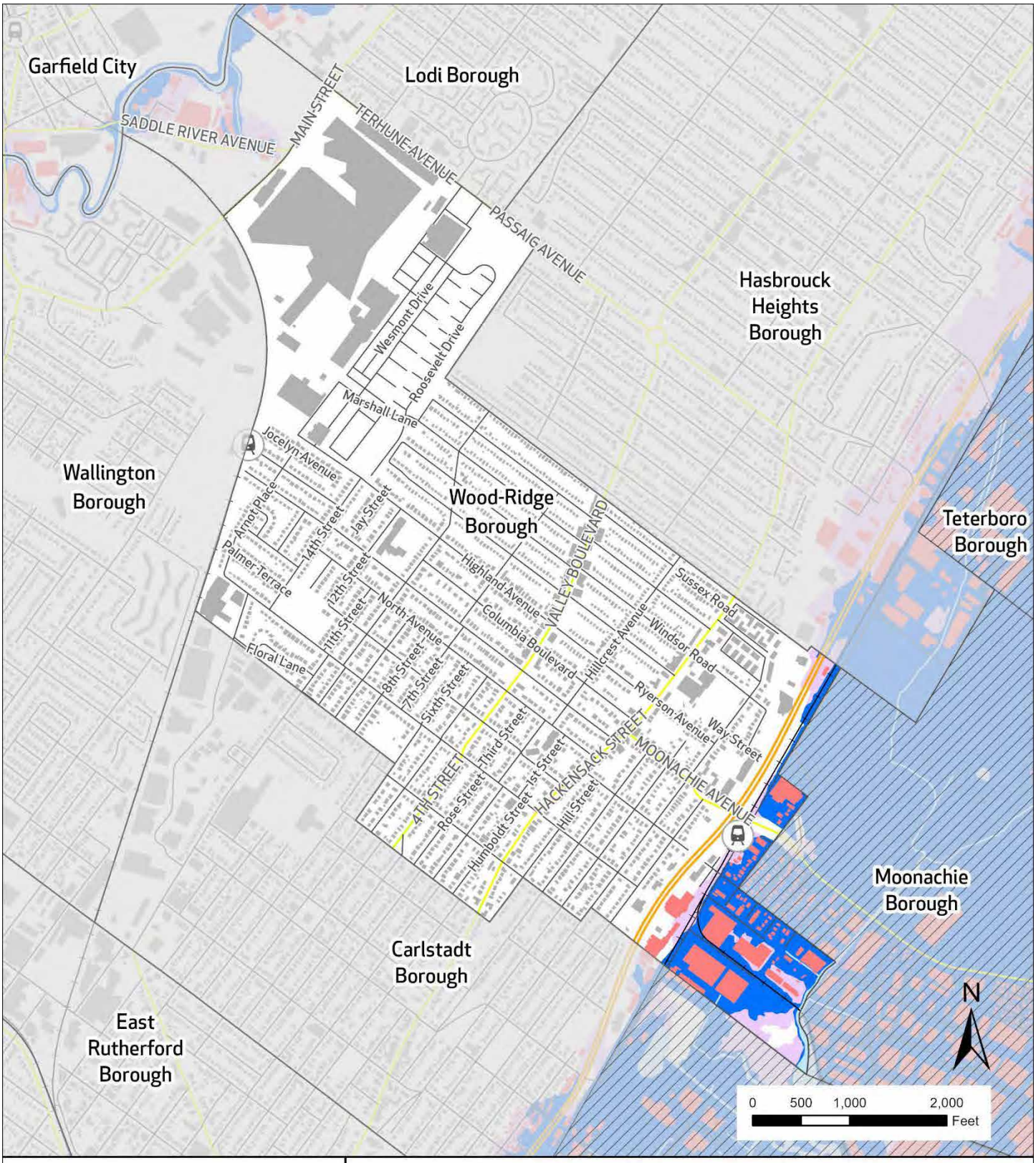
About 77 percent of Wood Ridge is considered developed. Of the developed parcels of the borough, 2.3 percent fall at least partially within the 1% annual chance floodplain and 0.7 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	2.3%	0.7%
Exposed Land Area	8.5%	1.8%

During the planning process, Wood-Ridge Borough 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 15 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, three are within the 1% annual chance floodplain. These three facilities are also within the area of the borough at risk from sea level rise. An additional facility is within the 0.2% annual chance area.

The table below summarizes the critical facilities vulnerable to flood and sea level rise by type of community lifeline.

Lifeline Category	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number Within 5 feet of Sea Level Rise
Energy	1	0	1
Safety and Security	1	0	1
Transportation	1	1	1



Flood Hazard

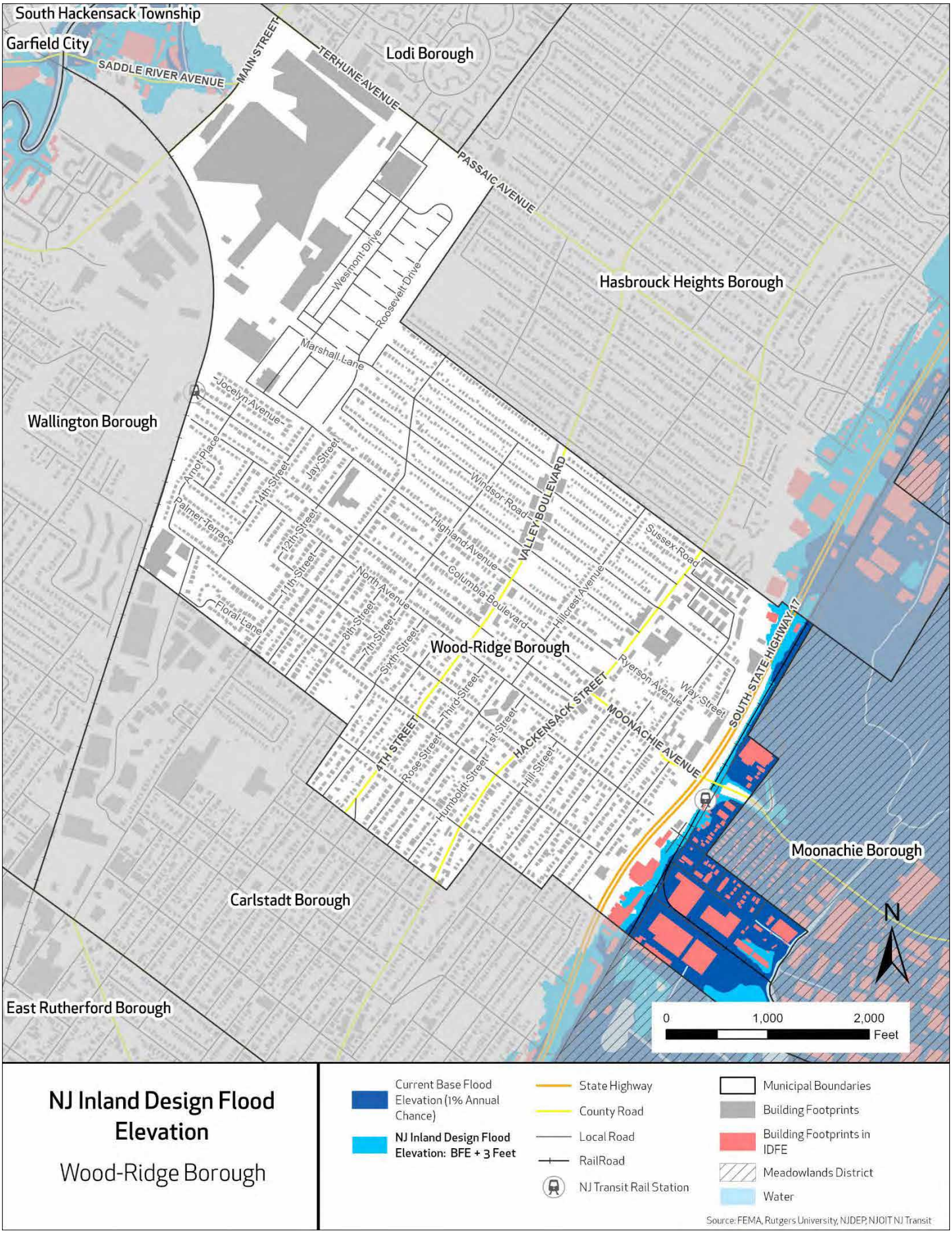
Wood-Ridge Borough

FEMA Flood Zone
- 0.2% Annual Chance
- AE (1%)

- State Highway
- County Road
- Local Road
- Rail Line
- NJ Transit Rail Station

- Building Footprints
- Building Footprints in Floodplain
- Meadowlands District
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

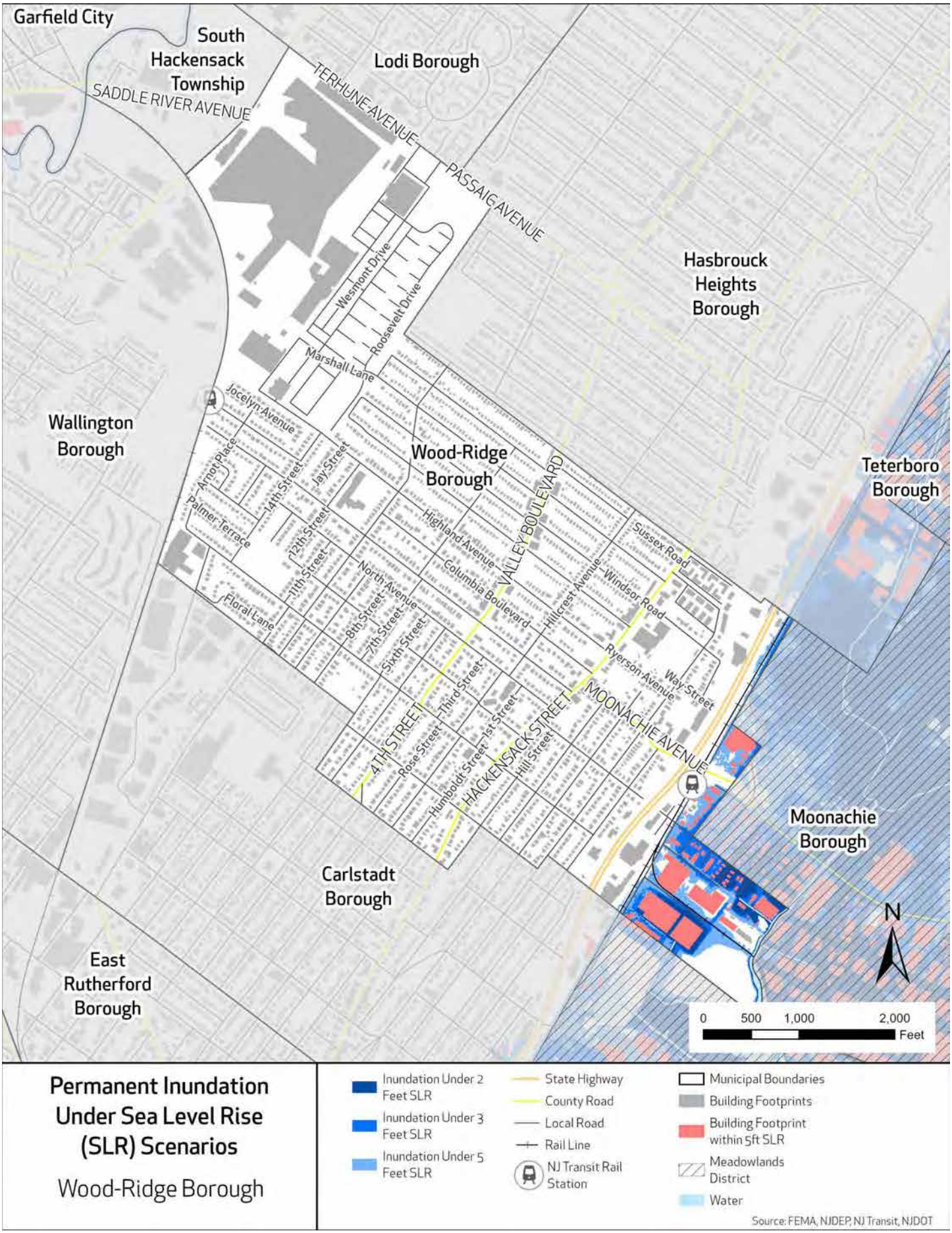


NJ Inland Design Flood Elevation

Wood-Ridge Borough

- Current Base Flood Elevation (1% Annual Chance)
- **NJ Inland Design Flood Elevation: BFE + 3 Feet**
- State Highway
- County Road
- Local Road
- RailRoad
- NJ Transit Rail Station
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Meadowlands District
- Water

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


Garfield City
South Hackensack Township
Lodi Borough
SADDLE RIVER AVENUE
TERHUNE AVENUE
PASSAIC AVENUE
Hasbrouck Heights Borough
Wesmont Drive
Roosevelt Drive
Marshall Lane
Jocelyn Avenue
Wallington Borough
Arnot Place
Palmer Terrace
14th Street
Jay Street
12th Street
11th Street
Wood-Ridge Borough
Highland Avenue
Columbia Boulevard
VALLEY BOULEVARD
Sussex Road
Hillcrest Avenue
Windsor Road
Teterboro Borough
Floral Lane
North Avenue
8th Street
7th Street
Sixth Street
Ryerson Avenue
Way Street
4TH STREET
Third Street
Rose Street
First Street
Humboldt Street
HACKENSACK STREET
Hill Street
MOONACHIE AVENUE
Moonachie Borough
Carlstadt Borough
East Rutherford Borough
N
0 500 1,000 2,000 Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Wood-Ridge Borough
Inundation Under 2 Feet SLR
Inundation Under 3 Feet SLR
Inundation Under 5 Feet SLR
State Highway
County Road
Local Road
Rail Line
NJ Transit Rail Station
Municipal Boundaries
Building Footprints
Building Footprint within 5ft SLR
Meadowlands District
Water
Source: FEMA, NJDEP, NJ Transit, NJDOT

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Wood-Ridge Borough 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		2016	
Capital Improvement Plan				
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		2019	
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan		X		
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X			The borough engineer (Neglia Engineering Associates at the time of writing) tracks this.
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			2019 Westmont Station Redevelopment Plan
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		

Administrative and Technical Capabilities

Wood-Ridge Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Neglia Engineering Associates
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

Wood-Ridge Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Wood-Ridge has an alerting, warning, and communications annex
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Wood-Ridge Borough 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	

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since the 2021 plan update, the Borough of Wood-Ridge has focused on enhancing flood resilience, improving emergency response capabilities, and upgrading critical infrastructure to mitigate hazard risks. Key accomplishments include improvements to drainage systems and the enhancement of backup power and data systems at essential facilities. Looking ahead, Wood-Ridge is committed to prioritizing projects that address emerging climate challenges. Over the next five years, the Borough will expand mitigation strategies through initiatives such as updated flood mapping and the adoption of advanced emergency alert systems. These efforts reaffirm Wood-Ridge's dedication to protecting residents and fostering sustainable growth in the face of evolving environmental hazards.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
69-01	Purchase and Install Flashing Stop Lights at Nine Locations	Purchase and install flashing stop lights at nine locations to be activated during an emergency when traffic lights go out.	All Hazards	Medium	borough OEM	borough funds		1 year	Withdrawn	
69-02	Conduct a Drainage and Engineering Study for Area Surrounding DPW	Conduct a study to identify how to improve drainage and stormwater management around the DPW property, which although relocated to higher ground, still needs roadways around the facility to be clear in order to serve the community during an emergency.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	borough OEM, Engineering	Municipal budget		1 year	Withdrawn	Merging actions 69-02, 69-03, and 69-04 into a single new action
69-03	Dredge, De-snag, Stabilize the Slope, and Improve the Berms System along Berry's Creek, Specifically at Concord St.	Improve drainage on Concord St. by dredging and de-snagging the Berry's Creek, stabilizing the slope, and improving the berms.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	borough OEM	borough funds, NRCS		1 year	Withdrawn	Merging actions 69-02, 69-03, and 69-04 into a single new action
69-04	Construct Flood Reduction Measures (e.g., floodwalls or small berms) along Berry's Creek	Construct minor structural project (e.g., floodwalls or small berms) along Berry's Creek to protect Repetitive Loss Properties.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	borough	FEMA HMA		3 years	Withdrawn	Merging actions 69-02, 69-03, and 69-04 into a single new action

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
69-05	Target Harden the Municipal Building and DPW by Installing Surveillance Cameras	Purchase and install cameras at the Municipal Building and DPW for surveillance purposes.	Terrorism	Medium	borough OEM	Borough Funds	$250,00	1 year	Complete	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
69-06	Expand Tree Maintenance Program	Tree roots are monitored continuously, and as streets are repaved, trees are maintained and/or removed and new trees are planted.	Severe Weather	Low	Wood-Ridge OEM	Municipal Finances	$200,00	3 years	Ongoing	Ongoing
69-07	Install Battery Backups for Traffic Lights at Critical Intersections	Install battery backups for traffic lights. Coordinate with Bergen County if traffic lights are county-owned.	All Hazards	Medium	borough OEM, Bergen County, NJDOT	Municipal budget	$100,000	1 year	Ongoing	The Borough of Wood-Ridge does not own any traffic signals and this would fall under Bergen County/NJDOT
69-08	Purchase and Install Generators at Critical Facilities	Purchase and install generators in the Critical Facilities, such as the senior center, civic center, and schools.	All Hazards	High	borough OEM	FEMA HMA	$200,000	1 year	Ongoing	A generator has been purchased and installed at the borough hall. Three pump stations have on-site generators. The fourth pump station is equipped with a hook up for a portable/towable generator. Other identified facilities still need them.
69-09	Implement Cyber Security	Purchase and install secondary servers and data backups. Acquire off-site data storage.	Cyber Attack	Medium	borough OEM	Borough Funds	$100,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
69-10	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Flood, Nor'easter, Hurricane and Tropical Storm	High	borough OEM and Homeowners	FEMA HMA	TBD	5 + years	Ongoing	No progress has been identified with this action.
69-11	Study and reduce Flooding in the Area Surrounding Berry's Creek	Study drainage improvement or stormwater management for Berry's Creek area. Coordinate with County and NJDEP on reducing flooding near Berry's Creek through measures such as dredging, desnagging, berm improvement, construction of floodwalls or other hardening measures.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Bergen County, NJDEP	DEP Bergen County	Unknown	Ongoing	Ongoing	The borough will not be responsible for funding this action; it will likely be the responsibility of the county.

70 – WYCKOFF TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Kyle Ferreira	Emergency Management Coordinator	Primary Contact, Municipal Meeting

COMMUNITY PROFILE

Overview

Wyckoff Township, located in Bergen County, New Jersey, spans approximately 6.7 square miles. The township is near major waterbodies such as the Saddle River and several smaller streams which makes it vulnerable to certain flood risks. Notable landmarks include the Zabriskie Museum, Russell Farms Community Park, and the Bergen County Wildlife Center. Wyckoff Township is not a coastal community.

Land Use, Development, & Growth

This paragraph describes the key land use types and any key land use changes based on MOD-IV, New Jersey's property tax data. Wyckoff Township is primarily a residential community, with the MOD-IV dataset showing that residential (including apartment) use constituted the largest category in 2022, accounting for 77% of the total land use, and covering nearly 2774 acres of land. Civic/public (tax exempt) and commercial uses also accounted for significant portions, comprising 14% and 3% respectively of the total land use in the same year. From 2016 to 2022, the area under vacant land increased slightly from 112 acres to 114.8 acres. Farm and industrial land use did not change much from 2016-2022.

According to NJDEP's land use/land cover dataset categories for 2015 and 2020, the area classified as 'Urban' occupied the largest share, making up nearly 88% of the area in 2020. The forest and wetlands categories followed, accounting for 8% and 3% of the total land area, respectively.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	19.4	20	3%
Barren Land	19.3	28.4	47%
Forest	350.6	329.4	-6%
Urban	3716.2	3728.3	<1%
Water	33.7	33.7	0%
Wetlands	116.5	116	-<1%

Source: LULC 2015-2020

Recent Major Development and Infrastructure from 2021 to Present

Since 2021, Wyckoff has experienced growth through the development of three to four apartment buildings. Additionally, Christian Health (healthcare facility) has also built a large capacity apartment complex that can house an additional 100-150 people. Residential population has also grown due to the development of large properties that were subdivided and built into multiple single family homes (Galencamp Court).

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

The Police Department as well as several other town buildings are in the process of planning renovations. There is also another large plot of land (168 & 174 Franklin Ave) that are planning to be subdivided and built into smaller neighborhoods of single family homes.

Demographics & Vulnerable Populations

Wyckoff Township's total population is estimated at 16,802, a -2.5% decrease since 2013-2017 ACS survey estimates. Wyckoff's residents are estimated to be 4.5% under age 5 and 21.1% over age 65. With an aging population making up over one in five residents, Wyckoff may focus hazard mitigation efforts on populations with mobility needs, uneven access to resources, and limited social networks which make pre-disaster engagement more challenging (FEMA, 2023).

The community has no areas identified as potentially socially vulnerable under the OBC, CEJST, or CDRZ designations.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	16,802
Population Change since 2017	-2.5%
Percent of Population Age < 5	4.5%
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 high, medium, low, or no concern. The following include the township's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

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

Coastal Erosion, Storm Surge, and Wave Action were ranked as N/A.

Hazard Ranking Explanation

For Wyckoff Township, extreme wind is a significant concern as it can result in power outages and tree damage. In response to previous incidents, Orange and Rockland Utilities have conducted maintenance to address low hanging tree branches that typically fall and damage power lines. While lightning is classified as a low-risk hazard for the township, concerns remain due to prior lightning incidents on recreational fields, prompting the township to purchase a lightning detection system. Drought, also categorized as a low-risk hazard, is a concern since many homes rely on private wells and are affected by Ridgewood Water, which has faced multiple contamination reports. Additionally, roadway flooding on NJ-208 has been reported, raising concerns about stormwater management and flooding mitigation

Significant Hazard Events Since Last Plan Update

Since the last plan update, Tropical Storm Ida caused damage to culverts, which has since been repaired. Additionally, there have also been incidents of bush fires at the township's border with Franklin Lakes.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by municipalities within Bergen County, including Wyckoff. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, extreme wind, and heavy rainfall are likely to increase. This will exacerbate existing vulnerabilities, particularly

power failure from high winds. Additionally, higher temperatures and prolonged heatwaves could increase risks of extreme temperature events, which may become more frequent and harder to manage, particularly for the borough's 21% population of over 65.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Wyckoff Township	
Number of Policies In-Force:	28
Total Losses:	38
Total Payments:	$371,422.39
Number of RL Properties:	1
Number of Mitigated RL Properties:	0
RL – Total Losses:	3
RL – Total Paid:	$53,071.33
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 Wyckoff is primarily located adjacent to the streams which flow through the borough including Ho-Ho-Kus Brook, Goffle Brook, and Deep Voll Brook. Approximately 2.7 percent of the total area of Wyckoff lies within the 1% annual chance floodplain as defined by FEMA. An additional 1.7 percent of the area of the municipality is in the 0.2% annual chance floodplain.

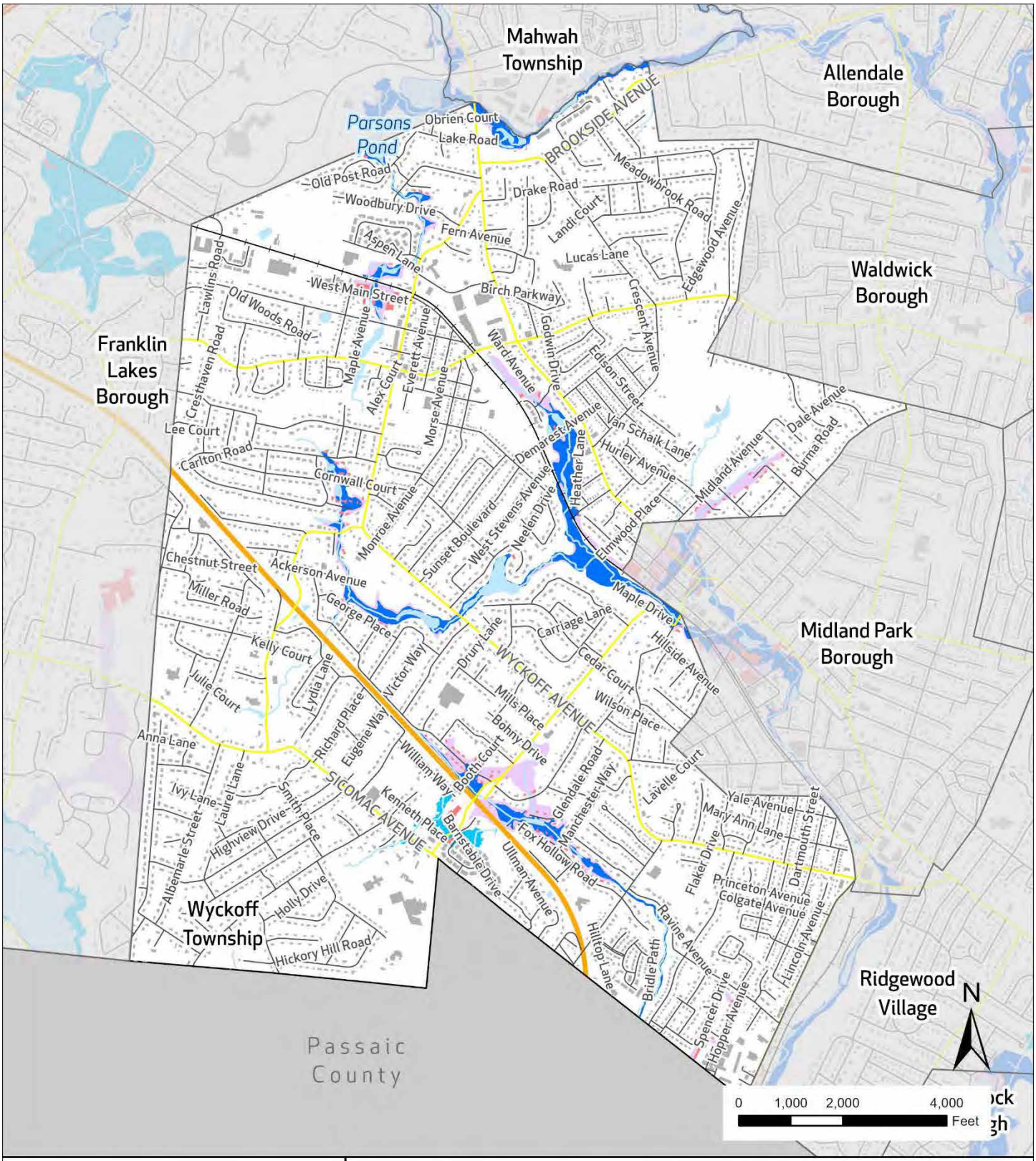
About 82.2 percent of Wyckoff is considered developed. Of the developed parcels of the town, 4.7 percent fall at least partially within the 1% annual chance floodplain and 4.9 percent are at least partially within the 0.2% annual chance floodplain. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain
Developed Parcels	4.7%	4.9%
Exposed Land Area	2.7%	1.7%

Vulnerability of the Built Environment

During the planning process, Wyckoff 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 18 total facilities. These facilities were geolocated and intersected with delineated flood hazard data using GIS. Of these facilities, one is within the 0.2% annual floodplain. None are within the 1% annual chance area. The table below summarizes the critical facilities vulnerable to flood by type of community lifeline.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain
Water Systems	0	1



Flood Hazard

Wyckoff Township

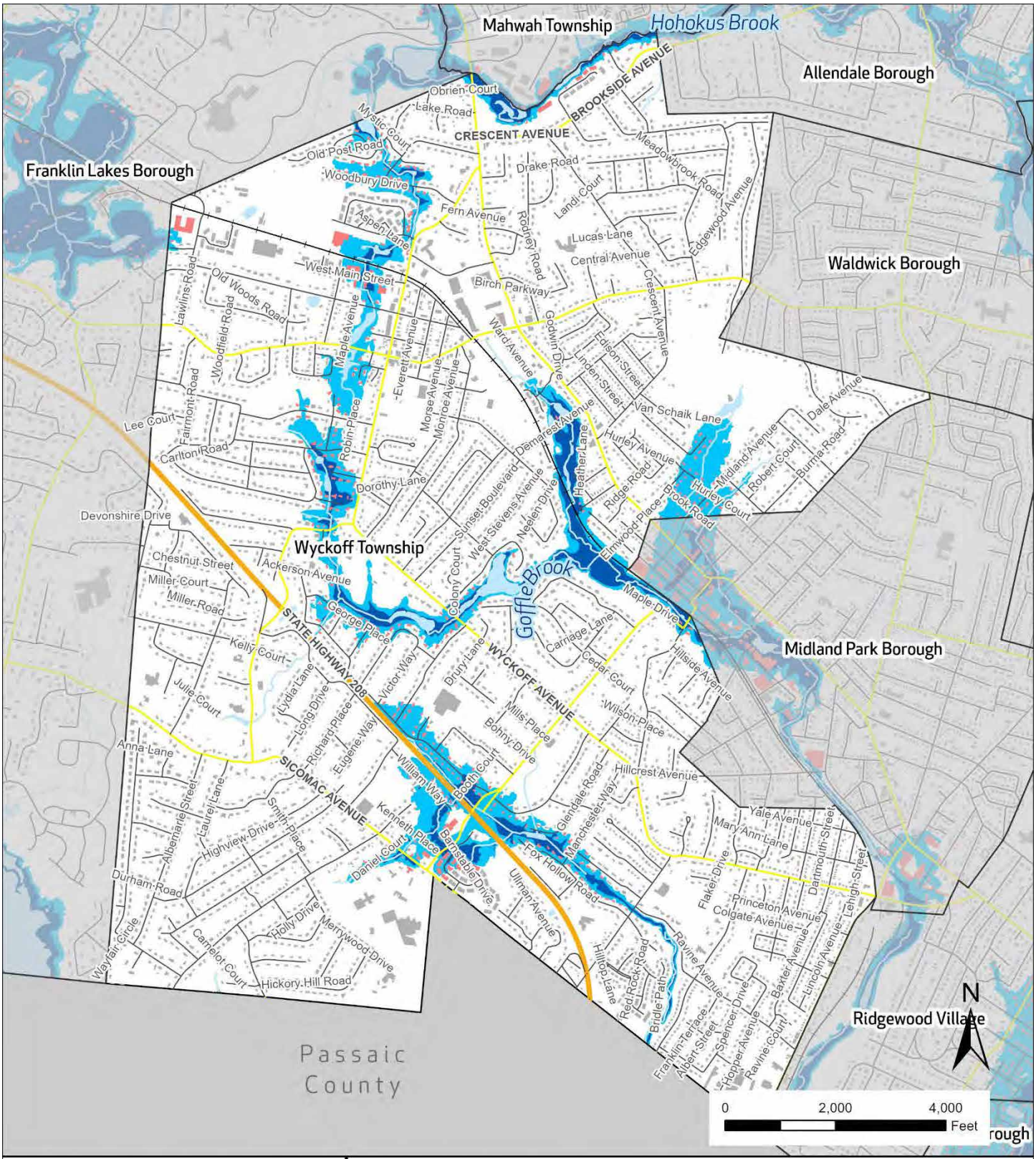
FEMA Flood Zone

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

- Interstate Route
- State Highway
- County Road
- Local Road
- Rail Line

- Building Footprints
- Building Footprints in Floodplain
- Water

Source: FEMA, NJDEP, NJ Transit, NJDOT

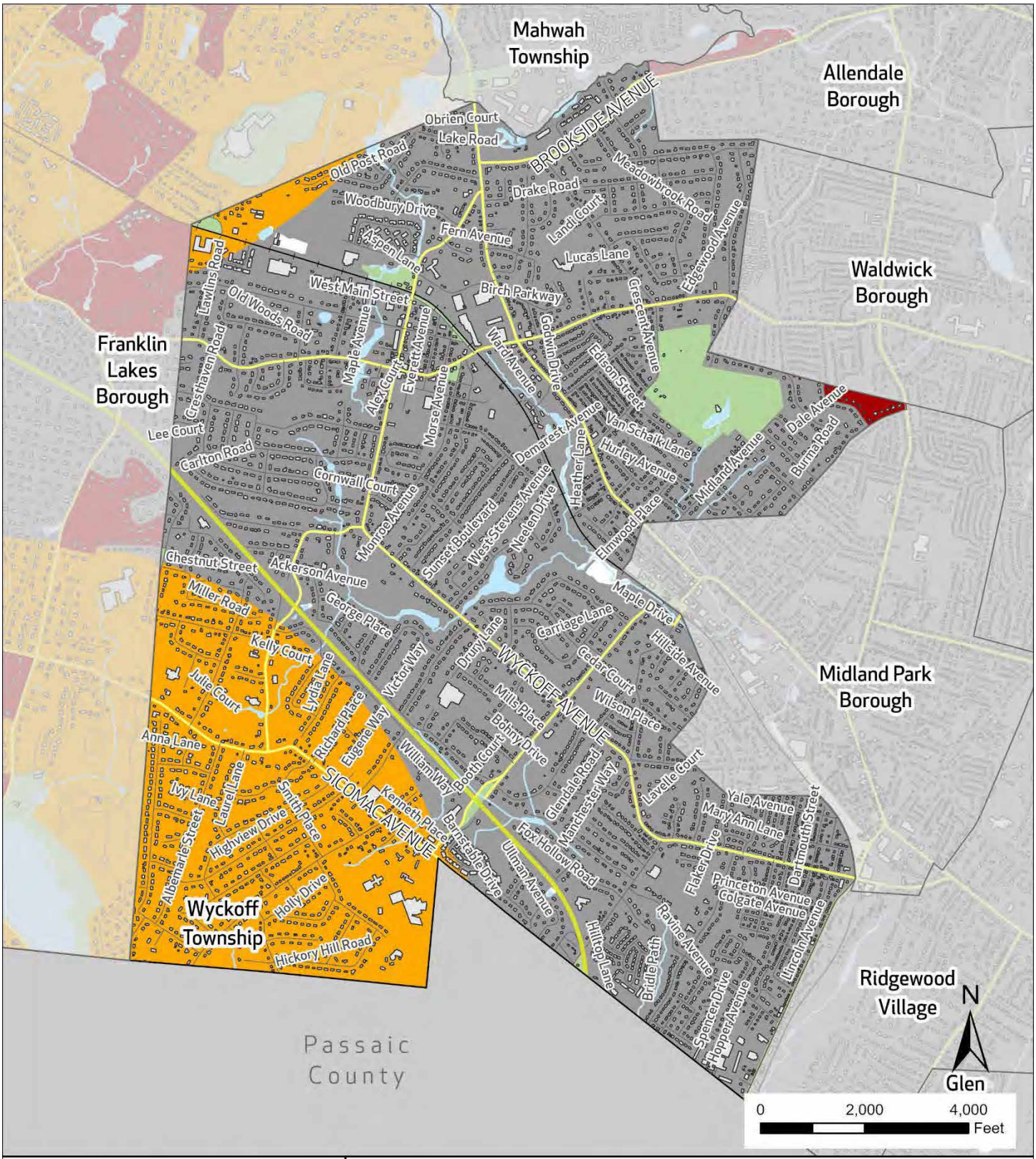


NJ Inland Design Flood Elevation

Wyckoff Township

- Current Base Flood Elevation (1% Annual Chance)
- NJ Inland Design Flood Elevation: BFE + 3 Feet
- State Highway
- County Road
- Local Road
- RailRoad
- Municipal Boundaries
- Building Footprints
- Building Footprints in IDFE
- Water

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



Wildland Urban Interface (WUI) Classification

Wyckoff Township

WUI Classification

- WUI - Interface
- WUI - Intermix
- Non-WUI - Medium and High Density Housing
- Non_WUI - Low and Very Low Density Housing
- Non-WUI - No Housing

- State Routes
- County Roads
- Local Roads
- RailRoad
- NJ Transit Rail Stations

- Municipal Boundary
- Building Footprint
- Water Body

Source: USFS, NJDEP, NJOIT, NJ Transit

CAPABILITY ASSESSMENT

Planning and Regulatory Capabilities

Wyckoff 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		2018	
Capital Improvement Plan		X		
Local Emergency Operations Plan/Continuity of Operations Plan	X		2024	
Floodplain Development Ordinance		X		
Floodplain Management Plan		X		
Stormwater Management Ordinance	X		2021	Stormwater Management Ordinance is enforced and applied to residential and commercial development; zero net increase in runoff is required
Stormwater Management Plan	X		2021	
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan		X		
Substantial Damage/Improved Structures Response		X		
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			NJ DOT Drainage Study, Open Space and Recreation Plan
Other ordinance and regulation that mitigate the impacts of natural hazards	X			Zoning ordinance, Subdivision Ordinance, Flood Insurance Rate Maps, Acquisition of Land for Open Space and Public Recreation Uses

Administrative and Technical Capabilities

Wyckoff Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator		X	Mark DiGennaro (Township Engineer)
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

Wyckoff 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, websites, newsletters
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Wyckoff 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		Impact fees for New Development

Additional Capability Assessment Information:

Wyckoff is a Sustainable Jersey participating community. Sustainable Jersey is a non-profit organization which provides tools, training, and financial incentives to support and reward communities as they pursue sustainability programs and efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity. The borough is certified Silver, meaning the town has made significant progress in a number of categories toward sustainability and is a statewide and national leader.

MITIGATION STRATEGY

Overview and Progress Since Last Update

Since 2021 the Wyckoff Office of Emergency Management has worked diligently to mitigate all issues that have a history of recurrence. This included flooding along the Goffle Brook and Route 208, as well as power outages from fallen tree branches. We have not only fortified floodways to prevent further land erosion, but we have also invested in a pump truck that can clean/clear clogged storm sewers. Many of the low hanging branches near power lines have also been trimmed to prevent them from disrupting the power services. Over the next 5 years the Wyckoff Office of Emergency Management will continue to look at problems that have occurred in the past and address them in a timely fashion.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
70-01	Construct Flood Reduction Measures (e.g., floodwalls or small berms) along Goffle Brook	Construct minor structural project (e.g., floodwalls or small berms) along Goffle Brook.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Township Engineering	FEMA HMA	$25,000	3 years	Withdrawn	

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
70-02	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	Work with property owners to mitigate one repetitive loss property and one severe repetitive loss property.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Mayor and Council	FEMA HMA	$700,000.00	1 year	Ongoing	
70-03	Partner with Power Companies to Mitigate Hazardous Trees	Work with utility companies to remove fallen or dead trees and any hanging tree limbs that could impact utility lines.	Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm, Geological Hazards,	Medium	Township and Utility companies	FEME HMA	X	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
			Severe Weather							
70-04	Continue to Clean, De-snag, and De-silt the Ho-Ho-Kus Brook and Goffle Brook	The Township was awarded a HGMP grant of $37,500 after Sandy to perform flood control. Flood control of the Ho-Ho-Kus Brook needs to be ongoing.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Township	Municipal budget, FEMA HMA	TBD	5 + years	Ongoing	

71 – SPECIAL DISTRICTS

PLANNING PARTICIPATION

Organization	Name	Title	Participation
Bergen County Utility Authority	Although the Project Team reached out to the Bergen County Utility Authority several times to participate in this update, there was no representation from the Authority.		

SPECIAL DISTRICTS PROFILE

Bergen County Utility Authority

The Bergen County Utilities Authority (BCUA) is responsible for wastewater treatment for forty-seven Bergen County municipalities and solid waste management services for all seventy Bergen County municipalities. The BCUA's two wastewater treatment facilities process over 83 million gallons per day of wastewater. Innovative programs developed during the past several years, including the construction of a cogeneration facility and implementation of an energy master plan, have not only reduced costs at both the treatment facilities, but have also significantly reduced the BCUA's carbon footprint through the use of biogas to create clean energy. The BCUA's solid waste programs such as the household hazardous waste collection, electronic recycling, and school education programs have benefited the environment of Bergen County by reducing the amount of hazardous waste and electronics entering the waste stream and educating thousands of children of the benefits of recycling and source reduction. The BCUA services the residents and businesses of Bergen County with pride and a commitment to a cleaner environment.

MITIGATION STRATEGY

Special District's New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	2026 Notes
71-01	Implement Flood-proofing and Retrofits in the North Gate Area to Allow the BCUA to Continue to Power the Gate and Expedite Emergency Repairs	Implement flood-proofing and retrofits in the North Gate area of the Borough.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-02	Floodproof the Bar Screen Building #2, Joint Meeting Pump Station, and Pink Avenue Pump Station	Retrofits Bar Screen Building No. 2, Joint Meeting Pump Station, and Pink Avenue Pump Station	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-03	Conduct Flood-proofing, Construct Flood Barriers Around Building, and Elevate Assets in Flood-prone Areas	Conduct flood-proofing, construct flood barriers around buildings, and raise assets or replace with submersible units.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-04	Conduct Flood-proofing and Retrofit the Switchgear Building and CoGeneration Building	Flood-proofing and Retrofits to Switchgear Building and CoGen Building.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-05	Conduct Flood-proofing and Retrofit Substation 2 and 3	Flood-proofing and Retrofits to Substation 2 and 3.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-06	Conduct Flood-proofing and Retrofit the Conveyance Disinfection and Primary Sludge Removal Buildings	Flood-proofing and Retrofits to Conveyance Disinfection and Primary Sludge Removal Buildings.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-07	Elevate Critical Infrastructure to Above the FEMA 500-yr Flood Event	Elevate critical infrastructure above the FEMA 500-yr flood event.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-08	Conduct Flood-proofing and Retrofit to Blowers Substation and Grit Removal Buildings	Flood-proofing and Retrofits to Blowers Substation and Grit Removal Buildings.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	2026 Notes
71-09	Conduct Flood-proofing and Retrofit Secondary Sludge Pumping Stations	Flood-proofing and Retrofits to Secondary Sludge Pumping Stations.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-10	Conduct Flood-proofing and Retrofit Sludge Processing Facilities	Flood-proofing and retrofits to sludge processing building facilities.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-11	Conduct Flood-proofing and Retrofit Substations 5 and 6	Flood-proofing and Retrofits to Substations 5 and 6.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-12	Conduct Flood-proofing and Retrofit the Administration Building	Flood-proofing and Retrofits to Administration Building.	Flood	Medium	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-13	Conduct Flood-proofing and Retrofit Warehouse Building and Shops, Old Administration Building, and Shops Building	Flood proofing and Retrofits to Warehouse Building and Shops, Old Administration Building and Shops Building.	Flood	Medium	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.
71-14	Replace and Elevate Emergency Generators and Related Critical Infrastructure above the FEMA 500-year Flood Event	Replace and elevate critical infrastructure above the FEMA 500-year flood event.	Flood	High	BCUA	FEMA HMA	TBD	3 years	Ongoing	None.

72 – BERGEN COUNTY

Completed or Removed Actions

Action	Action Name	Action Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Status	2026 Notes
No actions were completed or removed since the 2021 plan.										

New and Ongoing Actions

Action	Action Name	Action Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Status	2026 Notes
71-01	Identify Existing Building Stock/ Infrastructure for County-owned Facilities Located in Hazard Areas	Create an inventory of existing building stock/ infrastructure (county-owned) located in hazard areas and retrofit those structures based upon rank.	All Hazards	Medium	Bergen County OEM	County budget	Staff Time	2 years	Ongoing	Every few years Bergen County checks to see if the flood zone determinations for the County-owned properties have changed. The County organizes the county-owned facilities into one of the following three categories: 1. Locations in X zone 2. Locations in AE Flood zone that have in force flood policies 3. Locations in AE Flood zone that DO NOT have in force flood policies
71-02	Conduct a County-wide Risk Assessment	Conduct a hazard-specific, county-wide risk assessment of all structures, facilities, and equipment and identify, map, quantify, and rank vulnerable structures for each of the hazards.	All Hazards	Medium	Bergen County OEM	County budget	Staff Time	1 year	Ongoing	No update.
71-03	Elevate or Acquire Flood-prone Structures, especially Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties.	Coordinate with property owners on acquiring or elevating flood-prone structures.	Flood, Hurricane and Tropical Storm, Severe Weather	High	Bergen County	FEMA HMA	TBD	5 + years	Ongoing	No acquisitions or elevations have occurred. Municipalities are the point of contact for these activities. No county structures have been elevated.

Action	Action Name	Action Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Status	2026 Notes
71-04	Develop Asset Management Tool for County Infrastructure	Develop an asset management tool for pipes and outfalls within the county.	All Hazards	Medium	Bergen County DPW	County budget	Staff Time	1 year	Ongoing	Ongoing. Required by MS4 permitting. Requires mapping of drainage systems. Outfalls have been mapped so far and the goal is to wrap up by end of year. They are making repairs as they identify them.
71-05	Clean and De-snag Streams in County Parks to Improve Stormwater Management	Expand maintenance, desnagging, and cleaning of streams to prevent flooded parklands.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	Medium	Bergen County DPW	County budget	Staff Time	5 + years	Ongoing	The Mosquito Division has been clearing and is ongoing.
71-06	Purchase and Install Tide Gate with System Upgrades at Overpeck Creek	Tide Gates will be equipped with system upgrades to include mechanical, electrical and instrument control improvements.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County	FEMA HMA	$5M	1 year	Ongoing	Existing tide gate systems are there. There are projects planned to improve the system and waterproof it. Investigative and planning work is ongoing.
71-07	Coordinate with Local Municipalities to Improve County Roads and Infrastructure	Coordinate with local municipalities to improve County roads and infrastructure since the roads are County-owned. Each local municipality has listed in their mitigation strategy the roads and infrastructure that needs improvements.	All Hazards	Medium	Bergen County	County budget, NJDOT, NJTPA	Cost?	5 + years	Ongoing	The Bogota culvert project has been trying to move forward to reduce flood risk.
71-08	Digitize Municipal Zoning Maps to Assist the County with Understanding Potential New	Geocode building permits so the County can track which permits are within the Special Flood Hazard Area (SFHA).	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Bergen County GIS	County budget	Staff Time	2 years	Ongoing	No update.

Action	Action Name	Action Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Status	2026 Notes
	Development in Hazardous Areas									
71-09	Geocode Building Permits to Assist the County with Understanding Potential New Development in Hazardous Areas	Digitize municipal zoning codes to create a build out analysis to forecast if new development is at risk of flooding.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Bergen County GIS	County budget	Staff Time	2 years	Ongoing	No update.
71-10	Install new trash racks around the culvert to control debris.	This action will reduce flooding on the roadway.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Bergen County DPW	County budget	TBD	1 year	New 2026	
71-11	Install Video Surveillance System at the Overpeck Creek Tide Gates facility, Ridgefield/ Ridgefield Park	Video surveillance system installation for site safety and security and complementing existing SCADA system in facility monitoring.	Flood, Nor'easter, Hurricane and Tropical Storm Terrorism	High	Bergen County Prosecutors Office and BC IT have been contacted for proper coordination	County budget, DHS	$250,000	2 years	New 2026	
71-12	Replace and Upgrade Crest Gates #3 and #4 at the Overpeck Creek Tide Gates facility, Ridgefield/ Ridgefield Park	Replace and upgrade hydraulic actuators and pistons and manufacturing stop logs for channel dewatering	Flood, Nor'easter, Hurricane and Tropical Storm, Coastal Surge, Severe Weather	High	Bergen County Dept. Planning and Engineering	FEMA HMA	$2M	3 years	New 2026	Vendors/contractors have been contacted.
71-13	Conduct an Overpeck Creek Hydrologic and Hydraulic study	Overpeck Creek Hydrologic and Hydraulic study	Flood, Nor'easter, Hurricane and Tropical Storm,	High	Bergen County Dept. Planning and Engineering	County budget	$200,000	3 years	New 2026	

Action	Action Name	Action Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Status	2026 Notes
			Storm Surge, Severe Weather							
71-14	Conduct Dam Inspection and Repairs at the Overpeck Creek, Ridgefield/ Ridgefield Park	Anticipated work based on recommendations from the dam inspection report. Draft inspection report has been received and under review.	Dam Failure	High	Bergen County Dept. Planning and Engineering	County budget	$500,000	3 years	New 2026	
71-15	Replace and elevate Minor Bridge and Raising River Road in Bogota	Capacity expansion of the Minor Bridge and roadway elevation shall alleviate the flooding concerns on the roadway and immediate vicinity.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County Dept. Planning and Engineering	FEMA HMA	$1.5M	2 years	New 2026	Preliminary design completed. Requires coordination with municipality, utilities and easements acquisitions. Addresses only the flooding concern related to the structure under River Rd.
71-16	Install Trash Racks at French Brook in Teaneck/New Milford	Installation of a trash rack system in French Brook to prevent debris from entering the 1200LF long minor bridge structure running along River Rd.	Flood, Nor'easter, Hurricane and Tropical Storm, Severe Weather	High	Bergen County Dept. Planning and Engineering	County budget	$250,000	3 years	New 2026	Investigative work is being coordinated with consultants and municipalities.