



9.8 TOWNSHIP OF FREDON

This section presents the jurisdictional annex for the Township of Fredon. The annex includes a general overview of the Township of Fredon; an assessment of the Township of Fredon’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.

9.8.1 Hazard Mitigation Planning Team

The Township of Fredon 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 coronavirus pandemic resulted in a strain on local resources that limited some participation, but every effort was made to connect with staff and stakeholders and gain diverse input. Due to safety precautions, all meetings were held virtually. The following table summarizes who participated and in what capacity. 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 9.8-1. Hazard Mitigation Planning Team

Primary Point of Contact		Alternate Point of Contact
Name / Title: Keith Festa, OEM Coordinator Address: 443 Route 94, Newton, NJ 07860 Phone Number: (516) 456-1374 Email: firecop1534@gmail.com		Name / Title: Glenn Deitz, Third OEM Coordinator Address: 30 Anderson Hill Road, Newton, NJ 07860 Phone Number: (973) 333-4244 Email: gdeitz@fredonnj.gov
NFIP Floodplain Administrator		
Name / Title: Keith Festa, OEM Coordinator Address: 443 Route 94, Newton, NJ 07860 Phone Number: (516) 456-1374 Email: firecop1534@gmail.com		
Name	Title	Method of Participation
Keith Festa	OEM Coordinator	Primary point of contact, NFIP floodplain administrator, contributed to mitigation strategy; attended the kickoff meeting, annex training
Glenn Deitz	OEM Coordinator	Alternate point of contact
Suzanne Boland	Registered Municipal Clerk	Provided data and information, contributed to mitigation strategy
Carl Lazzaro	OEM Coordinator, third	Attended the annex training and contributed to the annex development
Deborah Prommell	Acting Municipal Clerk	Attended the kickoff meeting and annex training

9.8.2 Jurisdiction Profile

The Township of Fredon was incorporated in 1904. The Township is located in southwestern Sussex County and has a total land area of 17.65 square miles. It is bordered to the north by Hampton Township, to the south by Green Township, to the east by Andover Township and Newton, and to the west by Stillwater Township and Warren County. The Pequest River, Paulins Kill, and Bear Brook all flow through the Township. In addition, numerous ponds and lakes are located throughout the Township.





According to the U.S. Census, the 2010 population for the Township of Fredon was 3,437. The estimated 2018 population was 3,214, a 6.49 percent decrease from the 2010 Census. Data from the 2018 U.S. Census American Community Survey indicate that 8.0 percent of the population is 5 years of age or younger and 25 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.

9.8.3 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 9.7-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. The figures at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development.

Table 9.8-2. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019	
Number of Building Permits for New Construction Issued Since the Previous HMP										
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single and Two-Family Units	0	0	1	0	1	0	1	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0
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		
Recent Major Development and Infrastructure from 2015 to Present										
None identified										
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years										
None anticipated										

* Only location-specific hazard zones or vulnerabilities identified.
SFHA = Special Flood Hazard Area

9.8.4 Capability Assessment

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

- 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 NFIP compliance
- Classification under various community mitigation programs
- The community’s adaptive capacity for the impacts of climate change





For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized below. The Township of Fredon identified specific integration activities that will be incorporated into municipal procedures; these actions 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 Fredon and where hazard mitigation has been integrated.

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Have aspects of the HMP been integrated into your codes/ordinances/plans?	
				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
Codes, Ordinances, & Requirements					
Building Code	Yes	State	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> 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 The Building Department is responsible for this code in compliance with Chapter 200 – Construction Codes, Uniform. 					
Zoning Code	Yes	Local	Yes – if municipality has a Planning Board	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> State permissive on local level. 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. The Zoning Department is responsible for this code in compliance with Chapter 550- Zoning. 					
Subdivisions	Yes	Local & Federal	Yes – if municipality has a Land Use Board	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> P.L.1975, c.291 (C.40:55D-47); 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval a. The governing body may by ordinance require approval of subdivision plats by resolution of the planning board as a condition for the filing of such plats with the county recording officer and approval of site plans by resolution of the planning board as a condition for the issuance of a permit for any development, except that subdivision or individual lot applications for detached one or two dwelling-unit buildings shall be exempt from such site plan review and approval; provided that the resolution of the board of adjustment shall substitute for that of the planning board whenever the board of adjustment has jurisdiction over a subdivision or site plan pursuant to subsection 63b. of this act . 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. The Planning and Zoning Department is responsible for this ordinance in compliance with Chapter 550- Zoning and Chapter 470- Subdivision of Land. Fredon Township Ordinance 2021-03: Amending Chapter 457 Stormwater Management February 2021 					
Stormwater Management	Yes	Local & Federal	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> See Title 7 of the NJ Administrative Code, N.J.A.C. 7:8 The Planning and Zoning Department is responsible for this ordinance in compliance with Chapter 457 – Stormwater Control. Fredon Township Ordinance 2021-03: Amending Chapter 457 Stormwater Management February 2021 					
Post-Disaster Recovery	No	-	No	-	-
<i>Comment:</i>					





	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Have aspects of the HMP been integrated into your codes/ordinances/plans?	
				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
Real Estate Disclosure	Yes	State, Division of Consumer Affairs	Yes	Yes	-
<i>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 estimated completion dates for improvements, fees for services and amenities, the type of title and ownership interest being offered, its proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.</i>					
Growth Management	Yes	Local	Land Use Board	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> State Mandated on a municipal level. See Zoning Ordinance ; Also - Plan Endorsement Process via the State Development & Redevelopment Plan provides for the delineation of Growth Areas and Environs; Use of the endorsed plans in the implementation of state environmental regulations makes the Plan Endorsement process a growth management strategy. The Planning and Zoning Department is responsible for these ordinances. 					
Site Plan Review	Yes	Local	Land Use Board	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> 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 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. 40:27-6.10 In order that county planning boards shall have a complete file of the planning and zoning ordinances of all municipalities in the county, each municipal clerk shall file with the county planning board a copy of the planning and zoning ordinances of the municipality in effect on the effective date of this act 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. Such notice shall be given to the county planning board at least 10 days prior to the public hearing thereon by personal delivery or by certified mail of a copy of the official notice of the public hearing together with a copy of the proposed ordinance. The Planning and Zoning Department is responsible for these requirements in compliance with Chapter 424 – Site Plan Review. Fredon Township Ordinance 2021-03: Amending Chapter 457-17 Stormwater Management February 2021 					
Environmental Protection	Yes	State	Yes	No	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Land Use Board applications require NJDEP Environmental Impact Statement if required. The Zoning Ordinance (Chapter 550) includes the following purposes related to environmental protection: <ul style="list-style-type: none"> To preserve agricultural lands and open space, and to ensure that any future development of farmland that does occur includes a component of preservation and is designed to minimize any visual and environmental impacts that may occur. To preserve large tracts of land for open space and farmland by encouraging the development of new residential subdivisions in a cluster design. To protect areas constrained by steep slopes, wetlands, Category 1 streams, flood-prone areas, forested areas and areas with threatened or endangered habitat. 					
Flood Damage Prevention	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> The NJ State Law Flood Area Control Act (N.J.S.A. 58:16A-52) and the National Flood Control Act of 1968 (NFIP) are state and federal acts to support minimization of flood losses. They do not require local adoption but as enforced by the NJDEP, the floodplain ordinances of each municipality must be reviewed for compliance with these regulations. In addition, participation in the NFIP requires a floodplain ordinance. Regulations for the Flood Control Hazards Act were adopted in 2007 and amended effective June 20, 2016. This ordinance follows Chapter 270- Flood Control, last amended February 2021 It is the purpose of this chapter 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: <ul style="list-style-type: none"> 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 					





	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Have aspects of the HMP been integrated into your codes/ordinances/plans?	
				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
<ul style="list-style-type: none"> ○ <i>H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.</i> 					
Wellhead Protection	No	-	No	-	-
<i>Comment:</i> Fredon Township has no public water systems.					
Emergency Management	Yes	Local	No	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • <i>Chapter 85, Volunteer Fire Company and First Responders</i> • <i>Chapter 262, Fire Company</i> 					
Climate Change	No	-	No	-	-
<i>Comment:</i>					
Disaster Recovery Ordinance	No	-	No	-	-
<i>Comment:</i>					
Disaster Reconstruction Ordinance	No	-	No	-	-
<i>Comment:</i>					
Other: NFIP Freeboard	Yes	State	No	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • <i>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</i> • <i>The Building Department is responsible for this code in compliance with Chapter 200 – Construction Codes, Uniform.</i> 					
Other: Soil Erosion and Sediment Control	Yes	Local	No	Yes	-
<i>Comment:</i> The Planning and Zoning Department is responsible for these ordinances in compliance with Chapter 441 – Soil Erosion and Sediment Control.					
Other: Genetically Engineered Microorganisms	Yes	Local	No	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • Chapter 290, Genetically Engineered Microorganisms deals with the release of microorganisms. • “The Township Committee shall adopt, by resolution, such rules and regulations which shall, in its discretion, be deemed reasonable and necessary governing the application for permission to release any genetically engineered microorganism into the outdoor environment of the Township, including, but not limited to, regulations requiring completion of appropriate applications; submission of a plan for environmental protection, containment and disposal; submission of a plan insuring the health, safety and welfare of the public; submission of approvals by appropriate state and federal governmental agencies; payment of fees and costs to the Township; survey and location of the release site and affected areas; and posting of appropriate sureties or other insurances to guarantee against liability for damage or loss.” 					
Other: Hazardous Materials	Yes	Local	No	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • <i>Chapter 300, Hazardous Materials deals with the emergency response and cost recovery of hazardous materials.</i> 					
Planning Documents					
Comprehensive / Master Plan	Yes	Local	Yes	Yes	
<i>Comment:</i>					
<ul style="list-style-type: none"> • <i>2018 Revised NJ Statute 40:27-2; the county planning board shall make and adopt a master plan for the physical development of the county. The master plan of a county, with the accompanying maps, plats, charts, and descriptive and explanatory matter, shall show the county planning board's recommendations for the development of the territory covered by the plan, and may include, among other things, the general location, character, and extent of streets or roads, viaducts, bridges, waterway and waterfront developments, parkways, playgrounds, forests, reservations, parks, airports, and other public ways, grounds, places and spaces; the general location and extent of forests, agricultural areas, and open-development areas for purposes of conservation, food and water supply, sanitary and drainage facilities, or the protection of urban development, and such other features as may be important to the development of the county. The county planning board shall encourage the co-operation of the local municipalities within the county in any matters whatsoever which may concern the integrity of the county master plan and to advise the board of chosen freeholders with respect to the formulation of development programs and budgets for capital expenditures. Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976 40:55D-28 provides the required components of a municipal Master Plan and requires that each municipality prepare a master plan and update it every 6 years. Further, all zoning ordinances must be consistent with the Master Plan or will not be benefitted from a presumption of validity.</i> 					



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Have aspects of the HMP been integrated into your codes/ordinances/plans?	
				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
<ul style="list-style-type: none"> The Planning Board is responsible for this plan. This plan was adopted in 2008. 					
Capital Improvement Plan	Yes	Local	No	Yes	-
<i>Comment: This Capitol Improvement Plan was adopted in 2015.</i>					
Disaster Debris Management Plan	Yes	Local	No	Yes	-
<i>Comment: Disaster debris is addressed within the Fredon Township Office of Emergency Management Emergency Operations Plan October 2018 and the Fredon Township Ordinance 2021-03: Amending Chapter 457-16 Stormwater Management February 2021.</i>					
Floodplain or Watershed Plan	No	-	No	-	-
<i>Comment:</i>					
Stormwater Management Plan	Yes	Federal, State & Local	Yes	Yes	-
<i>Comment:</i> <ul style="list-style-type: none"> The Stormwater Management rules (N.J.A.C. 7:8) rules were published in the February 2, 2004 NJ Register. These rules set forth the required components of regional and municipal stormwater management plans and establish the stormwater management design and performance standards for new (proposed) development. The design and performance standards for new development include groundwater recharge, runoff quantity controls, and runoff quality controls. The rules emphasize, as a primary consideration, the use of nonstructural stormwater management techniques including minimizing disturbance, minimizing impervious surfaces, minimizing the use of stormwater pipes, preserving natural drainage features, etc. The rules also set forth requirements for groundwater recharge, stormwater runoff quantity control, stormwater runoff quality control, and the prohibition of major development to be located within or to discharge runoff from the major development into a 300-foot riparian zone without prior authorization from the Department under the Flood Hazard Area Control Act Rules, N.J.A.C. 7:13. The Land Use Board is responsible for this plan in compliance with the Master Plan. Identified in Fredon Township Ordinance 2021-03: Amending Chapter 457 Stormwater Management February 2021 					
Stormwater Pollution Prevention Plan	Yes	Federal & Local	Yes	Yes	-
<i>Comment:</i> <ul style="list-style-type: none"> The Phase II New Jersey Pollutant Discharge Elimination System Stormwater Regulation Program (NJPDES) rules (N.J.A.C. 7:14A) were published in the February 2, 2004, NJ Register. These NJPDES rules are intended to address and reduce pollutants associated with existing stormwater runoff. The NJPDES rules establish a regulatory program for existing stormwater discharges as required under the Federal Clean Water Act. These NJPDES rules govern the issuance of permits to entities that own or operate small municipal separate storm sewer systems, known as MS4s. Under this program, permits must be secured by municipalities, certain public complexes such as universities and hospitals, and State, interstate and federal agencies that operate or maintain highways. The permit program establishes the Statewide Basic Requirements that must be implemented to reduce nonpoint source pollutant loads from these sources. The Statewide Basic Requirements include measures such as: the adoption of ordinances (litter control, pet waste, wildlife feeding, proper waste disposal, etc.); the development of a municipal stormwater management plan and implementing ordinance(s); requiring certain maintenance activities (such as street sweeping and catch basin cleaning); implementing solids and floatables control; locating discharge points and stenciling catch basins; and a public education component. Identified in Fredon Township Ordinance 2021-03: Amending Chapter 457 Stormwater Management February 2021 					
Urban Water Management Plan	No	-	No	-	-
<i>Comment: Fredon Township is a rural community this is not applicable.</i>					
Habitat Conservation Plan	No	-	No	-	-
<i>Comment:</i>					
Economic Development Plan	No	-	No	-	-
<i>Comment:</i>					
Shoreline Management Plan	No	-	No	-	-
<i>Comment:</i> <ul style="list-style-type: none"> 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. 					
Community Wildfire Protection Plan	No	-	No	-	-
<i>Comment:</i>					



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				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
Community Forest Management Plan	No	-	No	-	-
<i>Comment:</i>					
Transportation Plan	Yes	Local	No	Yes	-
<i>Comment: The Office of Emergency Management is responsible for this plan. This plan was adopted in 2014.</i>					
Agricultural Plan	Yes	Local	No	Yes	-
<i>Comment: The Land Use Board is responsible for this plan in compliance with the Master Plan.</i>					
Climate Action Plan	No	-	No	-	-
<i>Comment:</i>					
Tourism Plan	No	-	No	-	-
<i>Comment:</i>					
Business Development Plan	Yes	Local	No	Yes	-
<i>Comment: The Land Use Board is responsible for this plan in compliance with the Master Plan.</i>					
Other: Open Space Plan	Yes	State & Local	No	Yes	-
<i>Comment: The Planning Board is responsible for this plan. This plan was adopted in 2000.</i>					
Other: Stream Corridor Management Plan	Yes	Local	No	Yes	-
<i>Comment: The Land Use Board is responsible for this plan in compliance with the Master Plan.</i>					
Other: Watershed Management or Protection Plan	Yes	Local	No	Yes	-
<i>Comment: The Land Use Board is responsible for this plan in compliance with the Master Plan.</i>					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Each county and municipality in the State shall prepare a written Emergency Operations Plan with all appropriate annexes necessary to implement the plan. Each Emergency Operations Plan shall be adopted no later than one year after the State Emergency Planning Guidelines have been adopted by the State Office of Emergency Management and shall be evaluated at such subsequent scheduled review of the State Emergency Operations Plan. L.1989, c.222, s.19. The Office of Emergency Management is responsible for this plan. This plan was adopted in 2018. 					
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Contained within Emergency Operations Plan. The Office of Emergency Management is responsible for this plan. This plan was adopted in 2018. 					
Post-Disaster Recovery Plan	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Contained within Emergency Operations Plan. The Office of Emergency Management is responsible for this plan. This plan was adopted in 2018. 					
Continuity of Operations Plan	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Contained within Emergency Operations Plan. The Office of Emergency Management is responsible for this plan. This plan was adopted in 2018. 					
Public Health Plan	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Contained within Emergency Operations Plan. The Office of Emergency Management is responsible for this plan. This plan was adopted in 2018. 					
Other	No	-	No	-	-



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Have aspects of the HMP been integrated into your codes/ordinances/plans?	
				If yes- how? Describe in comments.	If no - add Mitigation Action #, if applicable.
<i>Comment:</i>					

Table 9.8-3. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	Yes
Does your jurisdiction have the ability to track permits by hazard area?	No
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.	No

ADMINISTRATIVE AND TECHNICAL CAPABILITY

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

Table 9.8-4. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Land Use Board	Yes	Combined Planning & Zoning Board
Mitigation Planning Committee	Yes	Fredon Township Committee
Environmental Board / Commission	Yes	<p>Environmental Commission. The Fredon Township Environmental Commission is the focal point for environmental issues affecting the Township. The Commission’s area of interest and activities include preservation of natural resources, conservation of open space, inventory of natural resources, water quality, environmental education, enhancement of the quality of life in the Township, solicitation of grants and historical preservation. Anything that may adversely affect or enhance the Township’s environment is of interest to the Commission.</p> <p>The Commission is an advisory body to the Planning Board. The Commission reviews applications for development submitted to the Board and reports on elements that may have a negative impact on the environment.</p>
Open Space Board / Committee	Yes	<p>Open Space Commission. In an effort to preserve Fredon’s rural character, the Open Space Commission was formed in the spring of 2006.</p> <p>The mission of this group is to identify and prioritize land parcels for preservation, make recommendation to the township committee, and develop partnerships with allied organizations.</p> <p>The group focuses on land that preserves agriculture, scenic views, water quality, wildlife, and passive/active recreation. The funds to</p>





Staff/Personnel Resource	Available?	Department/Agency/Position
		support the purchases or preservation of land are generated by the Open Space Tax. In 2008, the Township Committee reduced the Open Space Tax from 2 cents to 1 cent per \$100,000 of the revised assessed value of a home, and it was reduced again to 1/2 a cent in 2009.
Economic Development Commission / Committee	No	-
Warning Systems / Services (reverse 911, outdoor warning signals)	No	-
Maintenance program to reduce risk	Yes	Tree trimming, stormwater catch basin maintenance
Mutual aid agreements	Yes	Verbal agreements
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Pellow Engineering
Engineers or professionals trained in building or infrastructure construction practices	Yes	State
Planners or engineers with an understanding of natural hazards	Yes	Pellow Engineering and State
Staff with training in benefit/cost analysis	No	-
Staff with training in green infrastructure	Yes	E. Banyra, Township Planner
Staff with education/knowledge/training in low impact development	Yes	E. Banyra, Township Planner
Surveyor	No	-
Stormwater engineer	Yes	Pellow Engineering
Personnel skilled or trained in GIS applications	No	-
Local or state water quality professional	Yes	Sussex County
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	Appointed by Township Committee
Watershed planner	No	-
Environmental specialist	Yes	E. Banyra, Township Planner
Grant writers	No	-
Resilience Officer	No	-
Other: Professionals trained in conducting damage assessments	Yes	State Building Inspector

FISCAL CAPABILITY

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

Table 9.8-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No





Financial Resource	Accessible or Eligible to Use?
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	State Aid
Development Impact Fees for Homebuyers or Developers	Yes
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other: Open Space Acquisition Funding Programs	Yes

EDUCATION AND OUTREACH CAPABILITY

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

Table 9.8-6. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes, Mayor designated
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? -If yes, briefly describe.	No
Do you use social media for hazard mitigation education and outreach? -If yes, briefly describe.	No
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, Website capable of messaging. Social media. Fire prevention programs are conducted annually at schools.

COMMUNITY CLASSIFICATIONS

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

Table 9.8-7. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (Fire ISO Protection Class)	Yes	5	2014
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-
Sustainable Jersey	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 9.8-8. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - Strong/Moderate/Weak
Dam Failure	Weak
Disease Outbreak	Moderate
Drought	Weak
Earthquake	Weak
Flood	Weak
Geologic	Moderate
Hazardous Materials	Strong
Hurricane and Tropical Storm	Moderate
Invasive Species	Weak
Nor'Easter	Strong
Severe Weather	Strong
Severe Winter Weather	Moderate
Wildfire	Weak

Notes:

Strong = Capacity exists and is in use; Moderate = Capacity may exist, but is not used or could use some improvement; Weak = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

The Township does not have access to resources to determine the possible impacts of climate change upon the municipality. The administration is not currently supportive of integrating climate change in policies or actions.

NATIONAL FLOOD INSURANCE PROGRAM

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

Table 9.8-9. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Land Use Board
Who is your floodplain administrator? (name, department/position)	Keith Festa, OEM Coordinator
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	2/2021
Does your floodplain management program meet or exceed minimum requirements? -If exceeds, in what ways?	Meets N.J.S.A. 40-48-1 et seq
When was the most recent Community Assistance Visit or Community Assistance Contact?	December 7, 1994
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.	Yes





Criterion	Response
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
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
How many flood insurance policies are in force in your jurisdiction?*	3 policies
-What is the insurance in force?	\$1,050,000 insurance in force
-What is the premium in force?	\$1,359 premium in force
How many total loss claims have been filed in your jurisdiction?*	2 claims
-How many claims are still open or were closed without payment?	\$6,937 in payments
-What were the total payments for losses?	
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

*According to FEMA statistics as of October 13, 2020
Reference: FEMA 2020

9.8.5 Hazard Event History Specific to the Jurisdiction

Sussex 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 (Hazards of Concern) and includes a chronology of events that affected Sussex County and its jurisdictions. The Township of Fredon’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Sussex County. Table 9.7-10 provides details regarding municipal-specific loss and damages the jurisdiction experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.8-10. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Sussex County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22, 2016 - January 24, 2016	DR-4264: Severe Winter Storm and Snowstorm	Yes	A major nor'easter, produced record snowfall and blizzard conditions in parts of New Jersey on January 23 rd and 24 th .	\$6,810.81 Overtime for storm cleanup
January 20, 2020 and continuing	EM-3451, DR-4488: COVID-19 Pandemic	Yes	The coronavirus pandemic resulted in the need for shutdowns and social distancing and mask requirements.	\$8,311.98

Source: FEMA 2020, NOAA-NCEI 2020

9.8.6 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. Refer to Section 4.2 (Methodology and Tools) and Section 4.4 (Hazard Ranking) for a detailed summary for the Township of Fredon risk assessment results and data used to determine the hazard ranking discussed later in this section.





HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Township of Fredon 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 Fredon has significant exposure.

REPETITIVE FLOOD LOSSES

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

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

Source: FEMA 2019

CRITICAL FACILITIES

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

Table 9.8-11. Critical Facilities and Lifelines Flood Exposure

Name	Type	Exposure	
		1% Event	0.2% Event
None identified			

Source: Sussex County Planning Partnership 2020

IDENTIFIED ISSUES AND PROBLEM AREAS

The jurisdiction has identified the following vulnerabilities within their community:

- The Township would like to utilize the Civic Center at 436 NJ-94, Newton, NJ 07860 for emergency housing, use as a warming shelter, etc. However, the building will require upgrades. In addition, the shelter would require staffing as staffing from the Township is limited.
- Backup power sources are necessary to maintain critical services for critical facilities. The Township Civic Center requires a backup power source. The site also houses the fire house and EMS. The Township has plans to establish the Civic Center as an emergency shelter.
- The Greendell Road and Long Hill catch basin is in need of replacement in order to improve stormwater.
- Deer Run requires installation of a storm drain to allow for proper stormwater management and to reduce risk of flooding.

HAZARD RANKING

This section summarizes the jurisdiction’s primary hazards of concern based on identified problems, impacts and the results of the risk assessment as presented in Section 4 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; community capability and changing future climate conditions. This input supports the development of mitigation actions, targeting those hazards with the 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 Sussex County as a whole. Therefore, the Township of Fredon ranked each hazard’s degree of risk as it pertains to their community factoring in their capabilities to withstand impacts and rebound after the event. The table below summarizes the hazard rankings of potential hazards for the Township of Fredon. The Township of Fredon has reviewed the Sussex County hazard ranking table and has provided input to its individual results to reflect the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Township of Fredon agreed with the calculated hazard rankings.

Table 9.8-12. Township of Fredon Hazard Ranking

Dam Failure	Disease Outbreak	Drought	Earthquake	Flood	Geologic	
Medium	Medium	Medium	Low	Medium	Low	
Hazardous Materials	Hurricane and Tropical Storm	Invasive Species	Nor’Easter	Severe Weather	Severe Winter Weather	Wildfire
Medium	High	Medium	High	High	High	Low

9.8.7 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 2016 HMP. Actions that are carried forward as part of this plan update are included in Table 9.7-14 and Table 9.7-15 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 9.8-13. Status of Previous HMP Mitigation Actions

2016 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP Update?	
				Check if Yes	Enter 2021 HMP Action #
Fredon-1 (old #1 and 11)	Harden the Township’s Civic Center and EOC to FEMA 361 standards.	Township Administration, OEM	No Progress	X	2020-Fredon-001, 2020-Fredon-002
Fredon-2 (old #2 and 3)	When updating the roof of the Township school, incorporate current high wind standards into the design.	School Administration	No Progress		
Fredon-3 (old #6 and 8)	Conduct inundation studies for the dams located in the Township: twin dams at Warner Road and Paulinskill Lake Road and at Whittemore Pond.	Township Engineer	No Progress		
Fredon-4 (old #9)	Upgrade and improve stormwater culverts at	Township Engineer	No Progress		





2016 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP Update?	
				Check if Yes	Enter 2021 HMP Action #
	intersection of Pond Place and Slate Ridge.				
Fredon-5 (old #10)	Install stormwater runoff retention basin located at Newton Medical Center	Township Engineer, Hospital Administration	No Progress		
Fredon-6 (new)	Review the current hazard mitigation plan prior to updating plans, ordinances, etc. within the Township.	Township Administration	Completed; Fredon Township Ordinance 2021-03		
Fredon-7 (old #12)	Develop and implement a multi-hazard public outreach program.	Township Administration, OEM	Ongoing Capability		
Fredon-8 (new)	Continue with the process of adding additional radio equipment on an existing tower in the Township. Awaiting zoning sign off; then will complete project.	Township OEM and County OEM	No Progress		
Fredon-9 (revised old #4)	Ensure continuity of operations at critical facilities and municipal buildings. Identified at this time is to purchase and install backup generators at the following locations: <ul style="list-style-type: none"> • Town Hall/DPW • Civic Center • Township School 	Township OEM	No Progress	X	2020-Fredon-002

In addition to the above progress, the Township of Fredon identified the following mitigation projects/activities that were completed but not identified in the 2016 HMP mitigation strategy:

- None identified

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Township of Fredon participated in a risk assessment workshop in October 2020 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Fredon participated in a mitigation action workshop in November 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Sussex County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; mitigation funding sources, 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 F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.





Table 9.7-14 summarizes the comprehensive-range of specific mitigation initiatives the Township of Fredon would like to pursue in the future to reduce the effects of hazards. 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 FEMA mitigation action categories and the six 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*. The table below summarizes the evaluation of each mitigation initiative, listed by action number.

Table 9.7-15 provides a summary of the prioritization of all proposed mitigation initiatives for this HMP update.

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Table 9.8-14. 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-Fredon-001	Civic Center Emergency Shelter	<p>Problem: The Township would like to utilize the Civic Center at 436 NJ-94, Newton, NJ 07860 for emergency housing, use as a warming shelter, etc. However, the building will require upgrades. In addition, the shelter would require staffing as staffing from the Township is limited.</p> <p>Solution: The Township will work with FEMA to identify what upgrades are needed to the facility to meet sheltering guidelines. Expected upgrades needed include cots, potential showering locations, etc. The Township will work with Sussex County OEM and the American Red Cross to establish sheltering staffing agreements.</p>	Existing	All Hazards	1	OEM, FEMA, Sussex County OEM, American Red Cross	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, EMPG, Municipal Budget	Civic Center used for emergency sheltering	\$125,000	Within 5 years	High	SIP	ES
2020-Fredon-002	Civic Center Backup Power	<p>Problem: Backup power sources are necessary to maintain critical services for critical facilities. The Township Civic Center requires a backup power source. The site also houses the fire house and EMS. The Township has plans to establish the Civic Center as an emergency shelter.</p> <p>Solution: The Engineer will research what size generator is needed to power the Civic Center. The Township will then purchase and install the selected generator and necessary electrical components to supply backup power to the Municipal Building.</p>	Existing	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter	1	Engineer, OEM	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget	Ensure continuity of operations of Civic Center	\$50,000	Within 5 years	High	SIP	ES
2020-Fredon-003	Greendell Road And Long Hill Catch Basin Project	<p>Problem: The Greendell Road and Long Hill catch basin is in need of replacement in order to improve stormwater.</p> <p>Solution: The Township Engineer will design the replacement catch basin. The DPW will install the catch basin designed by the Engineer.</p>	Existing	Flood, Severe Weather	2	Engineer, DPW	HMGP, BRIC, Capitol Improvement Fund	Reduce flood risk, increase stormwater management	High	1 year	High	SIP	SP



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-Fredon-004	Storm Drain and Maintain Easement Deer Run Installation	<p>Problem: Deer Run requires installation of a storm drain to allow for proper stormwater management and to reduce risk of flooding.</p> <p>Solution: The Township will secure an easement and design and construct a storm drain at Deer Run.</p>	New	Flood, Severe Weather	2	Engineer, DPW	HMGP, BRIC, Capitol Improvement Fund	Reduce flood risk, increase stormwater management	High	6 months	High	SIP	SP

Notes:

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 9.8-15. Summary of Evaluation and Action Priorities

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	Total	High / Medium / Low
2020-Fredon-001	Civic Center Emergency Shelter	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High ▲
2020-Fredon-002	Civic Center Backup Power	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Fredon-003	Greendell Road And Long Hill Catch Basin Project	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2020-Fredon-004	Storm Drain and Maintain Easement Deer Run Installation	0	1	1	1	1	0	1	1	1	1	1	1	1	1	12	High

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

▲ This action has been identified as being of highest importance to the municipality and an action that the municipality would like to complete as soon as funding is received.

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Table 9.8-16. 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
Dam Failure					X			X
Disease Outbreak					X			X
Drought					X			X
Earthquake					X			X
Flood					X	X		X
Geologic					X			X
Hazardous Materials					X			X
Hurricane and Tropical Storm					X			X
Invasive Species					X			X
Nor’Easter					X			X
Severe Weather					X	X		X
Severe Winter Weather					X			X
Wildfire					X			X

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

high ranked hazard

ORANGE medium ranked hazard

YELLOW low ranked hazard



Figure 9.8-1. Township of Fredon Hazard Area Extent and Location Map 1

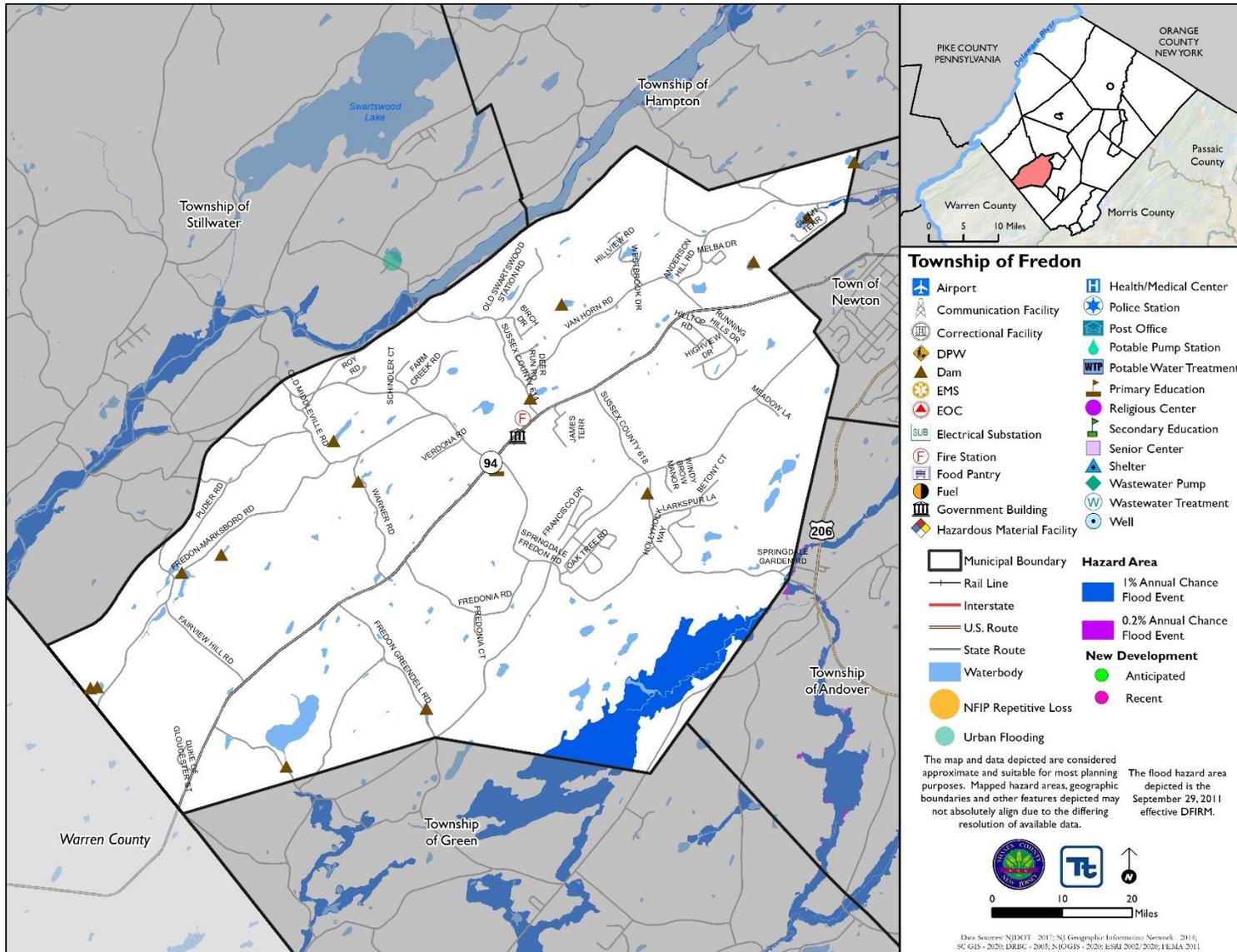




Figure 9.8-2. Township of Fredon Hazard Area Extent and Location Map 2

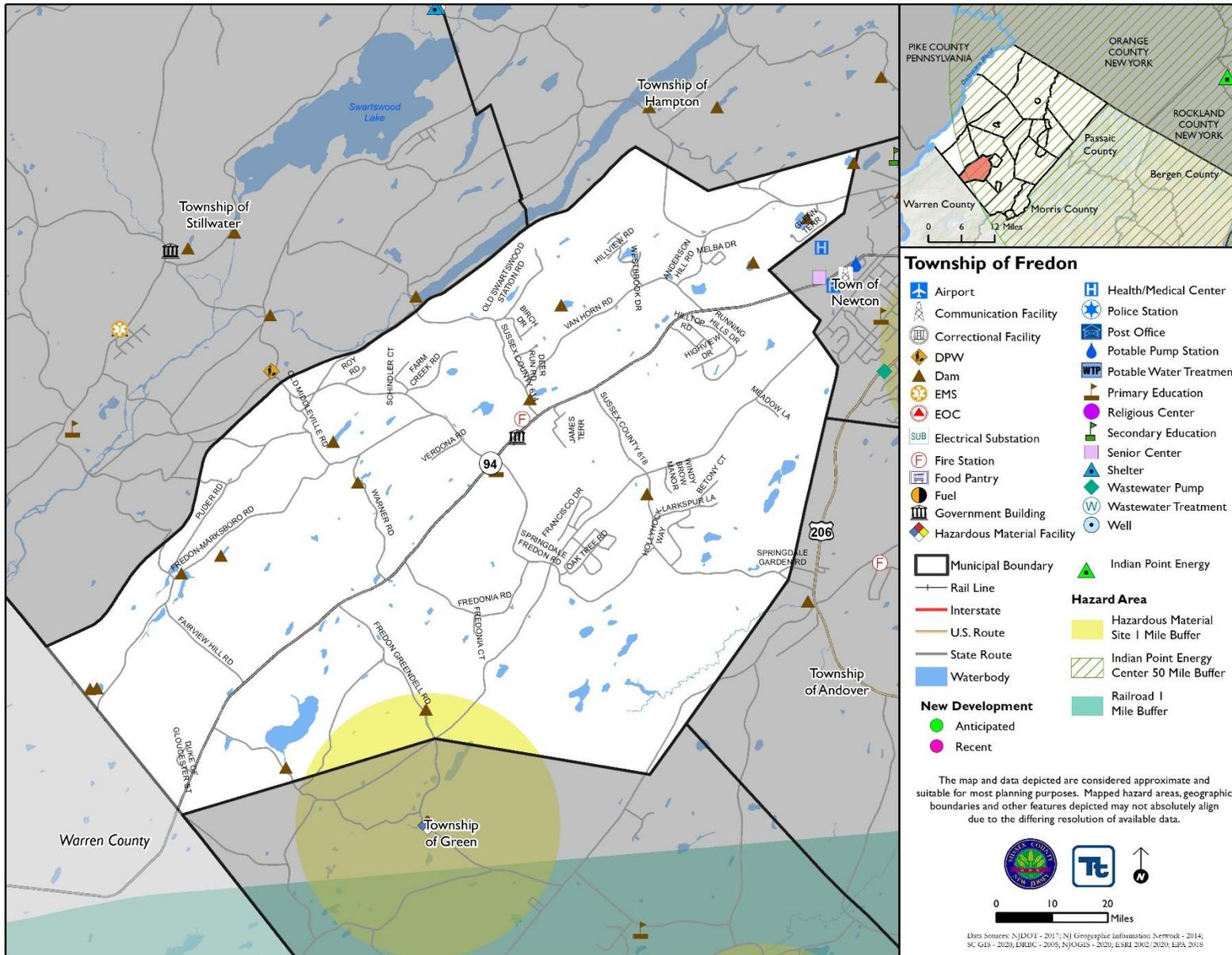
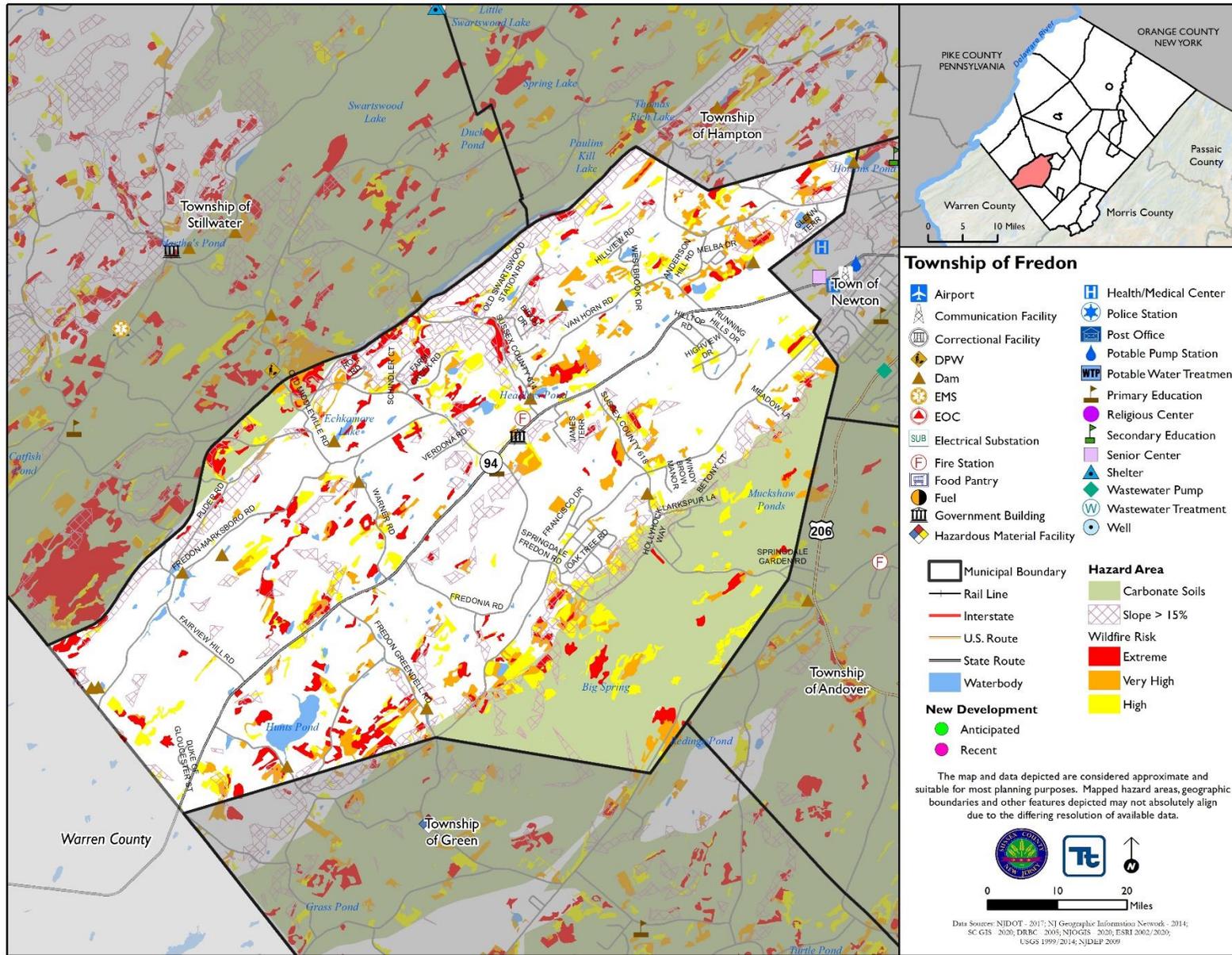




Figure 9.8-3 Township of Fredon Hazard Area Extent and Location Map 3





Action Worksheet			
Project Name:	Civic Center Emergency Shelter		
Project Number:	2020-Fredon-001		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	The Township would like to utilize the Civic Center at 436 NJ-94, Newton, NJ 07860 for emergency housing, use as a warming shelter, etc. However, the building will require upgrades. In addition, the shelter would require staffing as staffing from the Township is limited.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will work with FEMA to identify what upgrades are needed to the facility to meet sheltering guidelines. Expected upgrades needed include cots, potential showering locations, etc. The Township will work with Sussex County OEM and the American Red Cross to establish sheltering staffing agreements.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	Emergency shelter requirements	Estimated Benefits (losses avoided):	Civic Center used for emergency sheltering
Useful Life:	15 years	Goals Met:	1
Estimated Cost:	\$125,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, EMPG, Municipal Budget
Responsible Organization:	OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, emergency management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Purchase multi-use trailers	\$1M per trailer	Require deployment, limited space
	Build separate facility	High	Costly
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Civic Center Emergency Shelter	
Project Number:	2020-Fredon-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides sheltering
Property Protection	1	Project will strengthen building protections
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	1	The Township has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	0	Within 5 years
Agency Champion	1	OEM
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Civic Center Backup Power		
Project Number:	2020-Fredon-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter		
Description of the Problem:	Backup power sources are necessary to maintain critical services for critical facilities. The Township Civic Center requires a backup power source. The site also houses the fire house and EMS. The Township has plans to establish the Civic Center as an emergency shelter.		
Action or Project Intended for Implementation			
Description of the Solution:	The Engineer will research what size generator is needed to power the Civic Center. The Township will then purchase and install the selected generator and necessary electrical components to supply backup power to the Municipal Building.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Ensures continuity of operations of Civic Center
Useful Life:	20 years	Goals Met:	1
Estimated Cost:	\$50,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
Responsible Organization:	Engineer, OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Civic Center Backup Power	
Project Number:	2020-Fredon-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of the Civic Center and allow the building to be used for sheltering
Property Protection	1	Project will protect building from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter
Timeline	0	Within 5 years
Agency Champion	1	Engineer, OEM
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Greendell Road And Long Hill Catch Basin Project		
Project Number:	2020-Fredon-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather		
Description of the Problem:	The Greendell Road and Long Hill catch basin is in need of replacement in order to improve stormwater.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township Engineer will design the replacement catch basin. The DPW will install the catch basin designed by the Engineer.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD by engineering study	Estimated Benefits (losses avoided):	Reduce flood risk, increase stormwater management
Useful Life:	20 years	Goals Met:	2
Estimated Cost:	High	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6 months
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP, BRIC, Capitol Improvement Fund
Responsible Organization:	Engineer, DPW	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Stormwater management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Buyout homes exposed to flooding	High	Costly
	Close roadways that experience flooding	Low	Loss of access
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Greendell Road And Long Hill Catch Basin Project	
Project Number:	2020-Fredon-003	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Properties protected from flooding
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	1	The Township has the legal authority to complete the project
Fiscal	1	Project has funding support identified
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	1	1 year
Agency Champion	1	Engineer, DPW
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Storm Drain and Maintain Easement Deer Run Installation		
Project Number:	2020-Fredon-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather		
Description of the Problem:	Deer Run requires installation of a storm drain to allow for proper stormwater management and to reduce risk of flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township Engineer will design the necessary stormwater improvements and new features. The DPW will install the stormwater system components designed by the Engineer.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD by engineering study	Estimated Benefits (losses avoided):	Reduce flood risk, increase stormwater management
Useful Life:	20 years	Goals Met:	2
Estimated Cost:	High	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP, BRIC, Capitol Improvement Fund
Responsible Organization:	Engineer, DPW	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Stormwater management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Buyout homes exposed to flooding	High	Costly
	Close roadways that experience flooding	Low	Loss of access
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Storm Drain and Maintain Easement Deer Run Installation	
Project Number:	2020-Fredon-004	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Properties protected from flooding
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	0	Project requires securing an easement
Fiscal	1	Project has funding support identified
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	1	1 year
Agency Champion	1	Engineer, DPW
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	

