9.3 TOWNSHIP OF BLOOMFIELD

This section presents the jurisdictional annex for the Township of Bloomfield. The annex includes a general overview of the Township of Bloomfield; an assessment of the Township's risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.3.1 Hazard Mitigation Planning Team

The following individuals are the Township of Bloomfield's identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.3-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Fred Menzel, OEM Coordinator 1 Municipal Plaza, Bloomfield, NJ 07003 (973) 418-2108 bvesfmen@aol.com	Thomas Pelsia, Deputy OEM Coordinator 1 Municipal Plaza, Bloomfield, NJ 07003 (973) 332-2855 Tbone1019@comcast.net
NFIP Floodplain Administrator	
Paul Lasek, Township Engineer 1 Municipal Plaza, Bloomfield, NJ 07003 (973) 680-4009 plasek@bloomfieldtwpnj.com	

9.3.2 Jurisdiction Profile

The Township of Bloomfield was incorporated as a Township in 1812. A local Presbyterian parish which was named for the Governor of New Jersey, Joseph Bloomfield, became the name of the Township. In 1831, a local engineer, Ephriam Beach, increased commerce to the area by designing the inclined planes of the Morris Canal. In 1981, Bloomfield residents adopted the Township form of government. The Township is governed by a mayor and six-member town council.

The Township covers approximately 5.3 square miles and located in northeastern Essex County. It is bordered by Belleville, Newark and Nutley to the east; Glen Ridge and Montclair to the west; Clifton to the north and East Orange to the south.

According to the U.S. Census, the 2010 population for the Township of Bloomfield was 47,315. The estimated 2017 population was 48,892, a 3.3 percent increase from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 6.2 percent of the population is 5 years of age or younger and 13.5 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.3.3 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 understanding a jurisdiction's overall risk to its hazards of concern. Table 9.3-2 summarizes recent and expected future development trends, including major residential/commercial

development and major infrastructure development. Figure 9.3-1 at the end of this annex illustrates the geographically-delineated hazard areas and the location of potential new development, where available.

Table 9.3-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	-	-	-	-	-
Multi-Family	-	-	-	-	-
Other (commercial, mixed-use, etc.)	-	-	-	-	-
Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development and Mitigation if located in Hazard Zone**
Recent Major Development and Infrastructure from 2015 to Present					
Bloomfield Center Redevelopment	Mixed Use		Downtown Bloomfield - Blocks 153, 220, 225, 226, 227, 228, 241, 242, 243, 244, 253, 255, 301, 302, and 311	No	In Progress
Green at Bloomfield	Mixed Use	140-unit building	Corner of Liberty and Broad Streets (Block 242, Lots 13, 25, 27, 28, 30, 31, 32, 37 and 38)	No	In Progress
Bloomfield College	Mixed Use	1 building	Franklin and Broad Streets	No	Complete
Hartz Mountain Redevelopment	Residential	336-unit building	192 Grove Street	No	Complete
Oakes Pond at Bloomfield	Residential	331-unit building	40 Memorial Parkway	No	Complete
Watsessing Avenue Redevelopment	Mixed Use	1 building – retail space and 24 residential units	59 Dodd Street	No	In Progress
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None identified					

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

9.3.4 Capability Assessment

The Township of Bloomfield performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.

- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community's adaptive capacity for the impacts of climate change.

Areas that mitigation is currently integrated are summarized in this subsection. The Township of Bloomfield identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal and Regulatory Capability

The table below summarizes the legal and regulatory tools that are available to the Township of Bloomfield and where hazard mitigation has been integrated.

Table 9.3-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	Local and State	Yes	No	-
Comment: *State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14 Adopted 9/3/2019. Chapter 149 (June 1, 2009) of the Township Code; enforced by the construction department*					
Zoning Code	Yes	Local and State	Yes	Yes	-
Comment: *Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976, 40-55D-62: 49. 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. Chapter 149 (June 1, 2009) of the Township Code; enforced by planning and zoning; Chapter 315 (Land Development) was adopted by Bloomfield Council on 7/25/2005 and amended on 12/3/2007. It was adopted pursuant to the MLUL. The Township requires an environmental impact assessment when a 25% or more of the property is within or borders a floodplain or a 25% or more of the property has a grade of 15% or more. Site plan reviews look for many items including the protection of land within floodplains or flood zones.*					
Subdivisions	Yes	Local and State	Yes	Yes	-
Comment: *State mandated - P.L.1975, c.291 (C.40:55D-47): 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval . Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2 The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. Chapter 149 (June 1, 2009) of the Township Code; enforced by planning and zoning; Chapter 315 (Land Development) was adopted by Bloomfield Council on 7/25/2005 and amended on 12/3/2007. It was adopted pursuant to the MLUL. This chapter also includes regulations for subdivisions.*					
Stormwater Management	Yes	Local	Yes	Yes	-
Comment: *Title 7 of the NJ Administrative Code (N.J.A.C. 7:8); Chapter 494 (2010) of the Township code; enforced by engineering. The purpose of Chapter 494 is to establish minimum stormwater management requirements and controls for major development in the Township. Structural stormwater management measures must be designed to take into account existing site conditions including environmentally critical areas, wetlands, floodprone areas, slopes, depth to seasonal high water table, soil type, permeability and texture, drainage area and drainage patterns, and the presence of solution-prone carbonate rocks.*					
Post-Disaster Recovery	No	-	-	-	-

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment:					
Real Estate Disclosure	Yes	State – Division of Consumer Affairs	Yes	Yes	-
Comment: *N.J.A.C. 13:45A-29.1; Before signing a contract of sale, all purchasers must receive a New Jersey Public Offering Statement (POS) approved by the New Jersey Real Estate Commission. The POS provides information such as proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.*					
Growth Management	-		Yes	Yes/No	Yes/No
Comment: *State mandated at local level*					
Shoreline Development	No	-	Yes – if coastal community	-	-
Comment: *NJ Coastal Area Facility Review Act (N.J.S.A. 13:19) or CAFRA regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures, and excavation, grading, shore protection structures, and site preparation. This law is implemented through NJ's Coastal Zone Management Rules N.J.A.C. 7:7E-1 et seq.*					
Site Plan Review	Yes	Local	Yes	No	No
Comment: *Chapter 149 (2012); conducted by planning and zoning; Chapter 315 (Land Development) was adopted by Bloomfield Council on 7/25/2005 and amended on 12/3/2007. It was adopted pursuant to the MLUL. This chapter also includes information on site plan review.*					
Environmental Protection	No	-	Yes	-	-
Comment: *The rules that are utilized by the NJDEP and other environmental agencies are codified at Title 7 of the NJ Municipal Administrative Code.*					
Flood Damage Prevention	Yes	Local	No	Yes	-
Comment*: Chapter 250 (2002); enforced by engineering. The chapter has specific standards for all areas of special flood hazard where base flood elevation data has been provided. Any development in the special flood hazard area must apply for a development permit before any construction begins. The standards include any new residential construction and substantial development require the lowest floor, including basement, to be elevated to or above the base flood elevation. If in AO zones, the lowest floor, including basement, must be elevated above the highest adjacent grade at least as high as the depth number specified in feet (at least two feet if no depth number is specified). And, require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures. For non-residential construction, any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot above the base flood elevation or together with the attendant utilities and sanitary facilities follow requirements set forth in Chapter 250, Section 17.*					
Wellhead Protection	-	-	-	-	-
Comment:					
Emergency Management	No	-	-	-	-
Comment:					
Climate Change	No	-	-	-	-
Comment:					
Disaster Recovery Ordinance	No	-	-	-	-
Comment:					
Disaster Reconstruction Ordinance	No	-	-	-	-
Comment:					
Other	No	-	-	-	-

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment:					
Planning Documents					
Comprehensive / Master Plan	Yes	Local	Yes	Yes	-
Comment: *Updated in 2012; planning and zoning are responsible for maintaining and updating. The 2012 plan was not available for review; however, the 2002 plan was reviewed. The purpose of the Conservation Plan element of the Master Plan is to preserve environmentally sensitive features, such as surface water, flood hazard areas, wetlands, steep slopes, and woodlands. This element provides information on where flood hazard areas in the Township are located and what their primary cause of flooding. The element includes information on steep slope areas. The Township compares its master plan to the County's 1998 Cross Acceptance Report and the State's Development and Redevelopment Plan.*					
Capital Improvement Plan	Yes	Local	Allowed	Yes/No	Yes/No
Comment: *Per NJSA 40:55D-29 the governing body is authorized to direct the planning board to prepare a CIP with at least a six year planning horizon. The Township plan is dated 2013 and the finance department is the local authority.*					
Disaster Debris Management Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Floodplain or Watershed Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Stormwater Management Plan	Yes/No	Local and State	Yes	Yes/No	Yes/No
Comment: *Per NJDEP Storm Water Management Rule (N.J.A.C. 7:8, et seq.). The Municipal Stormwater Regulation Program was developed in response to the U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999. The Department issued final stormwater rules on February 2, 2004 and four (4) NJPDES general 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).*					
Stormwater Pollution Prevention Plan	Yes	Local and State	Yes	Yes/No	Yes/No
Comment:					
Urban Water Management Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Habitat Conservation Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Economic Development Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Shoreline Management Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Community Wildfire Protection Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Community Forest Management Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Transportation Plan	Yes/No		No	Yes/No	Yes/No
Comment:					

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Agriculture Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Climate Action Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Tourism Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Business Development Plan	Yes/No		No	Yes/No	Yes/No
Comment:					
Other	Yes/No		Yes/No	Yes/No	Yes/No
Comment:					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	Yes/No	Yes/No
Comment: *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. The Township's EOP was updated in 2011; OEM is responsible for the plan.*					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
Comment:					
Post-Disaster Recovery Plan	Yes	Local	No	Yes/No	Yes/No
Comment: *Part of the Township's EOP*					
Continuity of Operations Plan	Yes	Local	No	Yes/No	Yes/No
Comment: *Part of the Township's EOP*					
Public Health Plan	Yes/No		Yes/No	Yes/No	Yes/No
Comment:					
Other	Yes/No		Yes/No	Yes/No	Yes/No
Comment:					

Table 9.3-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits?	Yes
- If no, who does? If yes, which department?	Large development goes through the Zoning and Planning; all permits are issued through the Building Department
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	Yes – the Township has an open space inventory that shows areas of open space that cannot be developed; the Township is

Criterion	Response
	fully developed and there is no available land for new development

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Township of Bloomfield.

Table 9.3-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Bloomfield Planning Board
Mitigation Planning Committee	Yes	LEPC
Environmental Board / Commission	Yes	Environmental Commission
Open Space Board / Committee	Yes	Open Space Committee
Economic Development Commission / Committee	No	-
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Swift 911, municipal website, social media
Maintenance program to reduce risk	Yes	DPW – tree trimming, hydrant flushing, clearing storm drains 911 – if the 911 systems in the Township go down, they have the ability to move dispatchers to other locations
Mutual aid agreements	Yes	Fire, police, HAZMAT, EMS – surrounding communities; Essex County and UASI
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering
Planners or engineers with an understanding of natural hazards	Yes	Contracted engineers
Staff with training in benefit/cost analysis	Yes	Financial officer
Staff with training in green infrastructure	-	-
Staff with education/knowledge/training in low impact development	-	-
Surveyors	Yes	Contracted engineers
Stormwater engineer	-	-
Personnel skilled or trained in GIS applications	No	-
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	OEM
Grant writers	Yes	Contracted consultant
Resilience Officer	No	-
Watershed planner	-	-
Environmental specialist	-	-
Other	No	

Fiscal Capability

The table below summarizes financial resources available to the Township of Bloomfield.

Table 9.3-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – water and sewer (combined in tax bill)
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Clean Water Act 319 Grants (Nonpoint Source Pollution)	Yes
Other	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Township of Bloomfield.

Table 9.3-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes – Public Information Officer
Do you have personnel skilled or trained in website development?	Yes – performed within the Township
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes – the Township uses their website to provide information on how to prepare for upcoming weather events and issue weather warnings
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes – the Township has a Facebook page and Twitter account
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes – the Township newsletter, *Bloomfield Buzz,* can be used to communicate hazard-related information
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes - Swift 911, municipal website, social media

Community Classifications

The table below summarizes the classifications for community programs available to the Township of Bloomfield.

Table 9.3-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No; however, the Township is going through a re-evaluation of their codes and should have a BCEGS classification after the evaluation		
Public Protection (Fire ISO Protection Class)	Yes	2B	November 2010

Program	Participating?	Classification	Date Classified
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-

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 2014). In other words, it describes a jurisdiction's current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction's rating.

Table 9.3-9. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Coastal Erosion and Sea Level Rise	Medium
Coastal Storm (Hurricane, Tropical Storm, Nor'Easter)	Medium
Drought	Medium
Earthquake	Medium
Extreme Temperature	Medium
Flood	Medium
Geological hazards (landslide, subsidence, sinkholes)	Medium
Severe Weather	Medium
Severe Winter Weather	Medium
Wildfire	Medium
Civil Disorder	Medium
Cyber Attack	Medium
Disease Outbreak (West Nile Virus, Eastern Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, Lyme Disease, Influenza, Ebola Virus)	Medium
Economic Collapse (new)	Medium
Hazardous Substances	Medium
Utility Interruption	Medium
Terrorism	Medium
Transportation Failure (vehicular accidents, aviation accidents, railway failures and accidents, roadway and bridge failures)	Medium

Notes:
High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;
Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

National Flood Insurance Program

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.3-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Engineering Department
Who is your floodplain administrator? (name, department/position)	Township Engineer

Criterion	Response
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	May 7, 2007
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	The most recent CAC was conducted on 6/14/2012.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	No – the Township feels that the current maps show more floodplains than where it actually floods in the municipality; some areas shown as floodplains are areas that do not flood
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?	Yes – training and assistance is always welcomed
Does your jurisdiction participate in the Community Rating System (CRS)? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No – the Township is not interested in joining CRS as the time of this plan update
How many flood insurance policies are in force in your jurisdiction?* • What is the insurance in force? • What is the premium in force?	458 $80,472,000 $798,863
How many total loss claims have been filed in your jurisdiction?* • How many claims are still open or were closed without payment? • What were the total payments for losses?	428 84 CWOP $2,783,511.81
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	No – at the time of this plan update, residents have not shown interest in mitigating their properties

**According to FEMA statistics as of July 31, 2019*

Additional Areas of Existing Integration

9.3.5 To be advised. Hazard Event History Specific to the Jurisdiction

Essex County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.3 (Hazard Profiles) and includes a chronology of events that affected Essex County and its jurisdictions. The Township of Bloomfield's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Essex County. Table 9.3-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events from 2014 to 2019. Information provided in the table below is based on reference material or local sources.

Table 9.3-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Essex County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22-23, 2016	Winter Storm FEMA-DR-4264	Yes	Low pressure moving across the deep South on Thursday January 21st and Friday January 22nd intensified and moved off the Mid Atlantic coast on Saturday January 23rd, bringing heavy snow and strong winds to northeast New Jersey, and blizzard conditions to the urban corridor and some nearby areas. Governor Chris Christie declared a state of emergency for New Jersey on Friday January 22nd. New Jersey Transit stopped running trains, buses and light rail at 2 AM Saturday January 23rd. Bridges and tunnels from New York City into New Jersey were shut down by mid-afternoon Saturday. At Newark Airport, the storm total snowfall was 24.5 inches, where winds gusted to 39 mph. Newark Airport ASOS observations showed blizzard conditions, with visibility less than one quarter mile in heavy snow and frequent wind gusts over 35 mph through the day and into the early evening on Saturday January 23rd.	While this was a significant event in Essex County, the Township did not identify significant losses or damages associated with this event.

9.3.6 Jurisdiction-Specific Vulnerabilities and Hazard Ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Table 9.3-12 summarizes the Township of Bloomfield's risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.

Table 9.3-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Coastal Erosion and Sea Level Rise	Coastal Erosion: CEHA Sea Level Rise: NOAA +1ft and +3ft rise	CEHA:	0	CEHA:	0	CEHA:	$0	High
		SLR +1ft:	0	SLR +1ft:	0	SLR +1ft:	$0	
		SLR +3ft:	0	SLR +3ft:	0	SLR +3ft:	$0	
Coastal Storm	100- and 500-MRP Hurricane Wind Category 1 through Category 4 SLOSH	Category 1:	0	Category 1:	0	100-year Wind Loss:	$4,637,793	High
		Category 2:	0	Category 2:	0			
		Category 3:	0	Category 3:	0	500-year Wind Loss:	$24,834,720	
		Category 4:	0	Category 4:	0			
Drought	Drought event	Majority of the County is serviced by water supplies who get water from surface water.		Droughts are not expected to cause direct damage to buildings.		Losses would be limited, due to lack of major agricultural industry.		Low
Earthquake	100, 500-, 2,500-Year Mean Return Period Event	NEHRP D&E:	5,085	NEHRP D&E:	1,035	100-year Loss:	$0	High
		Liquefaction Class 4:	0	Liquefaction Class 4:	0	500-year Loss:	$4,910,094	
						2,500-year Loss:	$80,412,843	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	6,586	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or utility interruptions.		Low
		Population Below Poverty Level:	3,996					
Flood	100- and 500-Year Mean Return Period Event	100-year	2,312	100-year	490	100-year Loss:	$322,196,753	High
		500-year	2,534	500-year	545			
Geological	High Landslide Susceptibility Areas	Class A:	0	Class A:	0	Class A:	0	Moderate
		Class B:	0	Class B:	0	Class B:	$0	

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.	Entire building stock is exposed; The degree of impact depends on the scale of the incident.	Economic losses could be similar to those of the coastal storm (wind and surge) and flooding hazards.	Low
Severe Winter Weather	Severe Winter Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.	Entire building stock is exposed; The degree of impact depends on the scale of the incident.	The cost of snow and ice removal and repair of roads can impact local operating budgets.	Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire: 0	Wildfire: 0	Wildfire: $0	Moderate
Civil Disorder	Civil disorder event	Population in the immediate vicinity will be impacted.	Buildings in the immediate vicinity will be most impacted.	Economic assets in the immediate vicinity will be most impacted.	Low
Cyber Attack	Cyber-attack event	The degree of impact to the population depends on the scale of the incident.	Damages due to a cyber attack may be limited.	The degree of damages depends on the scale of the incident. Loss of utilities/communication would have widespread economic impacts.	Low
Disease Outbreak	One of the following: West Nile Virus, Eastern Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, Lyme Disease, Influenza, Ebola Virus	Entire population exposed; The degree of impact to the population depends on the scale of the incident	Disease outbreak would not have a direct impact on buildings.	Impacts to food supply and water supply; Costs of activities and programs implemented to address outbreaks and prevent spread.	Low

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Economic Collapse	Recessions, Depressions, Interruption of normal economic conditions	The degree of impact to the population depends on the scale of the incident.	Damages due to economic collapse may be limited; property owners that cannot afford to maintain the structure may become abandoned/rundown.	The degree of damages depends on the scale of the incident. Massive impacts due to loss of jobs, businesses, and tax revenue are possible.	Low
Hazardous Substances	Port Newark is in Essex County (3rd largest port in the U.S.) Major highways/rail Pipelines 10 NPL Sites in County	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.	The degree of damages to a building depends on the scale of the incident.	The degree of damages depends on the scale of the incident.	Low
Utility Interruption	Disruption of power caused by accident, sabotage, natural hazards, or equipment failure.	The degree of impact to the population depends on the scale of the incident.	The degree of damages to buildings depends on the scale of the incident; Physical impacts to structures may occur if utilities are keeping critical functions online (i.e. sump pumps).	The degree of damages depends on the scale of the incident.	Low
Terrorism	Terrorist Attack	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to buildings depends on the scale of the incident; Buildings in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident.	Low
Transportation Failure	Vehicular accidents, Aviation Accidents, Railway Accidents	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to asset depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	Low

Repetitive Flood Losses

The following summarizes the repetitive and severe repetitive flood losses in the Township of Bloomfield.

- Number of repetitive loss (RL) properties: 27
- Number of severe repetitive loss (SRL) properties: 0
- Number of RL/SRL properties that have been mitigated: -

Critical Facilities and Lifelines

The table below identifies critical facilities and lifelines in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.3-13. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
New Jersey State Police Troop D - Bloomfield Station*	Police	X	X	The Township does not have jurisdiction to mitigate this property.
Child Development Center	School	X	X	The Township does not have jurisdiction to mitigate this property.
Watsessing Elementary School*	School	X	X	The Township does not own this building and does not have jurisdiction to mitigate.

**Identified lifeline*

Additional Identified Vulnerabilities

The jurisdiction did not identify additional vulnerabilities.

Hazard Area Extent and Location

Hazard area extent and location maps were generated for the Township of Bloomfield that illustrate the probable areas impacted within the municipality. 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 have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Bloomfield has significant exposure; refer to Figures 9.3-1 and 9.3-2. These maps also display the location of the regulatory floodplain, as well as identified critical facilities, lifelines, and RL/SRL properties within the municipality.

Hazard Ranking

This section includes the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 4 of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; and community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 4.4 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Essex County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community. During the review of the calculated hazard ranking, the Township adjusted the calculated rankings to incorporate the perceived adaptive capacity of the community with respect to the relevant hazard and any other changes needed. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Township of Bloomfield. The Township of

Bloomfield has reviewed the Essex County hazard ranking table, as well as its individual results, to reflect the relative risk of the hazards of concern to the community.

The below table represents the calculated hazard ranking for the Township.

Table 9.3-14. Township of Bloomfield Hazard Ranking

Coastal Erosion and Sea Level Rise	Coastal Storm	Drought	Earthquake	Extreme Temperature	Flood
Low	Low	Medium	Low	Low	Low

Geological Hazards	Severe Storm	Winter Storm	Wildfire	Civil Disorder	Cyber Attack
Low	High	High	Low	Low	Low

Disease Outbreak	Economic Collapse	Hazardous Substances	Utility Interruption	Terrorism	Transportation Failure
Low	Medium	Low	High	Low	Low

9.3.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and provides action prioritization.

Past Mitigation Initiative Status

The following table summarizes the jurisdiction's progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under 'Capability Assessment' presented previously in this annex.

Table 9.3-15. Status of Previous HMP Mitigation Actions

2015 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
Bloomfield-1	Obtain backup power for critical facilities including: generator for a primary shelter located at 84 Broad Street	Township of Bloomfield OEM	Complete	-	-
Bloomfield-2	Obtain backup power for critical facilities: generator for the Bloomfield fire house located at 124 East Passaic Ave	Township of Bloomfield	Complete	-	-
Bloomfield-3	Flood Study of Third River.	Fire Dept	No Progress – remove from mitigation strategy for the	-	-

2015 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
			Township as this would be a state project; however, the Township would be involved		
Bloomfield-4	Third River Bank Erosion: Construct a manmade structure to alleviate flooding	Engineering	In progress – gabion walls installed between Baldwin Street and Hoover Avenue to prevent continuous erosion along the private properties that face Broad Street	X	2020-BLOOMFIELD-001
Bloomfield-5	Further stabilize the banks of Toney's Brook. Banks need to be further stabilized due to the flooding that has occurred in the past. At risk are the business in the Watsessing Park Area, Watsessing Park itself, and the residences in the area.	Engineering	No Progress – remove from mitigation strategy for the Township as this is not a floodprone area in the Township	-	-
Bloomfield-6	Support the acquisition/elevation of flood-prone properties with priority to repetitive loss and severe repetitive loss structures, where applicable. For this plan update the following were identified as buy-outs: West Bank of Third River, Lion Gate Drive.	Engineering, Law, Administrator	Complete – the Township purchased land where a former factory was located (Scientific Glass); the Township received funding from several sources to purchase the land and the land is now being turned into its natural state (floodplain) and will be used as a municipal park	-	-
Bloomfield-7	Construction and relocation of a permanent DPW facility.	Engineering	No Progress due to lack of funding; remove from the Township's mitigation strategy	-	-
Bloomfield-8	Bank stabilization of the Second and Third Rivers and WigWam Brook	Engineering	In progress – cleanup has occurred along the waterways to help; Second River has concrete walls along it; however, no progress has been made to help with bank stabilization	X	2020-BLOOMFIELD-002
Bloomfield-9	Enlarge storm sewer system in Ampere Parkway east to Newark border.	Engineering	No progress – there is a high water table in this area; many homes have sump pumps that are constantly running; the Township is currently cleaning out the existing sewer on a routine basis but no	X	2020-BLOOMFIELD-003

2015 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
			upgrades have been made		
Bloomfield-10	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance. This program will: • Providing general natural hazard risk, preparedness and mitigation, and related NFIP information in regular newsletter and mailings. • Including natural hazard risk and risk reduction information through social media channels and email blast systems. • Posting of flyers and other readily available NFIP informational materials at Town hall or distributing at regular civic meetings. • Preparation, distribution and analysis of public surveys. • Developing/maintaining a natural hazard risk management webpage on the municipal website where information and mapping can be posted. • Enhance public outreach to residents in NFIP floodplain areas to inform of annual grant opportunities, etc. which may include periodic articles and handouts in the annual newsletter. • Conduct Town Hall meetings with federal and state representatives • Develop an information booth at Township events such as street fairs etc.	Township of Bloomfield OEM	Ongoing capability – the Township is doing this through their municipal website and social media	-	-
Bloomfield-11	Develop and implement a post-event damage assessment program, including the following elements: • Conduct public outreach/education (see Public Education and Awareness Initiatives above) to inform property owners of the need to report property damage and obtain required permitting when making repairs. • Develop and organize local		Ongoing capability – this is part of the Township's day-to-day responsibilities and during storm events	-	-

2015 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
	resources to conduct post-event damage assessments, including substantial damage determinations as warranted. • Develop an inventory (file system and/or database) of losses (incl. loss of service, property damage, economic losses, etc.) as reported to and/or identified by the Town/Village (e.g. building permit process).				
Bloomfield-12	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.		Ongoing capability – if the Township decides to enter CRS they will need to hire a consultant to assist with the process	-	-
Bloomfield-13	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).		Complete	-	-
Bloomfield-14	Have designated NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New Jersey Association for Floodplain Management (NJAFM), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).		No Progress	X	2020-BLOOMFIELD-004

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

A risk assessment workshop was held in September 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. Those attending were provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Essex County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 *Selecting Appropriate Mitigation Measures for Floodprone Structures* (March 2007) and FEMA *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards* (January 2013). Section 6 (Mitigation Strategy) and Appendix X (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.3-16 summarizes the comprehensive-range of specific mitigation initiatives the Township of Bloomfield would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four (4) FEMA mitigation action categories and the six (6) CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing actions as *High*, *Medium*, or *Low*. Table 9.3-17 provides a summary of the prioritization of all proposed mitigation initiatives for this HMP update and Table 9. 3-18 summarizes the actions by type across hazards of concern.

Table 9.3-16. Proposed Hazard Mitigation Initiatives

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-BLOOMFIELD-001	Third River Bank Erosion: Construct a manmade structure to alleviate flooding	**Problem**: Gabion walls installed between Baldwin Street and Hoover Avenue to prevent continuous erosion along the private properties that face Broad Street. However, erosion still occurs along other areas of the Third River in Bloomfield. **Solution**: Install gabion walls in other areas in Bloomfield along Third River.	Both	Flood, Severe Weather	1, 2	Township DPW	Municipal Budget, FEMA HMGP	Decrease erosion, increase flood protection	$125,000	Within 5 years	Medium	SIP	PP
2020-BLOOMFIELD-002	Bank stabilization of the Second and Third Rivers and WigWam Brook	**Problem**: Cleanup has occurred along the waterways to help; Second River has concrete walls along it; however, no progress has been made to help with bank stabilization. **Solution**: Stabilize the stream bank long the Second and Third Rivers and WigWam Brook.	Existing	Flood, Severe Weather, Severe Winter Weather, Geological	1, 2	Township DPW	NJDEP Water Quality Grant, USEPA Urban Waters Small Grants	Stabilize stream bank, increase water quality	$100,000	Within 3 years	Medium	SIP, NSP	PP, NR
2020-BLOOMFIELD-003	Feasibility Study on storm sewer system in Ampere Parkway east to Newark border	**Problem**: There is a high-water table in this area; many homes have sump pumps that are constantly running; the Township is currently cleaning out the existing sewer on a routine basis but no upgrades have been made. **Solution**: Perform a feasibility study on storm sewer system to determine the best solution to	Existing	Flood, Severe Weather	1, 2	Township DPW	FEMA PDM, Municipal Budget	Gain understanding of the flooding issue and identify solutions	$75,000	Within 5 years	Medium	LPR	PR

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		reduce or alleviate flooding in this area of the Township.											
2020-BLOOMFIELD-004	NFIP FPA Education and Certification	**Problem**: The current FPA is not a CFM. **Solution**: The current FPA will become a CFM and pursue relevant continuing education training.	Existing	Flood	All	Township Administration	Municipal Budget	Increase education and awareness of FPA	>$5,000	Within 3 years	Medium	LPR	PR
2020-BLOOMFIELD-005	Mitigate flood-prone properties, including RL/SRL properties	**Problem**: There are 27 repetitive loss properties located in the Township. These properties have been repeatedly damaged by flooding. **Solution**: Conduct outreach to 27 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 mitigation residential homes that experience frequent flooding (high risk areas).	Existing	Flood	1, 2, 5	Township FPA, Township Administration	FEMA HMGP and FMA, local cost share by residents	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	$4 million	Within 3 years	Medium	SIP, EAP	PI, PP
2020-BLOOMFIELD-006	Critical Facilities in the Floodplain	**Problem**: There are four critical facilities in the Township that are located in the 1% annual chance flood area. The Township does not have jurisdiction to mitigate these properties.	Existing	Flood	1, 2	Township FPA, Township Administration	Municipal Budget	Increase knowledge about facilities in floodplain, educate	<$10,000	Within 1 year	High	LPR	PR

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		Solution: The Township will work with the facility owners/operators to inform them their facilities are located in the floodplain and provide different mitigation options to protect the facilities from flood damages.											

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
PDM	*Pre-Disaster Mitigation Grant Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- *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 manmade 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.*

CRS Category:

- *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. 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. 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. 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 9.3-17. Summary of Prioritization of Actions

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-BLOOMFIELD-001	Third River Bank Erosion: Construct a manmade structure to alleviate flooding	1	1	1	1	0	0	0	1	0	0	1	1	0	0	7	Medium
2020-BLOOMFIELD-002	Bank stabilization of the Second and Third Rivers and WigWam Brook	1	1	1	1	0	0	0	1	0	0	1	1	0	0	7	Medium
2020-BLOOMFIELD-003	Feasibility Study on storm sewer system in Ampere Parkway east to Newark border	1	1	1	1	0	0	0	1	0	0	1	1	0	0	7	Medium
2020-BLOOMFIELD-004	NFIP FPA Education and Certification	1	1	1	1	0	1	1	0	0	1	0	1	0	0	8	Medium
2020-BLOOMFIELD-005	Mitigate flood-prone properties, including RL/SRL properties	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium
2020-BLOOMFIELD-006	Critical Facilities in the Floodplain	1	1	1	1	1	0	1	0	0	1	1	1	0	0	9	High

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

Table 9.3-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Coastal Erosion and Sea Level Rise								
Coastal Storm								
Drought								
Earthquake								
Extreme Temperature								
Flood	-003, -004, -006	-001, -002, 005	-005	-002		-001, -002		
Geological		-002		-002				
Severe Weather	-003, -004	-001, -002		-002		-001, -002		
Severe Winter Weather		-002		-002				
Wildfire								
Civil Disorder								
Cyber Attack								
Disease Outbreak								
Economic Collapse								
Hazardous Substances								
Utility Interruption								
Terrorism								
Transportation Failure								

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

9.3.8 Staff and Local Stakeholder Involvement in Annex Development

The Township of Bloomfield followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. 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. The following table summarizes who participated and in what capacity. In addition, several municipal representatives were asked to review and contribute to the draft annex as documented on the annex sign-off sheets in Appendix B (Participation Documentation). Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.3-19. Contributors to the Annex

Entity	Title	Method of Participation
Fred Menzel	OEM Coordinator	Attended meetings, provided input, updated status of previous mitigation actions
Thomas Pelsia	Deputy OEM Coordinator	Attended meetings, provided input, updated status of previous mitigation actions
Paul Lasek	Township Engineer	Attended meetings, provided input, updated status of previous mitigation actions, included information on the Township's floodplain administration program

Figure 9.3-1. Township of Bloomfield Hazard Area Extent and Location Map

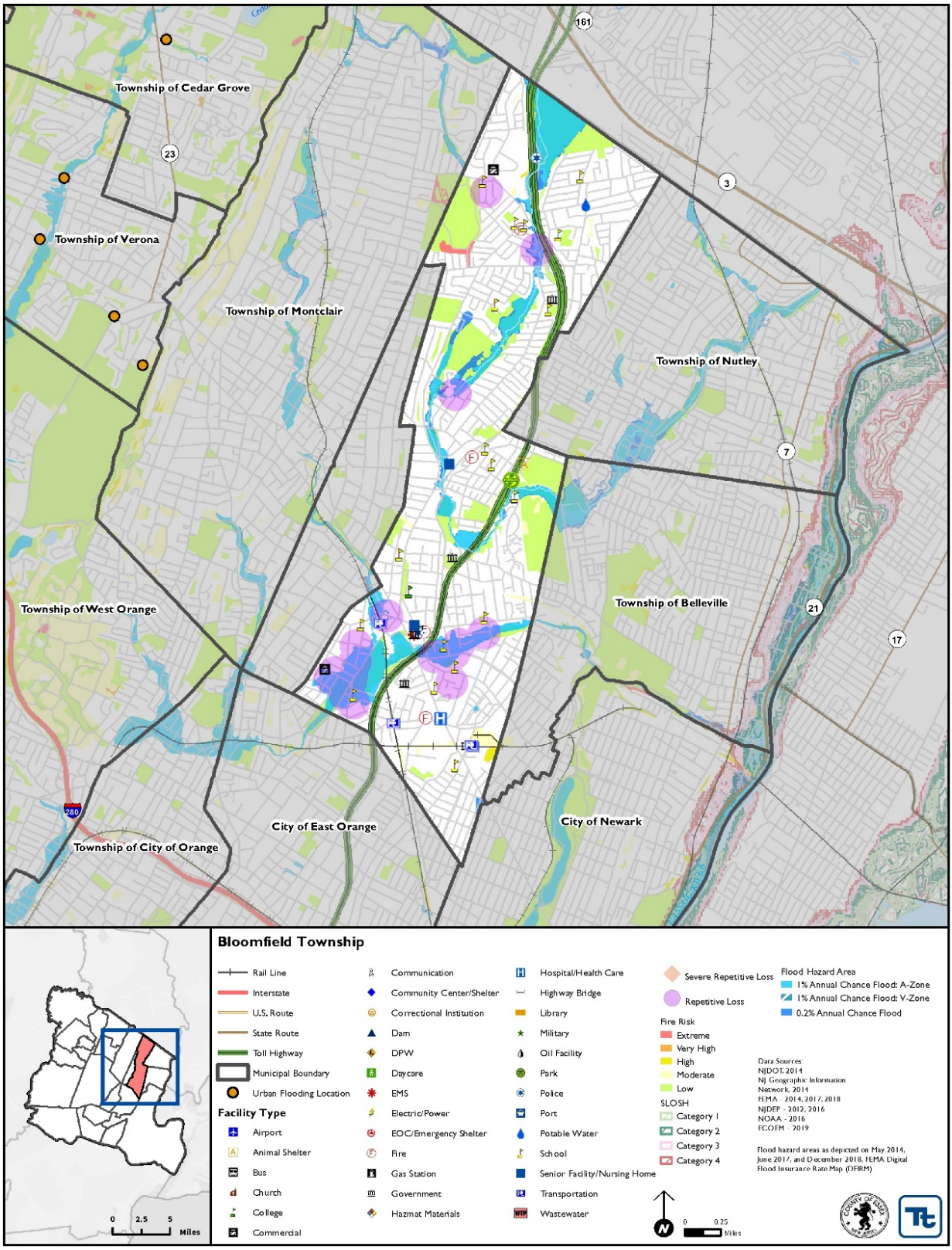

Figure 9.3-2. Township of Bloomfield Hazard Area Extent and Location Map 2