



## 15.0 BOROUGH OF WANAQUE

This jurisdictional annex to the Passaic County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Borough of Wanaque with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Wanaque, describes who participated in the planning process, assesses Wanaque’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

### 15.1 HAZARD MITIGATION PLANNING TEAM

The Borough of Wanaque identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many Borough departments. The Office of Emergency Management Coordinator represented the community on the Passaic County HMP Planning Partnership and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 15-1 summarizes Borough officials who participated in the development of the annex and in what capacity. Additional documentation of the Borough’s planning activities through Planning Partnership meetings is included in Volume I.

Table 15-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Thomas Carroll, Office of Emergency Management Coordinator Address: 579 Ringwood Ave, Wanaque, NJ 07465 Phone Number: (973) 865-4408 Email: <a href="mailto:uem@wanaqueborough.com">uem@wanaqueborough.com</a>	Name/Title: Robert Hermansen, Administrator Address: 579 Ringwood Ave, Wanaque, NJ 07465 Phone Number: 973-839-3000 x 7113 Email: <a href="mailto:admin@wanaqueborough.com">admin@wanaqueborough.com</a>
<b>National Flood Insurance Program Floodplain Administrator</b>	
Name/Title: Mike Cristaldi, Borough Engineer Address: Address: 579 Ringwood Ave, Wanaque, NJ 07465 Phone Number: (973) 523-6200 Email: <a href="mailto:mcristaldi@alaimogroup.com">mcristaldi@alaimogroup.com</a>	
<b>Additional Contributors</b>	
Name/Title: Thomas Carroll, Office of Emergency Management Coordinator Method of Participation: Provided key input in the planning process by completing worksheets	
Name/Title: Paul M. Carelli, Previous Administrator Method of Participation: Provided key input in the planning process by completing worksheets	
Name/Title: Jennifer Fiorito, Construction Secretary Method of Participation: Provided key input in the planning process by completing worksheets	



## 15.2 COMMUNITY PROFILE

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### 15.2.1 Brief History

The Borough of Wanaque was incorporated as an independent municipality when Pompton Township was divided into the Boroughs of Bloomingdale, Wanaque and Ringwood in 1918 (Borough of Wanaque n.d.). The name “Wanaque” is derived from a Lenni Lenape term for “land of sassafras” or “rest and repose” (Borough of Wanaque n.d.).

### 15.2.2 Location

The Borough has a total land area of 9.3 square miles, of which 8 square miles is land and 1.3 square miles is water. It is located in the Highlands Region with portions both in the Planning and Preservation Areas. Additionally, Wanaque is home to the Wanaque Reservoir which provides potable water to over 2 million residents in Northern New Jersey.

### 15.2.3 Governing Body Format

The Borough elects a Mayor and is represented by a six-person council. A Council president is established annually to facilitate Council meetings and activities, and the Council establishes multiple committees and liaison addressing a variety of topics, such as fire, first aid, finance and insurance, and public works.

### 15.2.4 Population and Social Vulnerability

According to the U.S. Census, the 2020 population for Wanaque was 11,317, a 2.2 percent increase from the 2010 Census.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the 2022 American Community Survey indicates that 4.1 percent of the population is 5 years of age or younger, 22.3 percent is 65 years of age or older, 2.6 percent is non-English speaking, 6.2 percent is below the poverty threshold, and 13.2 percent is considered disabled.

### ALICE in Passaic County

ALICE is an acronym for Asset Limited, Income Constrained, Employed – households that earn more than the Federal Poverty Level, but less than the basic cost of living for the County. While conditions have improved for some households, many continue to struggle, especially as wages fail to keep pace with the rising cost of household essentials (housing, child care, food, transportation, health care, and a basic smartphone plan). Households below the ALICE Threshold – ALICE households plus those in poverty – can’t afford the essentials.

According to 2021 Point-in-Time-Data from ALICE, 32 percent of the 177,063 households in Passaic County are ALICE households (compared to the state average of 26 percent). The median household income in Passaic is \$75,430, and the County sees a labor force participation rate of 66 percent. Passaic County faces low household income compared to the state average of \$89,296, and is on par with the state average of 66 percent for labor force participation rates. 15 percent of Passaic households live in poverty, which exceeds the state average of 10 percent.



## 15.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Wanaque performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Wanaque to identify opportunities for integrating mitigation concepts into ongoing Borough procedures.

### 15.3.1 Planning and Regulatory Capability and Integration

Table 15-2 summarizes the planning and regulatory tools that are available to Wanaque.

Table 15-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>CODES, ORDINANCES, &amp; REGULATIONS</b>				
<b>Building Code</b>	Yes	NJAC 5:23-3.14; International Building Code – New Jersey Edition, 2018; NJAC 5:24-3.14; Chapter 67A – Uniform Construction Codes	State and Local	Building Department

How has or will this be integrated with the HMP and how does this reduce risk?

Permits to the fullest extent feasible the use of modern technical methods, devices and improvements, including premanufactured systems, consistent with reasonable requirements for the health, safety and welfare of occupants or users of buildings and structures.

There is a State Uniform Construction Code enforcing agency to be known as "Building Department of the Borough of Wanaque." The said agency shall consist of a Construction Official, Building Subcode Official, Plumbing Subcode Official, Electrical Subcode Official, Fire Protection Subcode Official and such other subcode officials for such additional subcodes as the Commissioner of the Department of Community Affairs, State of New Jersey, shall hereafter adopt as part of the State Uniform Construction Code. The Construction Official shall be the chief administrator of the enforcing agency.



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Zoning/Land Use Code</b>	Yes	Chapter 114 - Zoning	Local	Planning Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p>Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. The intent of this chapter is to establish a plan for the use of lands and buildings in the Borough of Wanaque, in order to promote and protect the public health, safety, morals and the general welfare of the people. These regulations are deemed necessary to achieve the following hazard mitigation related purposes:</p> <ul style="list-style-type: none"><li>(1) To promote orderly development, protect the character and maintain the stability of all areas within the Borough and to promote the orderly and beneficial development of such areas.</li><li>(2) To regulate the intensity of use of lots and determine areas of open spaces surrounding buildings necessary to promote adequate light, air, privacy and access to property.</li><li>(4) To prohibit uses, buildings or structures which are incompatible with the character of development or permitted uses within specified zoning districts.</li><li>(5) To prevent additions, alterations or remodeling as would not comply with this chapter.</li><li>(7) To provide protection against fire, explosion, noxious fumes and other hazards.</li></ul>				
<b>Subdivision Code</b>	Yes	Chapter 98 – Subdivision and Land Development	Local	Planning Board
<p>Subdivision code shall provide for the review of all subdivisions of land within the Borough by local planning board and for the approval of those subdivisions affecting local road or drainage facilities as set forth and limited hereinafter in this section.</p>				
<b>Site Plan Code</b>	Yes	Chapter 114 - Zoning	Local	Planning Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p>Dictated by the Municipal Land Use Law which sets forth minimum requirements for plans, etc., timeframes for development review. NJ Statute 40:27-6.2: The board of commissioners of any county having a county planning board shall provide for the review of all subdivisions of land within the county-by-county planning board and for the approval of those subdivisions affecting county road or drainage facilities. 40:27-6.10: Each municipal clerk shall file with the county planning board a copy of the planning and zoning ordinances of the municipality and shall notify the county planning board of the introduction of any revision or amendment of such an ordinance which affects lands adjoining county roads or other county lands, or lands lying within 200 feet of a municipal boundary, or proposed facilities or public lands shown on the county master plan or official county map.</p>				
<b>Stormwater Management Code</b>	Yes	Chapter 95 – Stormwater Management, 1998	State and Local	Planning Board
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p>It is hereby determined that the lakes and waterways within the Borough of Wanaque are at times subjected to flooding, that such flooding is a danger to the lives and property of the public; that such flooding is a danger to the natural resources of the Borough of Wanaque, county and state; that development tends to accentuate such flooding by increasing stormwater runoff, due to alteration of the hydrologic response of the watershed in changing from the undeveloped to the developed condition; that such increased flooding produced by the development of real property contributes increased quantities of water-borne pollutants and tends to increase channel erosion; that such increased flooding, increased erosion and increased pollution constitutes deterioration of the water resources of the Borough of Wanaque, in the county and the state; and that such increased flooding, increased erosion and increased pollution can be controlled to some extent by the regulation of stormwater runoff from such development. It is therefore determined that it is in the public interest to regulate the development of real property and to establish standards to regulate the additional discharge of stormwater runoff from such developments as provided in this article.</p>				
<b>Post-Disaster Recovery/ Reconstruction Code</b>	No	-	-	-
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p> <p>N/A</p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Real Estate Disclosure Requirements</b>	Yes	Senate Bill 3110; P. L. 2023, c. 93, July 3, 2023	State	Sellers and Landlords of commercial or residential property

How has or will this be integrated with the HMP and how does this reduce risk?

For leases, the law amends the New Jersey Truth-in-Renting Act, N.J.S.A. 46:8-43 et seq., to require every landlord to notify in writing each of the landlord's tenants, prior to lease signing or renewal, whether the property is located in the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area ("100-year floodplain") or Moderate Risk Flood Hazard Area ("500-year floodplain") and if the landlord has actual knowledge that the rental premises or any portion of the parking areas of the real property containing the rental premises has been subjected to flooding. The law does not apply to (1) landlords who lease commercial space or residential dwellings for less than one month, (2) residential dwellings in a premises containing not more than two units, (3) owner-occupied premises containing not more than three units, or (4) hotels, motels, or other guest houses serving transient or seasonal guests for a period of less than 120 days.

The model notice is to contain the heading "Flood Risk" and questions for the landlord to answer regarding the landlord's actual knowledge of past flooding of the property. The questions regarding the property being in a FEMA Special or Moderate Risk Flood Hazard Area shall not contain the option for "unknown." To determine how the questions are to be answered, FEMA's current flood insurance rate maps for the leased premises area must be consulted. The landlord will be required to answer whether the rental premises or any portions of the parking areas of the real property containing the rental premises ever experienced any flood damage, water seepage, or pooled water due to a natural flood event and, if so, the number of times that has occurred.

The notice to residential tenants must also indicate that flood insurance may be available to renters through FEMA's National Flood Insurance Program to cover their personal property and contents in the event of a flood and that standard renter's insurance does not typically cover flood damage.

For sales, the law also amends the New Jersey Consumer Fraud Act, N.J.S.A. 56:8-1 et seq., to require sellers of real property to disclose, on the property condition disclosure statement, whether the property is located in the FEMA Special or Moderate Risk Flood Hazard Area and any actual knowledge of the seller concerning flood risks of the property to the purchaser before the purchaser becomes obligated under any contract for the purchase of the property.

The disclosure statement must contain the heading "Flood Risk" and ask the seller the following questions:

- Is any or all of the property in the Special Flood Hazard Area ("100-year floodplain") or a Moderate Risk Flood Hazard Area ("500-year floodplain") according to FEMA's current flood insurance rate maps?
- Is the property subject to any requirement under federal law to obtain and maintain flood insurance on the property? Properties in the Special Flood Hazard Area with mortgages from federally regulated or insured lenders are required to obtain and maintain flood insurance.
- Have you ever received assistance from, or are you aware of any previous owners receiving assistance from FEMA, the U.S. Small Business Administration, or any other federal disaster flood assistance for flood damage on the property? For properties that have received flood disaster assistance, the requirement to obtain flood insurance passes down to all future owners.
- Is there flood insurance on the property? A standard homeowner's insurance policy typically does not cover flood damage.
- Is there a FEMA elevation certificate available for the property? If so, it must be shared with the buyer. An elevation certificate is a FEMA form, completed by a licensed surveyor or engineer, that provides critical information about the flood risk of the property and is used by flood insurance providers to determine the appropriate insurance rating for the property.
- Have you ever filed a claim for flood damage to the property with any insurance provider? If the claim was approved, what was the amount received?
- Has the property experienced any flood damage, water seepage, or pooled water due to a natural flood event, such as heavy rainfall, coastal storm surge, tidal inundation, or river overflow? If so, how many times?

This law went into effect in March 2024 during the planning process of this plan update.



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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**Growth Management**

No

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How has or will this be integrated with the HMP and how does this reduce risk?

N/A

**Environmental Protection  
Ordinance(s)**

Yes

Chapter 98 – Subdivision  
and Land Development,  
Environmental Protection  
Standards

Local

Building Department

Chapter 114 – Zoning,  
Environmental Protection  
Standards

How has or will this be integrated with the HMP and how does this reduce risk?

to protect the health and safety of the community insofar as it relates to the protection and the preservation of those natural features, including geology, hydrology, soils and vegetation considered as development constraints. It is of particular concern to maintaining ecological balance, a healthful environmental quality and protection of historic resources. This article shall control the number and size of building lots and maximum development permitted upon lots in all zones in the borough. The regulation is applicable to any subdivision, site plan and building permit, including additions, pools, decks, paving and grading in excess of 1,000 square feet.

**Flood Damage Prevention  
Ordinance**

Yes

Chapter 74A – Flood  
Damage PreventionFederal, State  
and Local

Borough Engineer

How has or will this be integrated with the HMP and how does this reduce risk?

The Flood Damage Prevention Ordinance was recently updated with the new maps (March 9, 2020); Ordinance 3-0-2020. It is administered by the Floodplain Administrator (Borough Engineer). It is the purpose of the ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed. Updated flood ordinance was adopted February 2020.

- a. To protect human life and health;
- b. To minimize expenditure of public money for costly flood control projects;
- c. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- d. To minimize prolonged business interruptions;
- e. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, bridges located in areas of special flood hazard;
- f. To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas;
- g. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- h. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

The ordinance is not the model code coordinated ordinance and requires update.

**Wellhead Protection**

Yes

Chapter 112 – Wellhead  
Protection

Local

Board of Health

How has or will this be integrated with the HMP and how does this reduce risk?

Underlying the Borough is a major source of existing and future water supplies; groundwater lies within the Buried Valley Aquifer Systems of the Central Passaic River Basin designated as a 'sole source' aquifer under the Safe Drinking Water Act of 1974. Delineation of well head protection areas (WHPAs) is part of the NJ-approved 1991 well head protection plan (WHPP) for public community water supply wells. These are priority areas for efforts to prevent and clean up ground water contamination. Municipalities are empowered to regulate land use, physical facilities and other activities within WHPAs areas, the potential for groundwater contamination can be reduced under the provisions of the New Jersey Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., which authorizes each municipality to plan and regulate land use to secure a safe and adequate drinking water supply for its residents.





	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Emergency Management Ordinance</b>	Yes	Chapter 5 – Civil Defense Agency	Local	OEM
How has or will this be integrated with the HMP and how does this reduce risk? Discusses hazard events, natural and non-natural including flood, fire and earthquakes. Per the NJ Civilian Defense and Disaster Control Act (App.A:9_43.2) Counties and municipalities must have written Emergency Operations Plans to be reviewed every 2 years. See Emergency Operations Plans below.				
<b>Climate Change Ordinance</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Other</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>PLANNING DOCUMENTS</b>				
<b>General/Comprehensive Plan</b>	Yes	Borough of Wanaque Master Plan Reexamination, 2010	Local	Planning Board
How has or will this be integrated with the HMP and how does this reduce risk? In light of the changes in recent years within the Borough and in consideration of the new statutory and regulatory obligations and responsibilities thrust upon the Borough, the Planning Board adopts the following objectives for the Master Plan. <ul style="list-style-type: none"><li>• To preserve and protect existing residential neighborhoods from intrusions from incompatible land uses.</li><li>• To continue to provide a variety of residential densities that allows housing for a varied income ranges.</li><li>• To protect and preserve the Borough's environmental resources in accordance with the goals of the Highlands's Council for both the Preservation and Planning Areas.</li><li>• To encourage the redevelopment of appropriate commercial and industrial properties to provide employment opportunities, strengthen its economic base and clean up polluted sites without adversely impacting residential neighborhoods.</li><li>• To provide recreational facilities to serve the needs of all Borough residents.</li><li>• To develop a strategic plan to improve traffic flow along Ringwood Avenue, Wanaque's primary roadway, including the possibility of alternative routing.</li></ul>				
<b>Capital Improvement Plan</b>	Yes	Borough of Wanaque Master Plan Reexamination, 2010	Local	Planning Board
How has or will this be integrated with the HMP and how does this reduce risk? In light of the changes in recent years within the Borough and in consideration of the new statutory and regulatory obligations and responsibilities thrust upon the Borough, the Planning Board adopts the following objectives for the Master Plan. <ul style="list-style-type: none"><li>• To preserve and protect existing residential neighborhoods from intrusions from incompatible land uses.</li><li>• To continue to provide a variety of residential densities that allows housing for a varied income ranges.</li><li>• To protect and preserve the Borough's environmental resources in accordance with the goals of the Highlands's Council for both the Preservation and Planning Areas.</li><li>• To encourage the redevelopment of appropriate commercial and industrial properties to provide employment opportunities, strengthen its economic base and clean up polluted sites without adversely impacting residential neighborhoods.</li><li>• To provide recreational facilities to serve the needs of all Borough residents.</li></ul>				
<b>Disaster Debris Management Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Floodplain Management or Watershed Plan</b>	Yes	Development of a TMDL for the Wanaque Reservoir	State	NJDEP
How has or will this be integrated with the HMP and how does this reduce risk? While the Wanaque Reservoir maintains a generally high level of water quality, it can experience large fluctuations in phosphorus concentrations during drought and post-drought refill operations. A TMDL is required to address total phosphorous concentrations in the Reservoir and, by association, its river-intake sites.				
<b>Stormwater Management Plan</b>	Yes	Municipal Stormwater Management Plan, 2018	Local	DPW/Water and Sewer
How has or will this be integrated with the HMP and how does this reduce risk? Permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s).				
<b>Stormwater Pollution Prevention Plan</b>	Yes	Stormwater Pollution Prevention Plan, 2014	Local	DPW/Water and Sewer
How has or will this be integrated with the HMP and how does this reduce risk? Permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s).				
<b>Open Space Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Urban Water Management Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Habitat Conservation Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Economic Development Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Community Wildfire Protection Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Community Forest Management Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Transportation Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Agriculture Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Climate Action/ Resilience/Sustainability Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				





	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Tourism Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Business/ Downtown Development Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Other</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>RESPONSE/RECOVERY PLANNING</b>				
<b>Emergency Operations Plan</b>	Yes	Borough of Wanaque Emergency Operations Plan	County and Local	OEM Coordinator
How has or will this be integrated with the HMP and how does this reduce risk? The HMP will be integrated into existing EOP's. Shelter sites, evacuation routes are outside of the flood plain/way.				
<b>Continuity of Operations Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Substantial Damage Response Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Threat and Hazard Identification and Risk Assessment</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Post-Disaster Recovery Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Public Health Plan</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				
<b>Other</b>	No	-	-	-
How has or will this be integrated with the HMP and how does this reduce risk? N/A				

### 15.3.2 Development and Permitting Capability

Table 15-3 summarizes the capabilities of Wanaque to oversee and track development.



Table 15-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	-
<ul style="list-style-type: none"> <li>If you issue development permits, what department is responsible?</li> <li>If you do not issue development permits, what is your process for tracking new development?</li> </ul>	N/A	Construction and Zoning
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	-
Do you have a buildable land inventory?	Yes	-
<ul style="list-style-type: none"> <li>If you have a buildable land inventory, please describe</li> </ul>	N/A	Covered in housing element to Master Plan; Open Space Plan Inventory.
Describe the level of buildout in your jurisdiction.	N/	The Borough is located in the Highlands region and majority of land is low-density residential or undeveloped, but potentially protected by conservation and preservation regulations.
The Borough has an affordable housing need of 185 units.		

### 15.3.3 Administrative and Technical Capability

Table 15-4 summarizes potential staff and personnel resources available to Wanaque and their current responsibilities that contribute to hazard mitigation.

Table 15-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
<b>ADMINISTRATIVE CAPABILITY</b>		
Planning Board	Yes	<p>The Planning Board is authorized to adopt bylaws governing its procedural operation. It shall also have the following powers and duties:</p> <ul style="list-style-type: none"> <li>To make, adopt, examine and from time to time amend a Master Plan for the physical development of the borough, including any areas outside its boundaries, which in the Board's judgment bear essential relation to the planning of the borough in accordance with the provisions of N.J.S.A. 40:55D-89.</li> <li>To administer the provisions of the land subdivision ordinance and site plan review ordinance of the Borough</li> <li>To participate in the preparation and review of programs or plans required of the Planning Board by state or federal law or regulations.</li> <li>To assemble data on a continuing basis as part of a continuous planning process.</li> <li>When authorized by resolution of the governing body, prepare a program of municipal capital improvement projects projected over a term of six years, and amendments thereto, and recommend same to the governing body.</li> </ul>



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
		<ul style="list-style-type: none"><li>To approve conditional uses in accordance with the provisions of the zoning ordinance, pursuant to N.J.S.A. 40:55D-67.</li><li>When reviewing applications for approval of subdivision plats, site plans or conditional uses, to grant, to the same extent and subject to the same restrictions as the Zoning Board of Adjustment.</li></ul>
Zoning Board of Adjustment	Yes	Same as Planning Board
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	Yes	Open Space and Recreation Advisory Commission
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	DPW/Water and Sewer The Water & Sewer department is in charge of the physical maintenance of the water and sewer system, including maintain the wells within the Borough.
Construction/Building/Code Enforcement Department	Yes	The Building Department issues permits for building, electric, plumbing, fire, shed, and tree permits, along with appropriate inspections. This Department also issues Certificates of Occupancy ("CCO") for the resale of single-family homes, two-family homes and change of tenancy in rental units. Building and Zoning also accepts applications for variances, subdivisions, and site plan applications for the Planning Board and Board of Adjustment.
Emergency Management/Public Safety Department	Yes	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Regular storm drain cleaning; tree trimming
Mutual aid agreements	Yes	Administration, Police, Fire, Court, Code Enforcement, First Aid, Passaic Health Department
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	No	-
<b>TECHNICAL/STAFFING CAPABILITY</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	Borough Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Borough Engineer
Planners or engineers with an understanding of natural hazards	Yes	Borough Engineer



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	Yes	Administrator
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Borough Engineer
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	Yes	Borough Engineer
Surveyors	Yes	Borough Engineer
Emergency manager	Yes	Emergency Management Coordinator
Grant writers	Yes	Contracted
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

### 15.3.4 Fiscal Capability

Table 15-5 summarizes financial resources available to Wanaque.

Table 15-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes – Passaic County CDBG
Capital improvement project funding	Yes – Borough
Authority to levy taxes for specific purposes	Yes – Borough
User fees for water, sewer, gas, or electric service	Yes – Water and Sewer
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes – Borough
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	Yes – Open Space and Recreation Tax
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes - NJDOT

### 15.3.5 Education and Outreach Capability

Table 15-6 summarizes the education and outreach resources available to Wanaque.



Table 15-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	Borough Clerk or Mayor Council
Personnel skilled or trained in website development	Yes	Webmaster
Hazard mitigation information available on your website	Yes	Information on stormwater is included on the DPW page of the municipal website.
Social media for hazard mitigation education and outreach	Yes	Facebook, X (Formerly Twitter)
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	LED Sign on Borough Hall/Ringwood Avenue north of Union Avenue, Reverse 911, Facebook
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Passaic County Health Department
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Social Media, Municipal Website, Swift 911

### 15.3.6 Community Classifications

Table 15-7 summarizes classifications for community programs available to Wanaque.

Table 15-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	7	2010
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
New Jersey Sustainable Jersey Community	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable

— = Unavailable

### 15.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 15-8 summarizes the adaptive capacity for each identified hazard of concern and the Borough’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.



- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 15-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Geological	Moderate
Extreme Temperature	Moderate
Flood	Moderate
Severe Weather	Moderate
Severe Winter Weather	Moderate
Wildfire	Moderate

## 15.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 15-1 is responsible for maintaining this information.

### 15.4.1 NFIP Statistics

Table 15-9 summarizes the NFIP policy and claim statistics for Wanaque.

Table 15-9. Wanaque NFIP Summary of Policy and Claim Statistics

# Claims (Losses)	25
Total Loss Payments	\$363,762
# Repetitive Loss Properties (NFIP definition)	7
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties (NFIP definition)	1
# Severe Repetitive Loss Properties (FMA definition)	1

**NFIP Definition of Repetitive Loss:** The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

**FMA Definition of Repetitive Loss:** FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

**Definition of Severe Repetitive Loss:** A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA 2024





## 15.4.2 Flood Vulnerability Summary

Table 15-10 provides a summary of the NFIP program in Wanaque.

Table 15-10. NFIP Summary

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
Describe areas prone to flooding in your jurisdiction.	Meadowbrook, Fox Den, Rhonda, Addice Park; Park Street, Prospect Street, Mullen Avenue; Du Pont Avenue, Makemoney Avenue, Toquet streets; 6th, 5th, 4th, 2nd Avenues; Ringwood Avenue; Conklintown Rd; Gary Place; Grist Milk Road
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Unknown
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Procedures need to be developed
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
<b>NFIP Compliance</b>	
What local department is responsible for floodplain management?	Borough Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Engineering Capabilities
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Plan review
What are the barriers to running an effective NFIP program in the community, if any?	Funding



NFIP Topic	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 74A of Borough Code
What is the date that your flood damage prevention ordinance was last amended?	February 2020
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No

## 15.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 15-11 through Table 15-13.

Table 15-11. Number of Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
<b>2020</b>				
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0
<b>2021</b>				
Total Permits	1	0	0	1
Permits within SFHA	0	0	0	0
<b>2022</b>				
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0
<b>2023</b>				
Total Permits	1	0	0	1
Permits within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area (1% flood event)



Table 15-12. Recent Major Development and Infrastructure from 2017 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
RSK Development	Residential	12	20 Mountain Avenue	None	Completed

\* Only location-specific hazard zones or vulnerabilities identified.

Table 15-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Wanaque Depo Renewal	Commercial	1	Union Ave (400/11)	None	Board Approval / No Construction

## 15.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Wanaque's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

### 15.6.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the Borough are shown in Figure 15-1 through Figure 15-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Wanaque has significant exposure. The maps show the location of potential new development, where available.



Figure 15-1. Wanaque NEHRP Hazard Area Extent and Location Map

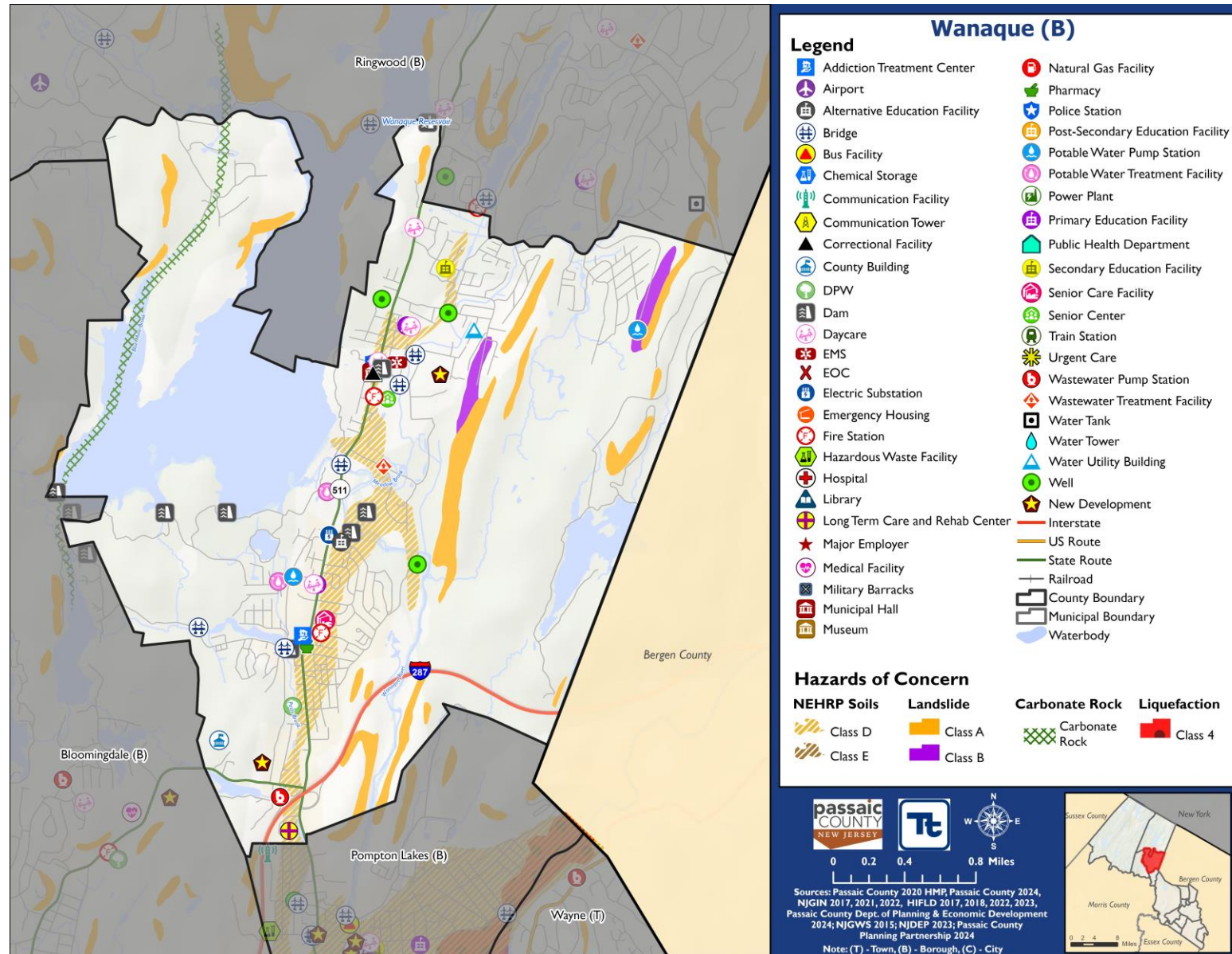
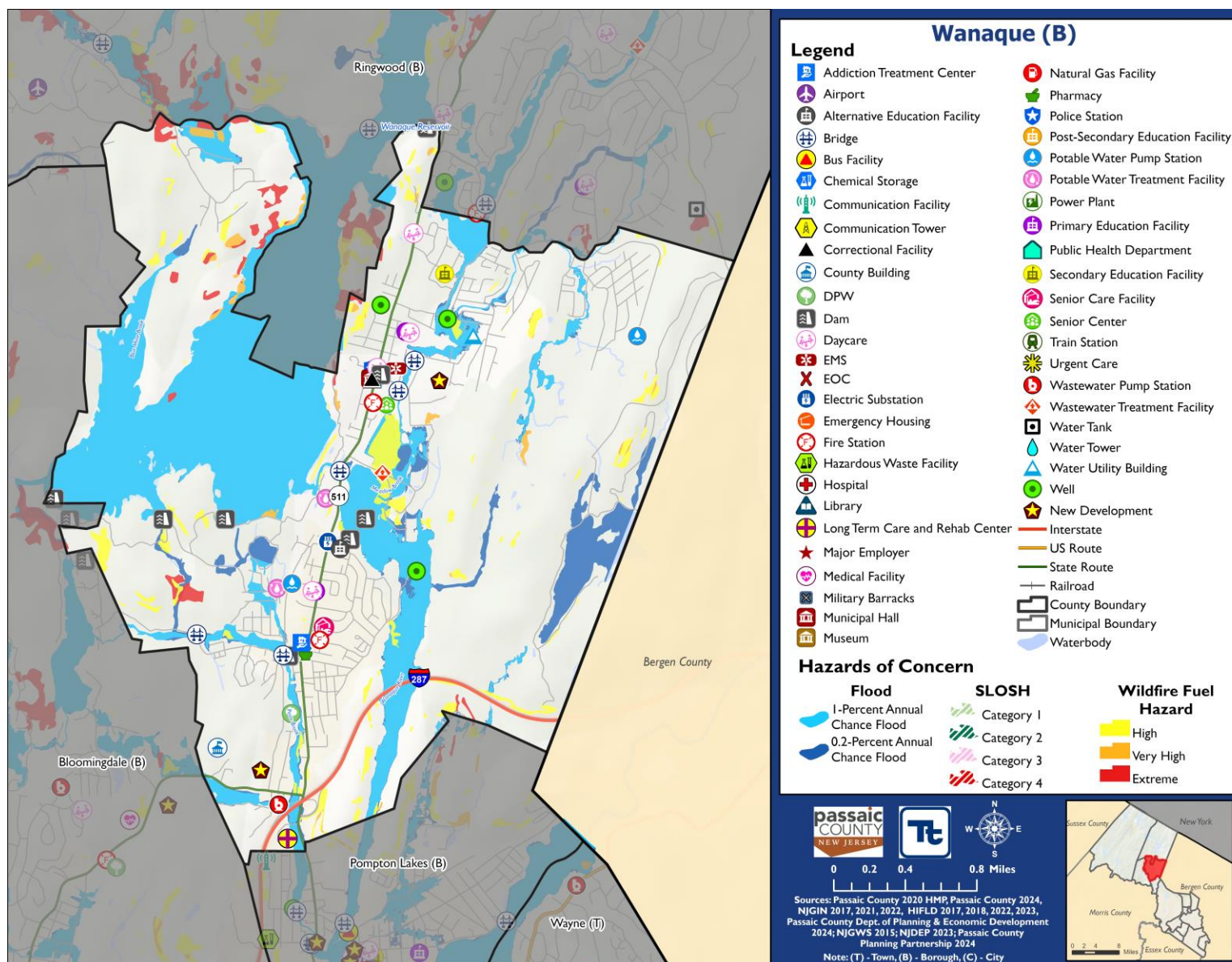






Figure 15-2. Wanaque Flood and Wildfire Hazard Area Extent and Location Map





## 15.6.2 Hazard Event History

The history of natural and non-natural hazard events in Wanaque is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 15-14 provides details on loss and damage in Wanaque during hazard events since the last hazard mitigation plan update.

Table 15-14. Hazard Event History in Wanaque

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Wanaque
December 17-23, 2023	Flood	N/A	Over 5 inches of rainfall resulted in major flooding and power outages in the region. State of emergency and evacuations were declared during the initial storm and subsequent riverine flooding.	The Borough did not have any notable damages or losses.
January 20, 2020 – May 11, 2023	Covid-19 Pandemic (EM-3451-NJ, DR-4488-NJ)	Yes	As of September 26, 2023, Passaic County accounted for 7,530 positive cases of COVID-19, and 32 reported deaths (State of New Jersey, 2023).	The Borough filed statistics with Passaic County and the State of New Jersey.
September 1-3, 2021	Remnants of Hurricane Ida (EM-3573-NJ, DR-4614-NJ)	Yes	The remnants of Hurricane Ida produced heavy rainfall and riverine and flash floods. Rainfall totals exceed 3 inches in parts of County; 4 water rescues occurred due to flash flooding.	The Borough did not experience any documented damages and losses.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

## 15.6.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for the Borough of Wanaque.

### Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Wanaque reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Borough indicated it agreed with the preliminary results.





Table 15-15 shows Wanaque's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 15-15. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Drought	Medium
Geological	Low
Extreme Temperature	Medium
Flood	Medium
Severe Weather	Medium
Severe Winter Weather	Medium
Wildfire	Medium

*Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction*

## Critical Facilities

Table 15-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 15-16. Critical Facilities Flood Vulnerability

Name	Type	Vulnerability	
		1% Annual Chance Event	0.2% Annual Chance Event
1600046	Bridge	X	X
1600146	Bridge	X	X
1600147	Bridge	X	X
1600363	Bridge	X	X
Haskell Well 1	Well	X	X
Meadowbrook Well 1	Well	X	X
Regional Wastewater Treatment Facility	Wastewater Treatment Facility	X	X
Wanaque Wastewater Pump Station	Water Utility Building	X	X

*Source: Passaic County 2020 HMP, Passaic County 2024, NJGIN 2017, 2021, 2022, HIFLD 2017, 2018, 2022, 2023, Passaic County Dept. of Planning & Economic Development 2024*

In addition to critical facilities that are exposed to flooding, the Borough of Wanaque contains at least one high hazard dam; however, this information is considered sensitive by the County and site-specific information is not provided.



## 15.6.4 Identified Issues

After review of Wanaque's hazard event history, hazard rankings, hazard location, and current capabilities, Wanaque identified the following vulnerabilities within the community:

- Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Borough has eight repetitive loss properties and one severe repetitive loss property, but other nearby properties may be impacted by flooding as well.
- The following critical facilities are located within the municipality and located in the special flood hazard area:
  - Highway Bridge:1600046
  - Highway Bridge:1600146
  - Highway Bridge:1600147
  - Highway Bridge:1600363
  - Haskell Well 1
  - Meadowbrook Well 1
  - Regional Wastewater Treatment Facility
  - Wanaque Wastewater Pump Station
- There are multiple dams, which are critical infrastructures, located in the 1- and 0.2-percent flood hazard areas. The Borough also has multiple high-hazard potential dams located in the Borough, including: Raymond Dam, Green Swamp #3 Dam, Midvale Dam, Green Swamp #2 Dam, Overflow Weir Dam, Wolf Den Dam, Rainbow Valley Lake Dam and Green Swamp #4 Dam. These structures have the potential to impact those living nearby.
- Major disaster events can result in large amounts of debris that overwhelm normal trash collection operations. Depending on the amount generated, temporary staging areas for debris collection may be needed. The municipality does not have a disaster debris management plan in place. During a disaster that results in debris, a plan with outlined responsibilities is needed to adequately address post-disaster cleanup operations.
- The municipality does not have a Substantial Damage Management Plan in place, nor do they have a formal process in place when conducting substantial damage determinations. The municipality is in need of a formal process and plan to provide a framework for conducting such inspections and determinations.
- Lines Avenue is located near the Wanaque Reservoir and has walls installed to prevent flooding issues. There has been a feasibility study done on the current walls and mitigation initiatives need to be implemented.
- The current update of the County Hazard Mitigation Plan has not been integrated into the next Master Plan update yet.
- The Borough has not adopted NJDEP's model Code Coordinated Ordinance and will need to remain compliant with the NFIP.

## 15.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.



### 15.7.1 Past Mitigation Action Status

Table 15-17 indicates progress on the Borough's mitigation strategy identified in the 2020 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

### 15.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 15-17, the Borough of Wanaque identified the following additional mitigation efforts completed:

- The Borough Hall was built in 2015 with emergency capabilities in mind. The building is equipped with gas fired generators sufficient to power both heat and electric. The Police Department and the Emergency Management Office are located in Borough Hall.



Table 15-17. Status of Previous Mitigation Actions

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2020-Wanaque-001			Borough Engineering	Replace existing and potentially widen the wall on Lines Avenue. Evaluate the feasibility study and implement mitigation	1.In Progress 2. The Borough is currently evaluating funding opportunities and determine scope of work for this feasibility study. Project is still in development.	1.Include 2. Keep as is 3. N/A
2020-Wanaque-002			Borough Engineering	A feasibility study is needed to determine mitigation alternatives to protect to a 25-year storm event	1.No Progress 2.	1.Discontinue 2. 3. No progress due to lack of funding.
2020-Wanaque-003			Borough Engineer	Install generators to provide backup power to critical facilities.	1.Complete 2.	1.Discontinue 2. N/A 3. This action is complete
2020-Wanaque-004			Borough Engineer	Enhance Fox Down location with fuel, bulk salt supply, and stand by generator to service community	1.No Progress 2.	1.Discontinue 2. N/A 3. Located in the floodplain
2020-Wanaque-005			Borough Engineer	Conduct a feasibility study for design of critical facility mitigation alternatives in the floodplain.	1.No Progress 2. Lack of funding	1.Include 2. Keep as is 3. N/A
2020-Wanaque-006			Planning Board	Integrate the HMP into the next Master Plan update.	1. Ongoing. 2. The Borough is awaiting HMP adoption for the 2025 Master Plan update.	1.Include 2. Keep as is 3. N/A



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2025 HMP or Discontinue 2. If including action in the 2025 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2020-Wanaque-007			Borough	Conduct outreach to flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone area that experience frequent flooding (high risk areas).	1.No Progress 2. Borough will attempt to conduct outreach to flood-prone property owners; mitigation action has been impacted due to limited capacity and capability in the Borough	1.Include 2.Keep as is 3. N/A



### 15.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Wanaque participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Wanaque would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in Borough priorities.

Table 15-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 15-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.





Table 15-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X				X					X
Drought	X				X					X
Geological	X				X					X
Extreme Temperature	X				X					X
Flood	X	X			X	X	X			X
Severe Weather	X	X			X	X	X			X
Severe Winter Weather	X				X					X
Wildfire	X				X					X

*Local Plans and Regulations (LPR)*—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

*Structure and Infrastructure Project (SIP)*—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

*Natural Systems Protection (NSP)*—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

*Education and Awareness Programs (EAP)*—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

*Preventative Measures (PR)*—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

*Property Protection (PP)*—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

*Public Information (PI)*—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

*Natural Resource Protection (NR)*—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

*Structural Flood Control Projects (SP)*—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

*Emergency Services (ES)*—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 15-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
Action 2025-WanaqueB-001	Repetitive Loss Property Mitigation	1	1	1	1	1	0	1	1	1	1	1	1	0	1	12	High
Action 2025-WanaqueB-002	Critical Facilities in the Floodplain	1	1	1	1	1	0	1	1	1	1	1	1	1	0	12	High
Action 2025-WanaqueB-003	Dam Owner Partnership	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
Action 2025-WanaqueB-004	Disaster Debris Management Plan	0	1	1	1	1	0	1	1	1	1	1	1	0	1	11	High
Action 2025-WanaqueB-005	Substantial Damage Management Plan	0	1	1	1	1	0	1	1	1	1	1	1	0	1	11	High
Action 2025-WanaqueB-006	Lines Avenue Mitigation	1	1	1	1	1	0	0	1	1	1	1	1	1	1	12	High
Action 2025-WanaqueB-007	HMP Integration	1	1	1	1	1	1	0	0	1	1	1	1	0	0	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



## Action 2025-WanaqueB-001. Repetitive Loss Property Mitigation

Lead Agency:	Public Works	
Supporting Agencies:	Building Department	
Hazard(s) of Concern:	Severe Storm, Flood	
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Borough has eight repetitive loss properties and one severe repetitive loss property, but other nearby properties may be impacted by flooding as well.	
Description of the Solution:	Conduct outreach to 20 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).	
Estimated Cost:	Staff Time	
Potential Funding Sources:	FMA, HMGP, match from property owners	
Implementation Timeline:	Within 5 Years	
Goals Met:	1,2,5,7	
Benefits:	Eliminates flood damage to homes and residences, which creating an open space for the municipality and increasing flood storage.	
Impact on Socially Vulnerable Populations:	Removing homes from the floodplain immediately removes the risk to life and property. Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.	
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.	
Impact on Critical Facilities/Lifelines:	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.	
Impact on Capabilities:	Removing the risk from the immediate floodplain via acquisition of properties will free up resources for search and rescue and other emergency operations as needed.	
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of severe rainfall, flash flooding, riverine flooding, and coastal flooding from sea level rise and storm surge events. Removing structures from the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.	
Mitigation Category	Structure and Infrastructure Project	
CRS Category	Property Protection, Public Information	
Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Levee around floodplain	Costly, not enough room



15.0. Borough of Wanaque

	Deployable flood barriers	Requires deployment. Residents may not have adequate time to deploy, especially those who are elderly or disabled.
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## Action 2025-WanaqueB-002. Critical Facilities in the Floodplain

Lead Agency:	Public Works; Facility Managers	
Supporting Agencies:	Planning Board	
Hazard(s) of Concern:	Flood	
Description of the Problem:	<p>The following critical facilities are located within the Borough and located in the special flood hazard area:</p> <ul style="list-style-type: none"><li>• Highway Bridge:1600046</li><li>• Highway Bridge:1600146</li><li>• Highway Bridge:1600147</li><li>• Highway Bridge:1600363</li><li>• Haskell Well 1</li><li>• Meadowbrook Well 1</li><li>• Regional Wastewater Treatment Facility</li><li>• Wanaque Wastewater Pump Station</li></ul>	
Description of the Solution:	<p>The Borough will conduct a feasibility assessment with the critical facility owners to determine what additional floodproofing measures are needed at the facilities listed above to protect each to the 500-year flood level. Options include:</p> <ul style="list-style-type: none"><li>• Elevation of facility</li><li>• Floodproofing of facility</li><li>• Mobile flood barriers</li></ul> <p>Once the most cost-effective option is identified, the Borough will work with the owner of the asset as some of these assets are either privately owned or County owned before proceeding with the mitigation action.</p>	
Estimated Cost:	TBD based on facility and floodproofing measure decided upon	
Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Town Budget	
Implementation Timeline:	Within 5 Years and then ongoing	
Goals Met:	2,5	
Benefits:	Ensures continuity of operations of the critical facilities listed above.	
Impact on Socially Vulnerable Populations:	Protection of critical facilities provides an opportunity for first responders and emergency managers to maintain critical services that socially vulnerable populations rely on.	
Impact on Future Development:	The risk of significant damage occurring to the structure will be reduced, which will allow critical operations to be maintained or only briefly interrupted in severe events. This provides continued support to both current and future development in the service area.	
Impact on Critical Facilities/Lifelines:	This action will protect the critical facilities listed above which maintains the critical services that each provides.	
Impact on Capabilities:	This action improves continuity of operations during a flood event, allows for a more rapid return to pre-disaster capabilities after a flood event, and faster deployment of post disaster capabilities.	
Climate Change Considerations:	This action addresses anticipated increases in flooding frequency and severity through protection to the 500-year (0.2-percent annual chance) flood level.	
Mitigation Category	Structure and Infrastructure Projects	
CRS Category	Emergency Services, Property Protection	
Priority	High	
Alternatives:	Action	Evaluation



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	No Action	-
	Relocate facility	Relocation is expensive and results in loss or delay of critical services in the immediate area
	Establish plans to enter into MOU with neighboring critical facilities to provide service during flood events	Reduction in response times and delay of critical services in the immediate area.





## Action 2025-WanaqueB-003. Dam Owner Partnership

Lead Agency:	Public Works	
Supporting Agencies:	Dam Owner and Managers	
Hazard(s) of Concern:	Dam Failure	
Description of the Problem:	There are multiple dams, which are critical infrastructures, located in the 1- and 0.2-percent flood hazard areas. The Borough also has multiple high-hazard potential dams located in the Borough, including: Raymond Dam, Green Swamp #3 Dam, Midvale Dam, Green Swamp #2 Dam, Overflow Weir Dam, Wolf Den Dam, and Green Swamp #4 Dam. These structures have the potential to impact those living nearby.	
Description of the Solution:	The Borough will work with the owners and managers of the dams to ensure inspections and safety procedures are up to date. EAPs will be collected by the Borough OEM and shared with the County OEM.	
Estimated Cost:	Low	
Potential Funding Sources:	Municipal Budget	
Implementation Timeline:	Within 5 Years	
Goals Met:	1,2,5,7	
Benefits:	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies.	
Impact on Socially Vulnerable Populations:	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exists.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam.	
Impact on Capabilities:	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.	
Climate Change Considerations:	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event. This action will increase the capabilities to respond to these events.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Preventative Measures	
Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Utilize information from NJDEP	Owners may not be required to submit a safety plan to the State
	Utilize information from the National Inventory of Dams	Not all dams are listed on the inventory



## Action 2025-WanaqueB-004. Disaster Debris Management

Lead Agency:	Public Works	
Supporting Agencies:	Passaic County Emergency Management	
Hazard(s) of Concern:	Dam Failure, Drought, Geological Hazards, Extreme Temperature, Flood, Severe Weather, Severe Winter Weather, Wildfire	
Description of the Problem:	Major disaster events can result in large amounts of debris that overwhelm normal trash collection operations. Depending on the amount generated, temporary staging areas for debris collection may be needed. The municipality does not have a disaster debris management plan in place. During a disaster that results in debris, a plan with outlined responsibilities is needed to adequately address post-disaster cleanup operations.	
Description of the Solution:	The municipality will develop a disaster debris management plan. This plan will establish procedures and guidelines for managing disaster debris in a coordinated, environmentally responsible, and cost-effective manner. The plan will identify responsibilities for execution of the plan. The plan will align with permitted temporary collection areas.	
Estimated Cost:	Staff time	
Potential Funding Sources:	Municipal budget	
Implementation Timeline:	Within 5 years	
Goals Met:	5	
Benefits:	The action will result in increased quicker and more efficient cleanup after disaster events.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	N/A	
Impact on Capabilities:	The action will result in increased post disaster capabilities.	
Climate Change Considerations:	Climate change may result in an increase in the frequency and severity of weather-related disaster events. This action will increase the capabilities to respond to these events.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Emergency Services	
Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Rely on federal cleanup	These services may or may not be available
	Rely on state cleanup	These services may or may not be available



## Action 2025-WanaqueB-005. Substantial Damage Management Plan

Lead Agency:	Floodplain Administrator
Supporting Agencies:	Public Works, Code Enforcement
Hazard(s) of Concern:	Dam Failure, Drought, Geological Hazards, Extreme Temperature, Flood, Severe Weather, Severe Winter Weather, Wildfire
Description of the Problem:	<p>Officials in NFIP-participating communities are responsible for regulating all development in SFHAs by issuing permits and enforcing local floodplain requirements, including Substantial Damage, for the repairs of damaged buildings. After any disaster event, they must:</p> <ul style="list-style-type: none"><li>• Determine where the damage occurred within the community and if the damaged structures are in an SFHA.</li><li>• Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration.</li><li>• Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value.</li><li>• Require permits for floodplain development.</li></ul> <p>The municipality does not have a Substantial Damage Management Plan in place, nor do they have a formal process in place when conducting substantial damage determinations. The municipality is in need of a formal process and plan to provide a framework for conducting such inspections and determinations.</p>
Description of the Solution:	<p>The municipality will develop a Substantial Damage Management Plan, following the six step planning process in 2021 Developing a Substantial Damage Management Plan (<a href="https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf">https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf</a>). This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.</p>
Estimated Cost:	Low
Potential Funding Sources:	Municipal budget
Implementation Timeline:	Within 5 years to develop the plan; ongoing to maintain and update the plan
Goals Met:	5
Benefits:	This plan will provide a process in making Substantial Damage Determinations and allow the municipality to make these determinations and meet NFIP requirements more quickly.
Impact on Socially Vulnerable Populations:	Substantially damaged structures are required to be rebuilt to be compliance with current codes. Socially vulnerable populations may not have the financial means to make these improvements. This action may allow for the identification of potential resources to address substantial damages to structures owned by socially vulnerable populations.
Impact on Future Development:	A Substantial Damage Management Plan would include all existing, current, and future development in the municipality.
Impact on Critical Facilities/Lifelines:	A Substantial Damage Management Plan would include all critical facilities and lifelines in the municipality.
Impact on Capabilities:	This action improves disaster recovery capabilities.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.
Mitigation Category	Local Plans and Regulations
CRS Category	Emergency Services, Preventative



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Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Rely on state or federal resources following disaster events	Resources may not be available during major widespread events
	Establish MOUs with outside agencies to conduct Substantial Damage Determinations	A plan outlining responsibility is still necessary to prevent missing important requirements



## Action 2025-WanaqueB-006. Lines Avenue Mitigation

Lead Agency:	Public Works	
Supporting Agencies:	Building Department	
Hazard(s) of Concern:	Flood, Severe Weather, Severe Winter Weather	
Description of the Problem:	Lines Avenue is located near the Wanaque Reservoir and has walls installed to prevent flooding issues. There has been a feasibility study done on the current walls and mitigation initiatives need to be implemented.	
Description of the Solution:	The Borough will harden existing walls to increase level of protection and will potentially widen the walls on Lines Avenue based on what the feasibility study reports.	
Estimated Cost:	TBD after engineering	
Potential Funding Sources:	HMGP, Municipal Budget	
Implementation Timeline:	Within 5 Years	
Goals Met:	4,5	
Benefits:	This action implements the results of the feasibility study and will ensure the protection of Lines Avenue.	
Impact on Socially Vulnerable Populations:	Some socially vulnerable populations may be dependent on that road for any critical facilities that may be located along Lines Avenue.	
Impact on Future Development:	This action reduces flooding which may allow for new development.	
Impact on Critical Facilities/Lifelines:	Some critical facilities/lifelines may be located along Lines Avenue.	
Impact on Capabilities:	This action improves disaster recovery capabilities.	
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Emergency Services, Preventative	
Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Purchase Moveable flood barriers	Is not a permanent solution
	Elevate Lines Avenue	Not cost effective



## Action 2025-WanaqueB-007. HMP Integration

Lead Agency:	Planning Board	
Supporting Agencies:	HMP Coordinator	
Hazard(s) of Concern:	Dam Failure, Drought, Geological Hazards, Extreme Temperature, Flood, Severe Weather, Severe Winter Weather, Wildfire	
Description of the Problem:	The current update of the County Hazard Mitigation Plan has not been integrated into the next Master Plan update yet.	
Description of the Solution:	The Borough will integrate the current Hazard Mitigation Plan into the next Master Plan update, including addressing the current identified hazards of concern in the Master Plan.	
Estimated Cost:	Low	
Potential Funding Sources:	Municipal Budget	
Implementation Timeline:	Within 2 Years	
Goals Met:	1,2,4,5	
Benefits:	This integrates the concerns and problems identified in the HMP to the Master Plan.	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations that may be more heavily impacted by certain hazards will be better protected from those hazards after integrating the concerns into the Master Plan.	
Impact on Future Development:	The Borough can use the HMP to identify good areas to build out.	
Impact on Critical Facilities/Lifelines:	The Master Plan can address critical facilities that may be impacted by hazard events.	
Impact on Capabilities:	This action strengthens the Borough's ability to handle the hazard events addressed in the HMP.	
Climate Change Considerations:	Climate Change is leading to an increase in intensity and frequency of precipitation events that may exacerbate some of the hazards of concern.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Preventative Measures	
Priority	High	
Alternatives:	Action	Evaluation
	No Action	-
	Rely on State and Federal Sources	Not local specific